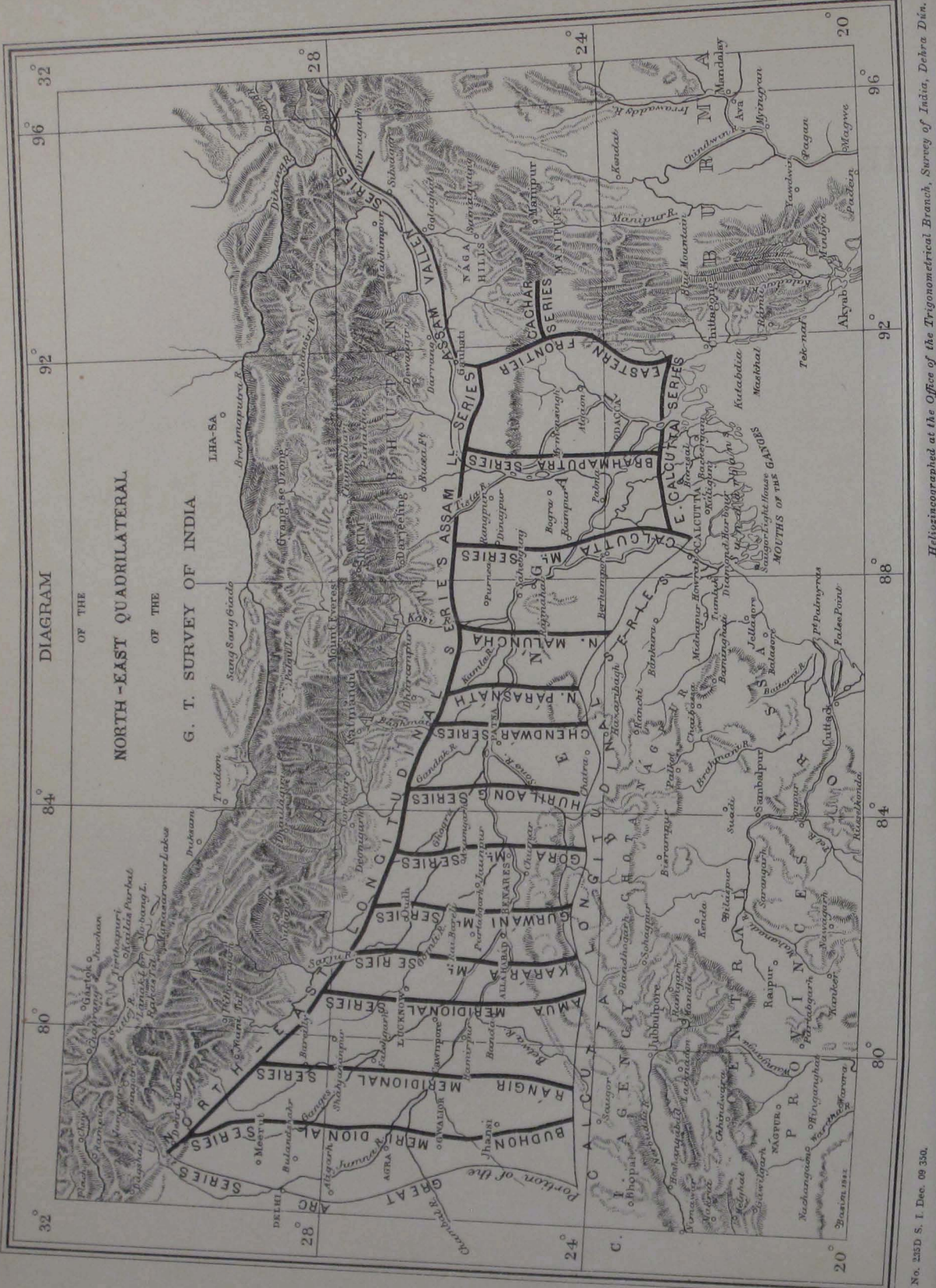


DIAGRAM
OF THE
NORTH-EAST QUADRILATERAL.
OF THE
G. T. SURVEY OF INDIA



SYNOPSIS OF THE RESULTS OF THE OPERATIONS OF
THE GREAT TRIGONOMETRICAL SURVEY OF INDIA
VOLUME XXXV.

DESCRIPTIONS AND CO-ORDINATES
OF THE
PRINCIPAL AND SECONDARY STATIONS AND OTHER FIXED POINTS OF
THE NORTH-EAST LONGITUDINAL SERIES
OF TRIANGULATION
(OR SERIES I OF THE N. E. QUADRILATERAL).

PREPARED UNDER THE DIRECTION OF
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INDEX TO THE DEGREE SHEETS
 SHOWING THE
 PRINCIPAL TRIANGULATION
 OF
 THE NORTH-EAST LONGITUDINAL SERIES

Scale 1 Inch = 24 Miles.
 Miles 0 20 40 60 80 100



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XVI— <i>I.</i>	for Tiba in Nag Tiba h.s.	read Tibba
XVII— <i>I.</i>	” ” ” ” ” ” ”	” ” ”
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XXIII— <i>I.</i>	” ” ” ” ” ” ”	” ” ”
XXV— <i>I.</i>	lines 3, 5 and 6 from bottom	,,	Airtoli	,, Aiartoli
11— <i>I.</i>	line 1 from top	,,	sun-dried brick	,, sun-dried bricks
12— <i>I.</i>	...	,,	XXII Rámuápúr	,, XXII Ramuapur
44— <i>I.</i>	in triangles 209, 211 and following.	For Nága h.s. and Deoban h.s. add the following footnote:—	These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.	
46— <i>I.</i>	in triangles 241 and following.	For Kanú h.s. add the following footnote:—	This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.	
47— <i>I.</i>	...	for Kumaon and Garhwal	read Kumaun and Garhwál	
”	...	,,	Tiba in Nag Tiba h.s.	,, Tibba
54— <i>I.</i>	triangle 435	,,	Shikáni h.s.	,, Shikáni h.s.
56— <i>I.</i>	in triangles 488 and 489.	For Snowy Pk. R. add the following footnote:—	This peak is identical with Bhágirathi-Baspa Watershed No. 7 peak of the North-West Himalaya Series of the North-West Quadrilateral and is numbered as $\frac{\text{Pk. 81}}{53 \text{ I}}$ in the Co-ordinate list of this volume.	
61— <i>I.</i>	triangles 609 and 610	for Sungarkot h.s.	read Sungarkot h.s.	
”	triangle 610	,,	Jagesar h.s.	,, Jagesar h.s.
64— <i>I.</i>	in triangle 683 in col. “Log feet” footnote.	put * under the last line to make the base agree with the		
68— <i>I.</i>	triangle 768	for Dhaj h.s.	read Dhaj h.s.	
80— <i>I.</i>	triangle 1073	,,	Dhaukuri h.s.	,, Daukuri h.s.
95— <i>I.</i>	triangle 1420	,,	Pumonzong h.s.	,, Pumongzong h.s.
103— <i>I.</i>	...	,,	Tiba in Nag Tiba h.s.	,, Tibba
105— <i>I.</i>	at Bandartak h.s.	,,	Jojiling No. 2 h.s.	,, Jojiling No. 1 h.s.
”	”	,,	Jojiling No. 1 h.s.	,, Jojiling No. 2 h.s.
106— <i>I.</i>	...	,,	Tiba in Nag Tiba h.s.	,, Tibba
122— <i>I.</i>	from the footnote	cut out “the Base-line figures, vide Syn. Vol. II of”.		
123— <i>I.</i>	”	”	”	”
125— <i>I.</i>	at Hagdanu h.s.	for Dhaukuri h.s.	read Daukuri h.s.	
132— <i>I.</i>	at Kankra No. 1 h.s.	insert		
	Khabakhál	h.s.	237° 41' 23"	906
	Sisákháni	”	262 55 41	910
	Badhangarhi	”	288 3 31	906

PAGE				
136— <i>I.</i>	at Ku h.s.	for * Nága h.s.	read Nága h.s.	
145— <i>I.</i>	...	„ Tiba in Nag Tiba h.s.	„ Tibba	
154— <i>I.</i>	at Rhenok h.s. Azimuth of Padanglu Hill Mark			
		for 56° 55' 13"	„ 53° 51' 43"	
156— <i>I.</i>	at Selim h.s.	„ Lohagari h.s.	„ Lohagarhi h.s.	
157— <i>I.</i>	at Shiala No. 1 h.s. <i>insert</i>	Chini s. 24° 33' 2" 817		
159— <i>I.</i>	...	for Tiba in Nag Tiba h.s.	„ Tibba	
166— <i>I.</i>	at Athansi h.s. <i>cut out</i> the Log Distance and Azimuth of	$\frac{\text{Pk.104}}{53 \text{ N}}$		
170— <i>I.</i>	at Bampassia h.s. <i>insert</i>			
		$\frac{\text{Pk.79}}{62 \text{ B}}$ 4.264760 277° 53' 34"		
171— <i>I.</i>	at Batwaia, LXXVIII <i>cut out</i>			
		Log Distance and Azimuth of	$\frac{\text{Pk.4}}{72 \text{ E}}$	
172— <i>I.</i>	at Bhairkharak h.s.	for $\frac{\text{Pk.8}}{53 \text{ N}}$	read $\frac{\text{Pk.8}}{53 \text{ N}}$ (Kharchakund)	
175— <i>I.</i>	<i>cut out</i> Chipalkot No. 1 h.s. and peak deduced from it.			
187— <i>I.</i>	at Jagesar h.s.	for $\frac{\text{Pk.83}}{62 \text{ B}}$	„ $\frac{\text{Pk.82}}{62 \text{ B}}$	
192— <i>I.</i>	at Khamlek „	„ „	„ „	
252— <i>I.</i>	Kishanpur s.— <i>keep</i> λ and L to nearest seconds.			
264— <i>I.</i>	Smithnagar s.— „ „			
285— <i>I.</i>	In the description of Childer's Lodge	for (Garhwál)	„ (Dehra Dún)	
293— <i>I.</i>	„ „ „ Kimua h.s.	„ Nyar	„ Nayar	
294— <i>I.</i>	Landour Lal Tibba which has been called a Standard Bench-Mark is not one of the ordinary monolithic standard bench-marks; it is a mark cut on rock and covered by a masonry pillar.			
298— <i>I.</i>	...	for Tiba in Nag Tiba h.s.	read Tibba	
316— <i>I.</i>	In the description of Láldhang s.	„ (Kota, Kumaun)	„ (Kotah, Kumaun)	
516— <i>I.</i>	...	„ Tiba in Nag Tiba h.s.	„ Tibba	
	On chart 53 J ...	„ Tiba in Nag Tiba h.s.	„ Tibba	

The following are the recent spellings of certain stations in degree sheet 53 O.

Old spelling		Recent spelling	
Chinar	h.s.	China	h.s.
Deopathar	„	Deopátha	„
Jar Pathar	„	Ayarpátha	„
Kalikhán	„	Kaila Khán	„
Luriakanta	„	Lariakanta	„
Manura	„	Manora	„
Mulákot	„	Malkot	„

December, 1909.

J. ECCLES,

In charge of Computing Office.

REFERENCES.

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The abbreviations employed in the text are as follows:—

|       |         |               |                       |
|-------|---------|---------------|-----------------------|
| H. S. | denotes | hill station  | (principal-auxiliary) |
| H. s. | „       | „             | (1st class secondary) |
| h.s.  | „       | „             | (secondary)           |
| s.    | „       | station       | „                     |
| t.s.  | „       | tower station | „                     |

These abbreviations are only placed after stations where a theodolite has been set up and observations taken to surrounding points.

If a point is followed by Hill Staff, Hill Mark or Mark, it is marked by a circle and dot engraved on the rock *in situ* or on a block of stone embedded in the ground, but it is not visited by the observer.

The latitudes and longitudes of all points shown on the Charts at the end of the volume will be found in the text. The text exhibits numerical values of triangles only to points of a superior class, to which alone, if exhibited on the Charts, lines are drawn: the lines are either continuous throughout, or dotted for half the length and continuous for the other half: the dots indicate that the bearing was not observed. For other points difficult to identify or of comparatively less accuracy, numerical values of triangles and azimuths are not given. In the case of peaks a separate list showing log feet and azimuths from the stations of observation has been added.

*December, 1909.*

J. ECCLES,  
*In charge of Computing Office.*

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## PREFACE.

The North-East Longitudinal Series of triangulation skirts the Himalaya from Dehra Dún to Jalpaiguri; great numbers of Himalayan peaks, from Gangotri to Chumalhari, have been observed from its stations.\*

In this volume, which is the thirty-seventh in the order of publication, the geographical results of all trigonometrical observations taken on the North-East Longitudinal Series have been compiled and classified.

The volume has been divided into six compartments, thus:—

- (1). *Introduction*: a history of the operations (pages III—*I.* to XLV—*I.*)
- (2). *Principal Triangulation*: lists and descriptions of the principal trigonometrical stations, the values of the angles observed and the lengths of the sides (pages 1—*I.* to 40—*I.*).
- (3). *Secondary Triangulation*: the values of the angles observed and the lengths of the sides (pages 41—*I.* to 99—*I.*). The descriptions of stations of secondary triangulation will be found on pages 222—*I.* to 508—*I.*.
- (4). *Azimuths* of stations and points (pages 100—*I.* to 165—*I.*).
- (5). *Distances and Azimuths* of Himalayan peaks (pages 166—*I.* to 221—*I.*).
- (6). *Latitudes and longitudes* of all points observed, (and their *heights* when determined) (pages 222—*I.* to 508—*I.*).

The sixth compartment occupying as it does more than half the volume has been subdivided into square degrees; for example, the co-ordinates of all stations, points and peaks, falling between longitudes 79° and 80° and between latitudes 32° and 33°, will be found on pages 222—*I.* to 224—*I.*.

The index at the end of this volume gives both the page of the book and the number of the degree-sheet, on which any geographical name has been entered.

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\* Four series of triangulation skirt the Himalaya from Kashmir to Assam: of these the North-West Himalaya series extending from longitude 72° to 78° has been described in synoptical volume VII, the Assam Valley triangulation (longitude 92° to 96°) in synoptical volume XXII, the North-East Longitudinal series (longitude 78° to 88°) in the present volume, and the Assam Longitudinal series (longitude 88° to 92°) still remains to be dealt with.

All Himalayan peaks, situated between longitudes 88° and 92°, which were observed from stations of the North-East Longitudinal series, have been included in the present volume. We have also included those peaks, which were observed from stations of the Assam Longitudinal series and which fall within the degree charts of our present volume. In these cases the columns of the tables, intended to show the numbers of rays determining position and height, have been left blank, (*vide* pp. 502—*I.*, 503—*I.*, etc.).

On the west the North-East Longitudinal series abuts against the North-West Himalaya series, and the footnotes to pages 222—*I.*, 223—*I.*, *et seq.* indicate that many points near the junction appertain to both series. On the east the North-East Longitudinal series meets the Assam Longitudinal series, and the footnotes to pages 480—*I.*, 481—*I.*, *et seq.* show that these two series have points in common.

*The designations of peaks.*

The method of designating peaks, that has been recently introduced into the Survey, indicates the degree-sheet in which any peak is situated. Colonel Montgomerie's system of giving a letter to each snowy range, with serial numbers for the peaks of that range, was intelligible, but it has been found difficult in practice to say where one range ends and another begins, and even this system has not been free from confusion.

The plan of classifying peaks by water-partings was not successful, because it is not possible always to ascertain the particular water-parting upon which a peak observed from a distance is standing. Greater confusion has been caused by the method of giving the initial of an observer's name to the peaks he observes.\*

The system adopted in this volume may be described as follows:—the area triangulated is divided into quadrilaterals comprising one degree in latitude by one degree in longitude. These square degrees are numbered in accordance with the system of numbering maps of the Survey of India,—that is, each area of four degrees square is given a number from 1 upwards, and is then subdivided into 16 square degrees, each of which is given a letter from A to P. In this volume a separate chart of triangulated points has been given for every square degree. 42 degree charts have been included, commencing with 52 P and ending with 78 F.

In each chart the peaks have been numbered serially, thus  $\frac{\text{Pk.1}}{53 \text{ J}}$ ,  $\frac{\text{Pk.2}}{53 \text{ J}}$ , etc. and this enumeration will not be modified when fresh peaks are observed. When future editions of charts are brought out, the present numbering will be retained. When a peak has a well-known name, the latter has been put in brackets after the number, thus  $\frac{\text{Pk.7}}{53 \text{ J}}$  (Srikanta). In cases of twin peaks and close clusters we have followed the example of astronomical catalogues, and instead of giving each peak a separate number, have shown them in this way,— $\frac{\text{Pk.6}^1}{62 \text{ A}}$  and  $\frac{\text{Pk.6}^2}{62 \text{ A}}$ .

The sheet number, 53 J or 62 A, at once indicates the area in which any required peak is situated, and in the corresponding chart, 53 J or 62 A, will be found the exact position of the peak. In the corresponding table, 53 J or 62 A, numerical values of co-ordinates have been given. The presence of a small super-scripted number shows that the peak is a close double, or a member of a cluster.

*The probable errors of the adopted values of heights of peaks.*

The errors of the adopted values of height were discussed in section 4 of Part I of the *Sketch of the Geography and Geology of the Himalaya Mountains and Tibet, 1907*, and it is unnecessary to repeat that discussion here. The most serious source of uncertainty affecting values of height was shown to be the refraction of the atmosphere, and the heights of Mount Everest and Kinchinjunga were calculated in detail.

In order to increase our knowledge of the laws of atmospheric refraction, Mr. H. G. Shaw of the Survey of India has been observing some of the great peaks of the Kumaun (Garhwal) Himalaya for the last four years: his results will be published in a separate paper, but it may not be out of place to refer briefly to them here. Mr. Shaw had three observing stations, namely—

Nojli, height 888 feet, situated in the plains;

Mussooree, height 6931† feet,—on the Lesser Himalayan range;

Nag Tibba, height 991‡ feet,—on the range immediately beyond that on which Mussooree stands.‡

\* *Vide Sketch of the Geography and Geology of the Himalaya Mountains and Tibet* Part I, page 15.

† Height of Mussooree Dome Observatory (as trigonometrically determined) = 6937 feet. *see* page 296—J, of this volume; height of the same point as determined by spirit-levelling = 6936 feet. The spirit-level value is not final as yet, for the orthometric correction has not been computed: in the case of a station, situated at a height of 6900 feet, the orthometric correction may prove to exceed a whole foot. Mr. Shaw's observing station at Mussooree is not entered on pages 296—J, or 297—J, of this volume: it was 20 feet distant from the Dome Observatory, and its height by spirit-levelling was 6931 feet.

‡ On page 243—C, *Synoptical Volume VII*, the height of Nag Tibba is given at 9920 feet; it was reduced in 1902 (*vide* page 298—J, of this volume) to 9915: Mr. Shaw's observations in 1906-09 make it 9912.

From these stations Mr. Shaw has periodically observed the peaks of Bandarpunch, Srikanta, Jaonli and Kedarnath, and his results are deserving of consideration here, in that they give us some idea of the errors that may have entered into the values of heights published in this volume.

| Peak        | Height in feet given in this volume | Mean value of refraction co-efficient used in calculation | Date when the height was determined | Page of this volume on which the peak is mentioned |
|-------------|-------------------------------------|-----------------------------------------------------------|-------------------------------------|----------------------------------------------------|
| Bandarpunch | 20720                               | ·066                                                      | 1834-35                             | 280— <i>I</i> .                                    |
| Srikanta    | 20120                               | ·083                                                      | 1841-42                             | 306— <i>I</i> .                                    |
| Jaouli      | 21760                               | ·06                                                       | 1849-50                             | 306— <i>I</i> .                                    |
| Kedarnath   | 22770                               | ·068                                                      | 1850-51                             | 341— <i>I</i> .                                    |

Mr. Shaw's results have not been included in this volume and thus form independent checks.

*The peak of Bandarpunch.*—Mr. Shaw's observations, taken at time of minimum refraction (2 p. m. to 3 p. m.), give the following results:—

| Station of observation | Distance               | Refraction co-efficient | Year                | Autumn               | Spring               | Difference autumn-spring | Mean of autumn and spring |
|------------------------|------------------------|-------------------------|---------------------|----------------------|----------------------|--------------------------|---------------------------|
| Nojli                  | <i>miles</i><br>92·923 | 0·069                   | 1905-6              | <i>feet</i><br>20748 | <i>feet</i><br>20698 | <i>feet</i><br>+ 50      | <i>feet</i><br>20723      |
| Mussooree              | 47·129                 | 0·063                   | 1905-6              | 20731                | 20713                | + 18                     | 20722                     |
|                        |                        |                         | 1906-7              | 20724                | 20713                | + 11                     | 20719                     |
|                        |                        |                         | 1907-8              | 20729                | 20715                | + 14                     | 20722                     |
|                        |                        |                         | 1908-9              | 20740                | 20721                | + 19                     | 20731                     |
|                        |                        |                         | Mean from Mussooree | 20731                | 20716                | + 15                     | 20724                     |
| Nag Tibba              | 37·370                 | 0·063                   | 1908-9              | 20743                | 20726                | + 17                     | 20735                     |

The values of height obtained agree well with the value adopted in this volume.

The interesting points of this table are the *differences* which Mr. Shaw obtains between autumn and spring. His *absolute* values of height cannot yet be accepted as final: but his *differences* may be regarded as correct. The *difference* of 50 feet at Nojli between autumn and spring is larger than any difference obtained at Mussooree or Nag Tibba. This difference shows us, I think, that *the heights of snow-peaks, when determined from stations in the Lesser Himalaya, are more likely to be correct than when determined from low-lying stations on the plains of northern India.*

*The peak of Srikanta.*

| Station of observation | Distance               | Refraction co-efficient | Year                      | Autumn               | Spring               | Difference autumn-spring | Mean of autumn and spring |
|------------------------|------------------------|-------------------------|---------------------------|----------------------|----------------------|--------------------------|---------------------------|
| Nojli                  | <i>miles</i><br>99·800 | 0·069                   | No observations completed |                      |                      |                          |                           |
| Mussooree              | 55·474                 | 0·063                   | 1905-6                    | <i>feet</i><br>20116 | <i>feet</i><br>20090 | <i>feet</i><br>+ 26      | <i>feet</i><br>20103      |
|                        |                        |                         | 6-7                       | 20112                | 20104                | + 8                      | 20108                     |
|                        |                        |                         | 7-8                       | 20124                | 20103                | + 21                     | 20114                     |
|                        |                        |                         | 8-9                       | 20137                | 20109                | + 28                     | 20123                     |
|                        |                        |                         | Mean from Mussooree       | 20122                | 20101                | + 21                     | 20112                     |
| Nag Tibba              | 46·495                 | 0·063                   | 1908-9                    | 20144                | 20115                | + 29                     | 20130                     |

The height-values of Srikanta, confirming those of Bandarpunch, enable us to state a second rule namely, that *the refraction in autumn is greater than in spring.*

*The peak of Jaonli.*

| Station of observation | Distance               | Refraction co-efficient | Year                      | Autumn               | Spring               | Difference autumn-spring | Mean of autumn and spring |
|------------------------|------------------------|-------------------------|---------------------------|----------------------|----------------------|--------------------------|---------------------------|
| Nojli                  | <i>miles</i><br>96·961 | 0·069                   | No observations completed |                      |                      |                          |                           |
| Mussooree              | 54·062                 | 0·063                   | 1905-6                    | <i>feet</i><br>21739 | <i>feet</i><br>21714 | <i>feet</i><br>+ 25      | <i>feet</i><br>21727      |
|                        |                        |                         | 6-7                       | 21731                | 21725                | + 6                      | 21728                     |
|                        |                        |                         | 7-8                       | 21735                | 21722                | + 13                     | 21729                     |
|                        |                        |                         | 8-9                       | 21756                | 21730                | + 26                     | 21743                     |
|                        |                        |                         | Mean from Mussooree       | 21740                | 21723                | + 17                     | 21732                     |
| Nag Tibba              | 45·814                 | 0·063                   | 1908-9                    | 21758                | 21731                | + 27                     | 21745                     |

The values of height for Jaonli show also that the refraction in autumn is greater than in spring.

*The peak of Kedarnath.*

| Station of observation | Distance                | Refraction co-efficient | Year                      | Autumn               | Spring               | Difference autumn-spring | Mean of autumn and spring |
|------------------------|-------------------------|-------------------------|---------------------------|----------------------|----------------------|--------------------------|---------------------------|
| Nojli                  | <i>miles</i><br>104·148 | 0·069                   | No observations completed |                      |                      |                          |                           |
| Mussooree              | 63·759                  | 0·063                   | 1906-7                    | <i>feet</i><br>22847 | <i>feet</i><br>22835 | <i>feet</i><br>+ 12      | <i>feet</i><br>22841      |
|                        |                         |                         | 1907-8                    | 22856                | 22831                | + 25                     | 22844                     |
|                        |                         |                         | 1908-9                    | 22880                | 22845                | + 35                     | 22863                     |
|                        |                         |                         | Mean from Mussooree       | 22861                | 22837                | + 24                     | 22849                     |
| Nag Tibba              | 56·438                  | 0·063                   | 1908-9                    | 22883                | 22848                | + 35                     | 22866                     |

The observations of 1905-9 make the height of Kedarnath 80 feet greater than the value given in this volume. The results in autumn are again greater than those in spring.

The following table shows that the values obtained from Nag Tibba are greater than those obtained from Mussooree :—

| Station          | Height of peak obtained                           |                                                   | Difference          |
|------------------|---------------------------------------------------|---------------------------------------------------|---------------------|
|                  | from Mussooree<br>refraction co-efficient = 0·063 | from Nag Tibba<br>refraction co-efficient = 0·063 |                     |
| Bandarpunch      | <i>feet</i><br>20724                              | <i>feet</i><br>20735                              | <i>feet</i><br>+ 11 |
| Srikanta         | 20112                                             | 20130                                             | + 18                |
| Jaonli           | 21732                                             | 21745                                             | + 13                |
| Kedarnath        | 22849                                             | 22866                                             | + 17                |
| Mean discrepancy |                                                   |                                                   | + 15                |

A mean discrepancy of 15 feet is thus obtained between the Mussooree results and those at Nag Tibba, if the same refraction co-efficient, namely 0·063, is employed for the observations at Mussooree and for those at Nag Tibba.

Nag Tibba is 3000 feet higher than Mussooree; the rays from Nag Tibba to the peaks pass through a more rarefied mean atmosphere than the rays from Mussooree. All previous experience of the Trigonometrical Survey goes to show, that refraction becomes less as the atmosphere becomes more rarefied. In accordance with this experience we commenced the calculations with a refraction co-efficient of 0·059 at Nag Tibba and with one of 0·063 at Mussooree: the employment of these co-efficients made every peak about 25 to 35 feet higher, when observed from Nag Tibba than when observed from Mussooree. To reduce

this discrepancy we have now introduced the same co-efficient at both places, and the heights of peaks are still about 15 feet higher, when observed from Nag Tibba than when observed from Mussooree.

One way of eliminating this discrepancy would be to reduce the height of Nag Tibba itself from 9912 feet to 9897 feet, but we have no justification for the step. We have already reduced this height from 9920 to 9912 feet, and we cannot assume it any lower, so long as we take the height of Mussooree at 6931 feet, and neglect the effects of gravity.

If we decide to attribute the discrepancy to refraction, we can get rid of it by employing a refraction co-efficient of 0.063 at Mussooree and a co-efficient of 0.069 at Nag Tibba; but such a course would not be defensible. A co-efficient of 0.069 from a station 9912 feet in height is altogether too large for rays rising above 20000 feet. We have already gone too far in increasing the Nag Tibba co-efficient, until it equals that at Mussooree, and to increase it further is out of the question.

We can also get rid of the discrepancy by using the same co-efficient for both places and by making it smaller; as Mussooree is more distant from the peaks than Nag Tibba, any decrease of the common refraction co-efficient leads to a larger addition being made to the height-values of peaks observed from Mussooree than to those observed from Nag Tibba; every reduction of co-efficient tends therefore to lead to a reduction of the discrepancy. In the following table the common co-efficient was firstly reduced to 0.053, and secondly to 0.050.

| Station     | Height of peak obtained                              |                                                      |                  |                                                      |                                                      |                  |
|-------------|------------------------------------------------------|------------------------------------------------------|------------------|------------------------------------------------------|------------------------------------------------------|------------------|
|             | from Mussooree<br>refraction<br>co-efficient = 0.053 | from Nag Tibba<br>refraction<br>co-efficient = 0.053 | Discre-<br>pancy | from Mussooree<br>refraction<br>co-efficient = 0.050 | from Nag Tibba<br>refraction<br>co-efficient = 0.050 | Discre-<br>pancy |
| Bandarpunch | <i>feet</i><br>20754                                 | <i>feet</i><br>20754                                 | 0                | <i>feet</i><br>20763                                 | <i>feet</i><br>20760                                 | - 3              |
| Srikanta    | 20154                                                | 20159                                                | + 5              | 20166                                                | 20167                                                | + 1              |
| Jaonli      | 21771                                                | 21774                                                | + 3              | 21783                                                | 21783                                                | 0                |
| Kedarnath   | 22903                                                | 22908                                                | + 5              | 22919                                                | 22920                                                | + 1              |
|             | Mean discrepancy                                     |                                                      |                  | Mean discrepancy                                     |                                                      |                  |
|             | + 3                                                  |                                                      |                  | 0                                                    |                                                      |                  |

The decrease of the co-efficient from 0.063 to 0.053 causes a decrease of the mean discrepancy from 15 to 3 feet: a further reduction of the co-efficient to 0.050 gets rid of the mean discrepancy altogether. But a co-efficient of 0.050 is too small for Mussooree, and cannot be adopted. On page 26, Part I, *Sketch of the Geography and Geology of the Himalaya Mountains and Tibet*, a co-efficient of 0.050 is obtained for Mount Everest from 5 stations, the average height of which exceeded 10000 feet,—3000 feet higher than Mussooree. On page 28, co-efficients, varying from 0.040 to 0.050, are used for  $K^2$  from 9 stations, the lowest of which is 15437 feet in height. On page 29, a co-efficient of 0.050 is deduced for Nanga Parbat from 11 stations, averaging over 11000 feet in height. In this preface a co-efficient of 0.065 is deduced for Trisul from seven observing stations, averaging in height 7500 feet. All evidence in fact goes to show, (1stly) that a co-efficient of 0.050 is too small for a station under 7000 feet in height, like Mussooree, and (2ndly) that a larger co-efficient ought to be used from Mussooree than from Nag Tibba. So although the last table does illustrate how the mean discrepancy can be eliminated by manipulations of the co-efficient, yet our general experience of the laws of refraction leads us to reject these manipulations as unwarranted.

The discrepancy between the Nag Tibba results and those at Mussooree must be attributed to some other cause than refraction, and I can only suggest gravity. At Mussooree the plumb-line is deflected 36''·53 towards the north, and at Nag Tibba the deflection is 32''·3 towards the north\*.

Owing to the respective deflections of 36''·53 and 32''·3 at Mussooree and Nag Tibba all values of height measured towards the north will be observed too small, and we can calculate the amounts by which they will be too small. The snow-peaks of Baudarpunch, Srikanta, Jaonli and Kedarnath are situated to the east of the meridian lines through Mussooree and Nag Tibba; their azimuths are known, but we do not know the angles through which the plumb-lines are deflected towards the four peaks. This, however, we do know,—that the deflections of the plumb-lines towards the peaks are greater than the deflections in the meridian†. If therefore we calculate the errors caused by gravity in the observed heights of the peaks, we know that we shall be making those errors too small, if we employ meridional deflections.

The errors of height caused by gravity are, upon this understanding, exhibited in the following table. The calculated heights of the peaks given above have to be increased by the quantities entered in this table.

| Peak               | Errors in height due to gravity, when observations are taken from |                                |
|--------------------|-------------------------------------------------------------------|--------------------------------|
|                    | Mussooree, deflection = 36''·5                                    | Nag Tibba, deflection = 32''·3 |
| Bandarpunch ... .. | 44 feet                                                           | 31 feet                        |
| Srikanta ... ..    | 52 "                                                              | 38 "                           |
| Jaonli ... ..      | 51 "                                                              | 38 "                           |
| Kedarnath ... ..   | 60 "                                                              | 47 "                           |

This table shows that the errors in heights, observed from Mussooree, are greater by 13 feet than the errors in heights, observed from Nag Tibba. If therefore we exclude all considerations of refraction, and if we assume the observations to be correct, then the values of heights, when derived from observations at Nag Tibba, will be given (owing to gravity) 13 feet higher than the values derived from Mussooree.

Now this theoretical discrepancy of 13 feet accounts to a large extent for the mean observed discrepancy of 15 feet given in the table on page xi. The mean discrepancy of 15 feet, however, given on page xi, is almost certainly too small: the true discrepancy has been reduced to 15 feet by the employment of the same co-efficient of refraction, 0·063, at Mussooree and Nag Tibba. If we adopt a co-efficient of 0·063 at Mussooree and one of 0·059 at Nag Tibba, as we ought to do, the mean discrepancy will work out at 30 feet.

A mean discrepancy of 30 feet will probably become explicable, when we know the true deflections of the plumb-lines towards the several peaks, and when allowance has been made for the deformation of the

\* Vol. XVIII, *Account of the Operations of the Great Trigonometrical Survey of India*, page 531. The deflection at Mussooree is given at 36''·53: that at Nag Tibba must be deduced by interpolation.

|           | Latitude | observed deflection |
|-----------|----------|---------------------|
| Mussooree | 30° 27'  | 36''·53             |
| Nag Tibba | 30 35    | not observed        |
| Dalakh    | 30 45    | 27''·62             |

The interpolated deflection for Nag Tibba works out at 32''·3.

† Table IV, Appendix No. 5, Vol. XVIII, *Account of the Operations of the G. T. Survey of India*: there is a deflection of 22'' towards the east and one of 37'' towards the north at Dehra Dún (near Mussooree). The resultant and maximum deflection at Dehra Dún is therefore towards the N.N.E.

surface-datum at Mussooree, and at Nag Tibba and at the peaks. The assumed deflections were  $36''\cdot5$  for Mussooree and  $32''\cdot3$  for Nag Tibba, the difference between the two deflections being  $4''\cdot2$ . If the true difference between the deflections is  $6''$ ,—and this it may prove to be—the whole discrepancy of 30 feet in the heights of peaks will be accounted for.\*

The action of gravity tends to produce discordance between height-values, when observations are taken from two places, at which the deflections of the plumb-lines are different. It may be asked,—why has not some attempt been made in this volume to correct heights of peaks for errors due to gravity? I have so far been only considering gravity as causing the surface of the geoid to be *inclined* to the surface of the mean spheroid. But gravity also causes the geoidal surface to be *raised vertically* above the mean spheroidal surface, and it would be inconsistent to correct for the one source of discordance, if we neglect the other.

Discordance is produced in the first case, because gravity affects angles of elevation differently at different places: at both Mussooree and Nag Tibba gravity makes the angles of elevation to peaks too small, the angles at Mussooree being the more seriously affected. But gravity *also* causes the datum-level-surface to be heaped up under the mountains, and makes it uncertain, what surface we are measuring the heights of peaks from. In Spirit-levelling operations we measure heights from the surface of the geoid, but in trigonometrical operations we assume the surface of the spheroid to be our datum.

The attraction of the mountains may be taken to raise the surface of the geoid above that of the mean spheroid by 30 feet at Mussooree, by 40 feet at Nag Tibba, by 70 feet at the snow-peaks. Now if we deduce the height of a peak from a vertical angle at Mussooree, we tacitly *assume* that the level surface from Mussooree to the peak conforms to the mean spheroid. We omit consideration of the fact that our level surface,—the only datum for heights provided by nature,—is being raised perhaps 40 feet *between* the observing station and the observed point. We are indeed reluctant to introduce this additional complexity, until we possess more certain data. Our inability to take account of the one effect of gravity,—the heaping-up of the geoidal surface,—renders it advisable to omit consideration also of the other effect of gravity,—the diminution of the observed angles of elevation. If we possessed sufficient data to enable us to take into account these two effects of gravity at all our observing stations and at all our observed points, we should find that the one effect would tend to cancel the other.

It was discovered many years ago that heights were more accurately determined, if they were observed at the time of minimum refraction, *i.e.* in the early afternoon at the hottest time of the day, than if they were observed in the early morning or late evening. When therefore we speak of a co-efficient of refraction we mean as a rule that co-efficient which corresponds to the refraction about 2 p.m. In the morning and evening the refraction is greater, and larger values of the co-efficient are required. Mr. Shaw has taken observations to snow-peaks at both 8 a.m. and 2 p.m. in order to ascertain the extent to which the co-efficient of refraction decreases between those hours.

We are now able to lay down a third rule concerning refraction, namely, that *at stations in the plains of Northern India the co-efficient of refraction is less by 0·015 or 0·020 at 2 p.m. than at 8 a.m., but at stations in the Lesser Himalaya the decrease is generally about 0·003 between those hours.*

#### *On the height of Trisul.*

Questions occasionally arise concerning the adopted heights of mountain-summits, and it may not be out of place to refer briefly, by way of example, to a recent discussion over the height of Trisul (west).

Dr. T. G. Longstaff, who climbed to the summit of Trisul in 1907, assumed its height to be 23406 feet, a value that he obtained from Sheet No. 21, Kumaun and British Garhwál Survey, 1872-75, scale 1 inch = 1 mile. This sheet is one of the published maps of the Survey of India, and the value of height, 23406 feet

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\* 20 feet being due to the difference of plumb-line deflection, and 10 feet to errors (due to gravity) in the accepted heights of Mussooree and Nag Tibba.



shown upon it, was obtained by the Survey officer, Colonel Carter, from a small secondary series of triangulation, which he carried through Kumaun and Garhwál.

Dr. Hunter Workman quotes 23360 feet as the authoritative value of height, and this is the value given for Trisul (west) on page 317—*i.* of this volume. The value 23360 has been derived from careful observations of the peak from great distances. Refraction renders long shots less reliable than short, and the distant observations upon which the value 23360 depends were more open to errors from refraction than the short sides of the triangles from which Col. Carter derived his value of 23406. On the other hand errors of observation multiply rapidly, if intervening observing stations are introduced, and one long shot of 100 miles is (except for refraction) a more accurate method of determining a peak's height than ten successive shots of 10 miles each. The question therefore arises, which is the more serious source of error, (a) the refraction over a very long shot, or (b) the multiplication of observing stations, each of which is a source of additional error.

This question may be answered as follows: if Trisul can be observed from stations in the Lesser Himalaya in clear atmosphere, free from dust, the long shot will probably give a more accurate value than a succession of short shots, but if Trisul be observed from low plains through dense haze and at hours other than the hour of minimum refraction, then the long shot from a distant station will be liable to greater errors than will ordinarily be accumulated in a succession of ten short shots.

The value of height for Trisul (west) given in this volume was computed as follows:—

| Station of Observation | Date and Time of day |                    | Distance from Trisul in miles | Position of observing Station |            | Height of observing Station<br><i>feet</i> | Refraction coefficient | Value of height<br><i>feet</i> |
|------------------------|----------------------|--------------------|-------------------------------|-------------------------------|------------|--------------------------------------------|------------------------|--------------------------------|
|                        |                      |                    |                               | $\lambda$                     | L          |                                            |                        |                                |
| Jagesar                | 1842<br>March 28     | about<br>1-10 p.m. | 45·817                        | 29° 39' 5"                    | 79° 52' 9" | 7697                                       | 0·046                  | 23441                          |
| Birond                 | 1842<br>March 3      | 2-6 p.m.           | 72·956                        | 29 15 14                      | 79 42 57   | 6967                                       | 0·065                  | 23329                          |
| Kankra                 | 1842<br>April 24     | about<br>9 a.m.    | 29·116                        | 30 2 58                       | 79 23 47   | 10068                                      | 0·058                  | 23387                          |
| Saonchúlia             | 1841<br>Nov. 6       | 1-46 a.m.          | 61·937                        | 29 30 23                      | 79 19 8    | 8501                                       | 0·062                  | 23342                          |
| Ghungti                | 1850<br>Dec. 18      | 10-8 a.m.          | 63·810                        | 29 45 36                      | 78 55 21   | 6922                                       | 0·065                  | 23374                          |
| Ránígarh               | 1842<br>Nov. 28      | 1-15 p.m.          | 65·766                        | 30 4 4                        | 78 42 54   | 7055                                       | 0·069                  | 23338                          |
| Mábegarh               | 1850<br>Dec. 1       | after<br>midnight  | 84·570                        | 29 52 40                      | 78 27 25   | 5553                                       | 0·075                  | 23280                          |

Mean 23356.  
Adopted 23360.

The seventh column of this table shows that all the stations of observation were at considerable altitudes in the Lesser Himalaya: the observations were therefore taken under favourable conditions.

They would have been still more valuable, had they all been taken at time of minimum refraction, but Mr. Shaw's recent results have shown that the condition of minimum refraction is not so indispensable at high altitudes as at low.

The first value of height,—that derived from Jagesar,—23441 feet, is obviously too great; it is out of harmony with the other values. The observations upon which it was based appear correct, but the co-efficient of refraction adopted, 0·046, is too small. Had a normal co-efficient of 0·065 been employed, the value of the height of Trisul from Jagesar would have been given at 23381 feet. The observer obtained the co-efficient 0·046 from some experimental observations made from Jagesar, but it is an abnormal result and should not have been accepted.

The last value of height,—that derived from Mabegarh,—23280 feet, is out of accord with all the other values, and is clearly too small. In this case the observer was led by local experimental observations to adopt too large a co-efficient of refraction, 0·075. Had he adopted a co-efficient of 0·065, the height of Trisul would have been given at 23378 feet.

Perhaps the best way of deducing the height of Trisul is to compile a table, such as that given below, in which the values of height are shown with different co-efficients of refraction.

*Heights of Trisul (West) with different co-efficients of Refraction.*

| Stations of observation | Heights of Stations of observation | Distance from Trisul in miles  | Heights with Co-efficients of Refraction |             |             |             |             |             |
|-------------------------|------------------------------------|--------------------------------|------------------------------------------|-------------|-------------|-------------|-------------|-------------|
|                         |                                    |                                | ·068                                     | ·060        | ·062        | ·064        | ·066        | ·068        |
|                         | <i>feet</i>                        |                                | <i>feet</i>                              | <i>feet</i> | <i>feet</i> | <i>feet</i> | <i>feet</i> | <i>feet</i> |
| Jagesar ...             | 7697                               | 45·817                         | 23401                                    | 23396       | 23390       | 23384       | 23378       | 23373       |
| Bírond ...              | 6967                               | 72·956                         | 23381                                    | 23368       | 23353       | 23340       | 23325       | 23310       |
| Kankra ...              | 10068                              | 29·116                         | 23389                                    | 23387       | 23384       | 23382       | 23380       | 23377       |
| Saonchália ...          | 8501                               | 61·937                         | 23366                                    | 23355       | 23345       | 23334       | 23325       | 23315       |
| Ghungti ...             | 6922                               | 63·810                         | 23415                                    | 23404       | 23394       | 23382       | 23371       | 23361       |
| Ráúgarh ...             | 7055                               | 65·766                         | 23402                                    | 23390       | 23378       | 23368       | 23356       | 23344       |
| Mábegarh ...            | 5653                               | 84·570                         | 23444                                    | 23425       | 23407       | 23388       | 23368       | 23349       |
|                         |                                    | Mean                           | 23400                                    | 23389       | 23379       | 23368       | 23358       | 23347       |
|                         |                                    | Range of discrepancies in feet | 78                                       | 70          | 62          | 54          | 55          | 67          |

The co-efficients of 0·064 and 0·066 give the most accordant series of values, the extreme range of discrepancy in these cases being only 54 and 55 feet. A co-efficient of 0·065 would give a still smaller range, namely 51 feet. The mean value of the height of Trisul derived from a refraction co-efficient of 0·065 works out at 23363. A co-efficient of 0·065 is undoubtedly high, and in all probability 0·062 would be more correct. If we adopted 0·062, the height would become 23379: but to adopt 0·062 would

be a somewhat arbitrary course, and as 0.065 produces the most accordant series of values, it will be safest to retain the original value of height 23360 feet.

The method of selecting a common co-efficient of refraction for all observing stations by noting that value, which renders the series of heights most accordant, gives a close approximation to the true refraction, but it should not be carried too far: refraction varies with temperature, haze, pressure and humidity, and the same co-efficient is not necessarily applicable for every observing station; small differences in the co-efficient are to be expected, when the heights of observing stations vary from 5653 (Mábegarh) to Kankra (10068), and when hours of observation vary from afternoon to evening. Moreover this method of deducing the refraction co-efficient fails entirely, if the distances of all the observing stations from the peak are nearly equal: the discordance produced by erroneous refraction co-efficients is then small. This last objection does not apply to Trisul, as its distance from observing stations varies from 29 to 84 miles.

This discussion of the most probable value for the height of Trisul may serve to illustrate the methods by which heights of snow-peaks are deduced, and may give some idea of the trustworthiness of those heights and of their liability to error. It will be seen that the true height of Trisul probably lies between 23350 and 23380 feet.

Discordances between the values of heights shown upon maps and the values given in published volumes only arise, when a map has been drawn and printed, before the trigonometrical data of a volume have been computed. When once the data have been handled and published, the preliminary values entered upon maps are cancelled, and the values given in volumes are substituted.

*On the probable errors of the adopted values of heights of stations in the plains.*

The observations of vertical angles to peaks cannot always be taken at the hour of minimum refraction, as peaks are more frequently hidden by clouds in the afternoon than at sunrise. But vertical angles to stations in the plains are always made at time of minimum refraction. This rule was not in force when the North-East Longitudinal Series was observed, and observations were then generally taken in the evening,—sometimes even at night. To render the values of height reliable *simultaneous reciprocal* observations were taken between each pair of stations. In the computations of heights from the reciprocal vertical angles, the following values of heights of the initial stations were taken from the Great Arc Meridional Series—Section 24° - 30° (*Account of the Operations of the G. T. Survey of India*, vol. IV page 42—A):—

|             |     |     |             |     |     |        |
|-------------|-----|-----|-------------|-----|-----|--------|
| Station LI  | ... | ... | Mahesari    | ... | ... | 820.5  |
| Station LIV | ... | ... | Chándipahár | ... | ... | 1912.7 |
| Station LVI | ... | ... | Ghadiál     | ... | ... | 7350.1 |

As explained on page xv of the preface of Volume IV these initial heights have been obtained by referring the trigonometrical differences of height to the nearest stations, whose absolute heights had been determined by the spirit-levelling operations.

Twenty-one of the principal stations of the North-East Longitudinal Series have been connected by spirit-levelling, and the spirit-level values of heights have enabled us to apply corrections, either direct or interpolated, to all the trigonometrical heights, and have moreover furnished evidence as to the accuracy of trigonometrical heights in general.

The following table shows the differences obtained between the spirit-levelling and the trigonometrical values of height at those stations of the North-East Longitudinal Series, which have been connected by spirit-levelling.

| STATION                 | Trigonometrical height corresponding to spirit-level height | Spirit-level height | Error of trigonometrical height |
|-------------------------|-------------------------------------------------------------|---------------------|---------------------------------|
|                         | <i>feet</i>                                                 | <i>feet</i>         | <i>feet</i>                     |
| Atária, XI ... ..       | 665·6                                                       | 657·12              | + 8·48                          |
| Kaliánpur, XIII ... ..  | 633·3                                                       | 628·84              | + 4·46                          |
| Umra, XV ... ..         | 612·7                                                       | 609·97              | + 2·73                          |
| Rámnagar, XXIV... ..    | 535·7                                                       | 524·62              | + 11·08                         |
| Kuthia, XXVIII ... ..   | 471·6                                                       | 474·61              | - 3·01                          |
| Lákhun, XXXI ... ..     | 453·8                                                       | 448·62              | + 5·18                          |
| Chalua, XXXII ... ..    | 440·3                                                       | 436·62              | + 3·68                          |
| Masi, XXXV ... ..       | 421·5                                                       | 425·89              | - 4·39                          |
| Tilakpur, XXXIX ... ..  | 423·0                                                       | 425·10              | - 2·10                          |
| Saibara, XLIII ... ..   | 384·8                                                       | 389·90              | - 5·10                          |
| Purena, LV ... ..       | 289·5                                                       | 299·25              | - 9·75                          |
| Bharmi, LVII ... ..     | 312·7                                                       | 323·35              | - 10·65                         |
| Gharbaria, LVIII ... .. | 295·5                                                       | 304·60              | - 9·10                          |
| Bakwa, LXIX ... ..      | 293·8                                                       | 305·60              | - 11·80                         |
| Rúpdí, LXXIX ... ..     | 238·7                                                       | 239·64              | - 0·94                          |
| Diwánganj, CII ... ..   | 211·5                                                       | 212·03              | - 0·53                          |
| Latona, CIII ... ..     | 197·8                                                       | 199·39              | - 1·59                          |
| Rámnagar, CVII ... ..   | 185·5                                                       | 180·30              | + 5·20                          |
| Ghiba, CIX ... ..       | 205·4                                                       | 206·94              | - 1·54                          |
| Sonakhoda, CXXI ... ..  | 232·8                                                       | 229·76              | + 3·04                          |
| Ramganj, CXXII ... ..   | 255·1                                                       | 249·49              | + 5·61                          |

The heights obtained by means of the reciprocal vertical angles were the heights of the tops of the towers: the spirit-level heights were the heights of the lower mark-stones. The heights of the towers themselves had therefore to be added to the spirit-level values, before they could be compared with the trigonometrical values.

*The values of longitude adopted in this volume.*

The longitudes, adopted by the Survey of India, have hitherto depended upon an astronomically determined value of the longitude of the Madras Observatory which was deduced in 1815. The longitude of the Madras Observatory has however been redetermined by the electro-telegraphic method, and the latest value is that obtained from observations by Captains Burrard and Lenox Conyngham in 1894, 1895 and 1896 at Karachi, Jask, Bushire, Tehran, Potsdam and Greenwich. These observations gave a value for the longitude of Madras less by 2' 27"·18 than the old value\*. Upon the recommendations of the Survey Committee, that was assembled in 1905, it has been decided to introduce the latest value for

\* See General Report on the operations of the Survey of India for 1903-04, page xxvii.

the longitude of Madras into maps of the Survey of India, and maps that are being prepared now are based upon this latest value. The adoption of a new value of longitude for our published maps has obliged the Trigonometrical Survey Office to revise its geographical data\*, and the longitudes of this volume are consequently derived from an initial value at Madras, which differs from the value upon which the longitudes of our former synoptical volumes were based. In former synoptical volumes it was necessary to introduce a caution that *all the longitudes required a constant correction*; but in this volume no such caution is required.

**The values of longitude published in this volume are in terms of Greenwich Observatory, and are as correct as our present knowledge permits.**

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*The preparation of this volume.*

The final reduction of the North-East Quadrilateral was published in 1882, and it was then intended that the synoptical volumes treating of the several series should follow as soon as possible. Work on the present volume was commenced in 1879; the calculations of the positions and heights of the numerous Himalayan peaks have been laborious, and the publication has been constantly delayed in order to incorporate the results of more recent observations. In 1907 it was decided to wait no longer, and publication has been pressed forward. But even now the Nepal Himalaya cannot be said to have been thoroughly observed. Surveyors have been unable to enter Nepal, and have observed its peaks from stations in British India; their work throughout has been hampered and retarded by the presence of clouds obscuring the mountains. Many important peaks have doubtless been missed; the number of high peaks discovered in the upper basin of the Karnali is extraordinarily small, and it can hardly be doubted that many of the peaks of western Nepal, even of 20000 and 21000 feet, have been omitted from the tables and charts of this volume. On the other hand a traveller, who visits the Himalaya for the purpose of discovering a mountain higher than Mount Everest, has very little chance now of success. All the Himalayan ranges have been scrutinised with theodolites, and the whole plateau of Tibet has been intersected by the routes of explorers. A mountain 30000 feet in height requires a great elevated base to rest upon: a peak of 30000 feet must be the culminating point of a great range, and it must be surrounded by many companion peaks only less lofty than itself: it will be visible from a distance of 200 miles. Whilst many important peaks of 20000 feet are known to have been missed, it is most improbable that the highest mountain of all should have escaped detection.

The computation and classification of the data of this volume were superintended by Mr. J. Eccles, M.A., in charge of the Computing Office, and by Captain H. H. Turner, R.E., who officiated during Mr. Eccles's absence on furlough in 1908 and 1909. The printing of the volume was also carried out under the direction of Mr. Eccles and Captain Turner.

The charts were drawn and printed under the immediate supervision of Messrs. W. M. Kelly and J. H. Nichol, Survey of India; the rapidity with which they have been completed during the past year was due to their personal interest in the work, and the absence of mistakes is owing to Mr. Nichol's personal examinations of both originals and proofs.

The task of renumbering of the peaks and their division into areas of square degrees was undertaken by Munshi Aulad Hussain in 1906, and completed by him in 1908.

The actual compilation of the volume and the preparation of the several tables was carried out by Babu Ishan Chandra Dev, B.A., the head computer. Babu Ishan Chandra's work is excellent throughout, and he deserves much credit for his efforts to render the volume complete. His knowledge of Himalayan Geography was of great assistance to the officers in charge of the Computing Office and to myself.

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\* See *Account of the Operations of the G. T. Survey of India*, Vol. XVIII page iv, preface.

Captain Turner made much use of Babu Ishan Chandra's notes when he was compiling the historical introduction.

In addition to assisting the head computer in compiling and arranging the tables, Babu Ganga Prasad Mathur carefully examined all proofs and I am much indebted to him for many corrections and valuable suggestions.

The Printing Office was hard pressed in 1909 to push this volume through without delay, and Babu Sarat Kumar Mukerji, the superintendent of the Printing Office, was successful in his co-operation with the head computer, and in dealing rapidly and systematically with the proofs.

In 1908 Babu Shiv Nath Saha died. He joined the Great Trigonometrical Survey as a computer in 1873, and in 1904 he rose to be head computer. He was a mathematician of exceptional ability, and the work of the trigonometrical survey was the chief interest of his life. He was possessed of an excellent memory, which enabled him to put his hand on the correct records, however old, whenever any question of past observations arose. I feel that this volume,—the first published since Babu Shiv Nath Saha's death,—would not be complete without a reference to the conscientious and valuable services he rendered to the trigonometrical survey.

DEHRA DUN, }  
*November 25th, 1909.* }

S. G. BURRARD.

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**NORTH-EAST LONGITUDINAL SERIES.**





## NORTH-EAST LONGITUDINAL SERIES.

### INTRODUCTION.

The North-East Longitudinal Series is the chain of triangles which extends from the northern extremity of the Great Arc to that of the Calcutta Meridional Series, passing mostly through the belt of Taráí which lies at the foot of the Himalaya on the frontier of British Territory. It extends from the vicinity of the Dehra Dún Base-line to a little beyond the Sonákhoda Base-line, and connects the northern extremities of the several meridional chains of triangles which emanate from the Calcutta Longitudinal Series and lie between the meridians of the Great Arc and of the Calcutta Meridional Series. It was wholly executed under the superintendence of Captain—afterwards Colonel Sir Andrew—Waugh.

That by far the greater portion—about nine-tenths—of this important chain of triangles was carried almost entirely through the plains at the foot of the outer Himalayan ranges, instead of over those ranges themselves, was due to the circumstance that this portion of the Himalaya falls within Nepalese Territory, and unfortunately a treaty had been made between the British and the Nepalese Governments, one of the articles of which prohibited Europeans from entering Nepal. More than once Colonel Everest had urged the Government of India to move the Nepalese to sanction the extension of the operations of this survey through their territory, as had invariably been permitted by all the Native States in India; but his requests were always refused. Had the triangulation been carried over the hills, the lengths of the sides might have been materially increased and the number of stations correspondingly diminished; the heavy cost of building towers at each of the stations in the plains, and clearing the lines between them, would have been avoided; and serious mortality in the survey establishments, which was caused by the operations having to be conducted through the deadly forests and jungles of the Taráí, might have been prevented.

In its execution this Series differs from all the other chains of principal triangles in that, instead of having been accomplished continuously from end to end, portions of it were executed on the completion and in continuation of the operations on the meridional series, with the object of tying together the northern extremities of those chains as soon as possible after each was completed.

Before any portion of the existing North-East Longitudinal Series—the details of

which are given in this volume—was commenced, a chain of triangles, originally called “The North Connecting Series in the Sub-Himalayan Range,” was carried from the side Doiwála—Banog of the Great Arc, eastwards, to the northern extremity of the Budhon Meridional Series and then on to the west flank of some triangulation which had been extended beyond the present Rangír Meridional Series to points on the Sub-Himalayan Range. It was executed during the field seasons of 1841-43 by Captain Du’Vernet of the Madras European Regiment, with Saiyad Mohsin’s 18-inch theodolite which is described at page 67 of the Appendices to Vol. II. The triangulation to the north of the Rangír Series—as at present constituted, and described in the introductory account thereof in Vol. VII—was executed by Mr. C. Lane, in the field seasons of 1839-42 with an 18-inch theodolite by Cary which is described at page 68 of the Appendices to Volume II. Then a chain of triangles, originally called “The North Connecting Series in the Pilibít Tarái,” was carried from the side Baberi-Atária on the east flank of the Rangír northern triangulation to the side Ramuapur-Kokra of the Amua Series, by Captain Waugh of the Bengal Engineers, in the field season of 1842-43; the instrument employed is believed to have been one of the 15-inch theodolites which were then available for the principal triangulation. The whole of the preceding operations were executed under the superintendence of Colonel Everest. In the field season of 1843-44 a chain of triangles, originally called “The North Longitudinal or Connecting Series,” was carried by Captain Du’Vernet—under the superintendence of Captain Waugh who had then succeeded to the Surveyor Generalship—from the side Sultánpur-Karái of the Pilibít Series to the side Khánpur-Masi of the Karára Series; the instrument which was employed is unknown, but it was probably one of the old 15-inch or 18-inch theodolites.

Full details of the above mentioned triangulations are given in Parts 2, 4, and 5 of Volume IX, and Part 2 of Volume X of the series of volumes entitled “The Trigonometrical Survey of the Peninsula of India” of which three copies were prepared in manuscript, one for record in the East India Office in London, the two others for the requirements of the Offices of the Surveyor General in Calcutta and of the Superintendent of the Great Trigonometrical Survey in Dehra Dún.

Shortly after the completion of these operations, the Survey was supplied—through the liberality of the Hon’ble Court of Directors of the East India Company—with instruments far superior in telescopic power and accuracy of graduation to those which had been available hitherto; moreover the operations on the Great Arc were completed about this time, and thus the two great theodolites which had been specially constructed for the requirements of the Great Arc, and are described at pages 28 to 37 of the Appendices to Vol. II, became available for employment on other series of triangles. The very marked superiority of the results obtained by the great (36-inch) theodolites and the new 24-inch theodolites, over those obtained by the older and much smaller instruments, induced Captain Waugh to have the whole of the angles of the several North Connecting Series re-measured with instruments of a better class, and to discard the first measurements. It happened that almost all the numerous towers which had been erected in the plains as stations of observation were still standing and available for re-employment; and it has already been shown in Chapter IV of Volume II, that when the object in view in revisionary operations is merely to remeasure the angles with

a superior instrument, without modifying the original design of the triangulation by altering the positions of the first stations or introducing new ones, the revision may usually be accomplished in very much less time than would be required for a new triangulation over virgin ground.

It thus happened that the final triangulation of the North-East Longitudinal Series was commenced simultaneously in two places in the field season of 1845-46; at the northern extremity of the Chendwár Meridional Series by Mr. Logan, and at that of the Malúncha Meridional Series by Lieut. Reginald Walker. Mr. Logan, working westwards from stations LXXXIV-LXXXV, carried the new triangulation to the head of the Amua Series—connecting the Huriláong, Gora, Gurwáni and Karára Series *en-route*—and then commenced the revision of the contiguous portions of the North Connecting Series, which he completed up to the side Donao-Kaliánpur (XII-XIII), in 1849-50. The revision of the remaining westerly portion up to the Great Arc, was accomplished in 1850-51 by Captain Renny and Mr. John Peyton. Lieut. Reginald Walker, working northwards and then eastwards, carried the triangulation from stations c-ci to cxvii-cxviii in 1845-47. In the following year it was extended by Mr. C. Lane to its eastern limit, at the side cxxiv-cxxvi, a little beyond the Sonakhoda Base-line. The portion of the Series included between the sides LXXXIV-LXXXV and c-ci was completed by Mr. Peyton in 1848-49. An account of these several operations will now be given.

*The Triangulation between Stations XII-XIII and LXXXIV-LXXXV,  
by Mr. George Logan.*

The Chendwár Meridional Series had been carried up to the side Harpur-Sáwajpur (xxii-xxiii of Chendwár) by the end of the field season of 1844-45, and then only five triangles remained to complete the Series. In the following field season Mr. Logan

*Season 1845-46.*

PERSONNEL.

Mr. G. Logan, 1st Assistant.  
 .. H. Keelan, 1st Class Sub-Assistant.  
 .. J. W. Hoesenrode, 1st Class Sub-Assistant.  
 .. J. B. N. Hennessey, 3rd " "

proceeded to measure the angles of those triangles, and carry a longitudinal chain of triangles westwards from their northern extremity. It had been conjectured that the triangulation might at first be carried northwards, through the country of the Raja of Rámnagar, to the Someshwar range of the outer Himalaya, and then be turned westwards; and had it been possible to establish both flanks of the Series on the hills, this plan would have been followed; but it was found that one flank must necessarily be located in the plains, and that a considerable bend in the direction of the chain would be introduced by resorting to the hills. Thus Mr. Logan, who had been authorized by the Surveyor General to adopt whichever course he thought most judicious, decided on selecting the direct course through the plains. The north flank of the Series was carried as closely as possible to the boundary line between the British and the Nepal Territories, which the surveyors were prevented from crossing because of the treaty between the two Governments which has already been alluded to, and in virtue of which no Europeans were allowed to cross the Frontier.

During the first field season sites were selected for the three remaining stations (xxiv to xxvi) of the Chendwár Meridional Series, and for stations LXXXV to LXXII of the Longitudinal Series. Towers—ranging in height from 25 to 35 feet, and composed of solid masonry

pillars surrounded by solid earthen platforms—were built by the surveyors themselves on the sites selected for the principal stations; and the whole of the lines between these towers were cleared of trees and other obstacles of which the removal was necessary to secure the requisite mutual visibility along each 'ray'.

The whole of the principal angles—both horizontal and vertical—at these stations were measured and an astronomical azimuth of verification was observed at station xxv of the Chendwár Series, by Mr. Logan, during the last three months of the season, with Barrow's 36-inch theodolite.

After a long field season, lasting from early in October to the end of May, the party proceeded to Dinapore, there to spend the recess season.

Field operations were resumed in the month of October 1846, and by the 20th of

*Season 1846-47.*

PERSONNEL.

|                                              |   |   |
|----------------------------------------------|---|---|
| Mr. G. Logan, 1st Assistant.                 |   |   |
| " H. Keelan, Senior 1st Class Sub-Assistant. |   |   |
| " J. W. Rossenrode, 1st "                    | " | " |
| " J. B. N. Hennessey, 3rd "                  | " | " |
| " J. O. N. James, 3rd "                      | " | " |

the following month sites had been selected for 9 stations and 19 'rays' had been traced, when two of the European Assistants and the greater portion of the native establishment were suddenly prostrated by a virulent malarious fever, contracted in the forests of the Tarái which had unfortunately been entered too soon after the termination of the rainy season. It is reported that two-thirds of the natives "had to be literally carried into the Civil Station of Gorakhpur for medical aid"; about thirty-five of them died outright, and of the survivors not a few "felt the effects of that jungle fever for several years after". A small party remained in the field throughout, collecting materials for the construction of the tower stations, with the aid of the inhabitants of the neighbouring villages. Towards the end of December the convalescents were sufficiently numerous to permit of Mr. Logan resuming field operations, the party being strengthened by the entertainment of new hands, though not without much difficulty, as work in the Tarái was regarded with considerable apprehension and alarm. Heavy rains fell in January which destroyed large quantities of the sun-dried bricks that had been prepared for the construction of the towers, but the health of the party was unaffected and was generally good from the time of returning into the field until the end of the season. The principal triangulation was concluded in the month of March, at stations LXIII-LXIV, terminating at an earlier date than usual to permit of Mr. Logan's return to Dinapore, in order to commence preparations for the base-line which was to be measured in the following field season at Sonakhoda. Mr. Keelan and the other assistants were employed until the end of April in selecting stations in advance and executing minor triangulations from the principal series along the Gandak river and towards Bettiah.

During the field season of 1847-48, Mr. Logan, his European assistants and his native

*Season 1848-49.*

PERSONNEL.

|                                              |   |   |
|----------------------------------------------|---|---|
| Mr. G. Logan, 1st Assistant.                 |   |   |
| " J. W. Rossenrode, 1st Class Sub-Assistant. |   |   |
| " J. B. N. Hennessey, 2nd "                  | " | " |
| " J. O. N. James, 2nd "                      | " | " |

establishment were wholly employed on the measurement of the Sonakhoda Base-line, which is situated at the eastern extremity of the North-East Longitudinal Series. They spent the summer of 1848 in recess quarters at Allahabad, the nearest cantonment to the triangulation of the ensuing field season. Operations were commenced by marching to the station of Masi (xxxv), at the

northern extremity of the Karára Meridional Series, with a view to examining the condition of the towers thereat and at the contiguous stations of the North Longitudinal or Connecting Series, which Major Du'Vernet had constructed in 1843-44. The summits of the pillars at each station had moreover to be enlarged to adapt them for supporting the stand of the great theodolite which Mr. Logan was employing, and which required pillars of a larger diameter than was needed for the stands of the smaller theodolites employed in the previous triangulation. At Masi the station pillar was a solid one, containing a series of markstones at different heights above the ground; the upper markstone was found to have been removed with a portion of the top of the pillar; but the markstones below were uninjured, and thus the mischief which had been done was readily repaired.

Mr. Logan then proceeded eastwards, towards the station of Chanda (LXIV) at which he had closed operations in 1847, selecting sites for the intermediate stations and clearing the rays on the lines. He also availed himself of the fine weather which usually occurs at this season of the year to take observations with the great theodolite, at stations XXXVII, XLI and XLVI, to fix the principal peaks of the snowy ranges of the Himalaya. Meanwhile the construction of the towers was progressing; the operations were however again impeded by an outbreak of fever which temporarily prostrated upwards of a third of the establishment, but fortunately the fever was of a less virulent and lasting nature than during the outburst of 1846, and it did not necessitate a complete suspension of the operations. Several of the rays had to be cleared with great labour through dense *sál* forest, in doing which considerable opposition was offered by the Rájá of Ikauna to Mr. Hennessey in clearing a line which passed near his fort: he sent out a party of matchlock men which compelled Mr. Hennessey to suspend operations until the district authorities could interfere in his support. The measurement of the principal angles was resumed by Mr. Logan towards the end of December, commencing at LXIII; by the middle of March they had been completed westwards up to stations XLIII and LXIV at the northern extremity of the Gurwáni Meridional Series; an azimuth of verification was observed at XLV; and the principal observations were continued up to stations XXXIX and XL, where they were brought to a close towards the end of April. The party then proceeded for the recess season to Dehra Dún, where Mr. Hennessey was transferred to the Head Quarters' Office, for duty immediately under the Surveyor General; his services during the field season had been specially commended, as he had cleared over 200 miles of rays, much of it through dense forest and jungle, besides measuring 140 minor triangles, and laying down the positions of 720 villages.

Warned by the experience of previous years of the danger of entering the malarious

Season 1849-50.

PERSONNEL.

Mr. G. Logan, 1st Assistant.  
 " G. R. Terry, 1st Class Sub-Assistant.  
 " J. O. N. James, 2nd " "  
 " C. J. Carty, 3rd " "

tracts of the Tarái early in the field season, Mr. Logan did not leave Dehra Dún until late in October. The great theodolite was set up for observation at the station of Daudaura (XXXVIII) on the 7th December, between which and the 4th April observations were taken at 27 stations, completing up to the stations of Donao and Kaliánpur (XII-XIII), at the eastern end of, what was then called, the Pilibhit Series. Observations of circumpolar stars, for the determination of azimuths of verification, were taken at stations XXXV and XIII.

The services of Mr. James, during this season, were most favourably reported on by Mr. Logan to the Surveyor General. Mr. James had re-cleared 138 miles of rays between stations of the principal triangulation; he had also executed a chain of minor triangles 100 miles in length towards Sháhjahánpur, in the course of which he determined the position of 634 points; he had also laid down the course of the Gogra river for 36 miles, by means of route surveys carried along both banks and connected with principal stations xxxii and xxxiii.

*The Triangulation from Stations LXXXIV-LXXXV Eastwards to the Terminal Side CXXIV-CXXVI.*

This portion of the North-East Longitudinal Series was accomplished in three sections by as many observers.

The Section LXXXIV-LXXXV to c-ci was executed in the field season of 1848-49 by Mr. John Peyton, who employed Barrow's 24-inch theodolite No. 1—described at page 46 of the Appendices to Volume II—in measuring the principal angles. No record of the season's operations is now forthcoming. Towers ranging in height from 20 to 30 feet, with solid pillars having markstones at the summit and basement, were constructed at each of the stations. Mr. Peyton had been directed to take observations for fixing the positions of the peaks on the snowy ranges of the Himalaya which ran parallel to his operations; but he appears to have been unable to do so, probably because the atmospheric conditions had become unfavourable by the time his stations, all towers, were ready for use; these observations were therefore carried out by Mr. J. O. Nicolson subsequently.

The Section c-ci to cv-cix was executed by Lieutenant Reginald Walker, R.E., dur-

Season 1845-46.

PERSONNEL.

|                             |                          |
|-----------------------------|--------------------------|
| Lieutenant R. Walker, R.E., | 2nd Assistant.           |
| Mr. G. Terry,               | 1st Class Sub-Assistant. |
| „ W. C. Kossenrode,         | 1st „ „                  |
| „ C. R. Webb,               | 3rd „ „                  |

ing the field season of 1845-46, as the northern portion of the Malúncha Meridional Series. Reference should be made to the introduction to that Series for an account of the difficulties under which the operations were conducted, owing partly to malarious fever contracted in the forests of

the Tarái, partly to unfavourable climatic conditions, and partly to the extreme length of the sides of the triangles. Towers with solid pillars were constructed at each of the stations. The observations at the several stations which are now included in the North-East Longitudinal Series were taken in the months of May and June 1846, when, after a long period of hot winds from the west which greatly obscured the atmosphere, the easterly winds set in, the weather became favourable, and mutual observations between the principal stations of the triangulation again became possible.

The theodolite employed in the measurement of the principal angles was Cary's 15-inch which is described at page 71 of the Appendices to Vol. II. The results obtained by Lieutenant Walker with this little instrument are most accordant and satisfactory, as regards the smallness both of the errors of observation and graduation (see Section 3, Chapter VII, Vol. II) and of the triangular and other geometrical errors. Thus, whereas all other portions of the

triangulation of this series which had been executed with the smaller and more antiquated theodolites were subsequently revised with the 36 and the 24-inch theodolites, this portion was not revised. The instrument was however discarded at the end of the field season, and one of the great theodolites substituted for it.

In October 1846, Lieutenant Walker proceeded with four assistants, from his recess

|                             |                          |  |
|-----------------------------|--------------------------|--|
| Season 1846-47.             |                          |  |
| PERSONNEL.                  |                          |  |
| Lieutenant R. Walker, R.E., | 1st Assistant.           |  |
| Mr. C. Lane,                | Principal Sub-Assistant. |  |
| " W. C. Rossenrode,         | 1st Class                |  |
| " C. R. Webb,               | 3rd                      |  |
| " J. H. Lawrence,           | 3rd                      |  |

quarters at Titalya, to extend the triangulation eastwards to the Sonakhoda Base-line. The operations lay wholly in the plains of the Taráí at the foot of the Himalaya, much of it through tracts of forest and jungle which necessitated the usual laborious process of selecting sites, erecting a tower of a height generally ranging from 20 to 30 feet at each station, and clearing the lines between the towers. The preliminary arrangements occupied much time, so that the measurement of the principal angles could not be undertaken before the month of March 1847. The measures of all the angles, both horizontal and vertical, were made with Troughton and Simms' 36-inch theodolite, which is described at pages 28 to 31 of the Appendices to Volume II. Lieutenant Walker had completed the observations at 9 stations, bringing the work up to station CXVIII, when he was struck down with fever, contracted in the malarious region on which he had so long been working. He proceeded to the Hill Sanatorium of Darjeeling for change of air and medical treatment; but on the arrival at Darjeeling of the *dooly* in which he was being carried, the sad discovery was made that he had died *en route*, without the cognizance of any of his attendants. In announcing his death to the Government, the Surveyor General stated that "by his lamented demise Government has lost a very talented and energetic officer, and "this Department has sustained an irreparable loss. The great practical success which "attended his labors from the commencement, together with his scientific acquirements and "entire devotion to the Great Trigonometrical Survey, marked him out from the first as an "officer of the highest order. During my recent inspection of his operations, I was particularly struck with his great energy and force of character among difficulties of no ordinary "kind. No inclemency of climate, nor fear of danger, neither fatigue, heat nor inconvenience, "loneliness nor protracted bodily exertion, could quench the enthusiasm with which he regarded his work, nor repress his emulation to excel in his profession."

Observations of the principal angles at stations CXIX to CXXVI were still required to complete the eastern extension of this Series, which terminates at the east flank of the Rámganj polygon, the figure of which one of the sides is the Sonakhoda Base-line. The whole of the angles were measured by Mr. Lane during the field season of 1847-48, with Troughton and Simms' 36-inch theodolite which had been employed during the previous field season by Lieutenant Walker. Subsequently, early in 1855, all the angles at the stations—CXX to CXXVI—which appertain to the Rámganj polygon were again measured by Mr. J. O. Nicolson, some with Colonel Waugh's 24-inch theodolite No. 2, and others with Barrow's 24-inch theodolite No. 1. For the Surveyor General apparently mistrusted the first measures, apprehending that they might have been vitiated by deflection of the towers at

some of the stations. The triangulation had exhibited a very much larger linear error on closing at the Sonakhoda Base-line than had ever been met with previously, and there can be little doubt that this error must have been mainly due to the cause to which it was attributed—*viz.*, deflection of the tower stations and consequent displacement of the station marks on their summits—as the pillars were all solid, and there were no means of measuring the displacement by reference to the marks at their basements otherwise than by the expensive and tedious process of pulling them down to the ground, in order to obtain access to the lowest mark. This subject is fully discussed at pages 65 to 67 of Vol. VII, *Account of the Operations of the G. T. Survey of India*; thus it is unnecessary to say more in this place than that the experience of the disadvantages of tower stations with solid pillars which was gained in the course of the operations on this Series, led shortly afterwards to the introduction of towers with perforated pillars, and with vaults leading to the basement mark, to which mark reference has since been made invariably; the upper mark is either dispensed with altogether, or a temporary substitute is provided, in the shape of a cross with a small hole in the centre which is carefully plumbed over the basement mark.

The second measures of the angles of the Rámganj polygon gave values which agreed so closely with the first that the differences may be fairly attributed to errors of observation rather than to errors caused by pillar deflection; thus there being no decisive evidence of errors of the latter kind, both values have been adopted; they have been combined together with their respective weights, in order to arrive at the 'concluded' or finally adopted value of each angle which results from the actual observations.

*The Triangulation between the Eastern flank of the Great Arc and the Side XII–XIII  
of the North-East Longitudinal Series.*

The final measurement of the angles of these triangles was executed in the field

Season 1850-51.

PERSONNEL.

Captain T. Renny, R.E., Astronomical Assistant.  
Mr. J. Peyton, Chief Civil Assistant.  
" F. C. Blewitt, 2nd Class Sub-Assistant.  
" A. T. Haycock, 3rd " "

season of 1850-51 by Captain Renny (afterwards Colonel T. Renny Tailyour) and Mr. J. Peyton. The following account of the operations is extracted almost *verbatim* from a report by Captain Renny to the Surveyor General, dated 10th June 1853.

Mr. J. Peyton, Chief Civil Assistant, and two Sub-Assistants having been placed under my orders, I kept Mr. Haycock with me to assist in the observatory and office, and detached Messrs. Peyton and Blewitt in the beginning of October (1850), the former to build the towers that were wanted at stations in the plains, and the latter to construct platforms and cut roads at hill stations for the 24-inch theodolite.

Having received your instructions to make the revised section a double triangulation, I carried this improvement into effect by observing the angles made by the diagonals Banog to Chándipahár, and Dhela to Birond, so as to form two quadrilaterals; by adopting Mahesari Station of the Budhon Series, to complete a polygon round Mábegarh H.S.; and by connecting Birond and Donao Stations, in order to obtain a polygon round Baheri T.S.

The four stations of the Rangir Series, in the plains at the eastern end of my triangulation, had tall pillars about 40 feet high for the support of the theodolite, and in former operations a temporary scaffolding was erected around them for the observer and his tent; but as this arrangement was not nearly so convenient as a tower, and moreover the pillars had been found to vibrate with a little wind, it was considered advisable on this occasion to encase them in a solid tower of unburnt brick.



Mr. Peyton on leaving Dehra proceeded first to Mahesari Station, from whence he cleared the ray to Girijwála H.S., and after making arrangements for the repairs of the tower at Mahesari, of which the outer portion of unburnt brick was much dilapidated, he marched on to Sisgarh. He now commenced work on the towers at Sisgarh and Atária and also in repairing those at Kaliánpur and Donno, where Mr. Logan had left men for the preservation of the station marks; but he had a great deal of difficulty in getting workmen to proceed to Bagwára and Baheri, which are situated in unhealthy parts of the Taráí, as several masons had died there formerly when building the pillars at these stations for the Rangír Series. The delay in obtaining workmen and the unusual wetness of the season, which interfered greatly with the drying of bricks, prevented the towers being got ready at the two last named stations until near the middle of February. The original pillars were built with a hollow core and an open passage to it at bottom, in order to plumb down from the top to a mark below, but they were all found to incline so much as to prevent such a reference being made. It therefore became necessary to throw down a great part of each pillar and rebuild it; but after the towers were complete, the pillars again moved out of the perpendicular to a small extent, caused most probably from pressure of the outside casing of unburnt brick owing to unequal settlement of its foundation. As Mr. Peyton did not like to trust the lampmen to plumb down the great depth to the bottom of the pillar, he directed them to use an upper mark, which was carefully transferred to the bottom on the arrival of the observing party. This arrangement generally threw the lower mark out of the centre of the aperture at bottom of the pillar, and except in the case of Bagwára, caused them to differ from the station mark used in former operations; but the maximum difference does not exceed  $3\frac{1}{2}$  inches, and they are noted in the description of stations inserted in the angle books.

At the Hill stations, platforms were constructed of stone and earth, 14 feet square, with a central pillar of masonry 3 feet 4 inches diameter for the theodolite. There are markstones at top and bottom of these pillars, and a masonry annulus is built round them at a clear interval of an inch or two, to isolate them from the remainder of the platform. Lime had to be brought from a great distance for the pillars and annuli, for although limestone generally abounded, the *paháris* [hill men] are not in the habit of burning it for their own use. A practicable path was always cut up the hill side for the theodolite from the nearest village road to the station. As the original platforms with exception of those at Banog and Doiwála had no masonry pillar for the theodolite, they had all to be rebuilt or altered accordingly, but the lower markstones were retained and the upper marks were also replaced at their previous heights, except in a few instances which are noted in the description of stations.

As it was not considered safe to send lampmen to Doiwála Station until near the end of October for fear of jungle fever, and it was also necessary to let Mr. Blewitt obtain a start in advance of the observing party, I only commenced taking the angles at Banog H.S. on the 23rd October. From Banog I proceeded regularly from station to station until I reached Dhela H.S. on the 10th January, when heavy snow fell on the mountains and interrupted the observations to Ghungti, Birond and Saonchália. In the course of 5 or 6 days the lampmen managed to show their signals at the first two of these stations, but Saonchália being full a thousand feet higher, or upwards of 8,500 feet above the level of the sea, all access to it was cut off for nearly a month. When the snow commenced falling, Mr. Blewitt was making the road up the hill at Birond, so I felt no anxiety respecting the lampmen at that station, as I knew he would assist them if necessary. I had previously caused huts to be constructed and wood stored at all these stations, and I had ordered the lampmen always to keep a month's supply of food by them in case of being snowed up; but still, fearing lest the men should have been careless in taking all the necessary precautions from ignorance of the danger they incurred in neglecting them, I was apprehensive that the lampmen at Ghungti and Saonchália might be in difficulty if not in actual danger, and I therefore despatched a couple of messengers to each of these stations particularly selecting active and energetic men for those sent to Saonchália, and I directed them to report to me immediately in case of any difficulty occurring, which they could not overcome, in communicating with the lampmen. I shortly heard of the welfare of the men at Ghungti, where the head lampman had been provident as respected supplies for his party, and the road to the station had not been much impeded with snow, but at Saonchália the snow had fallen very deep, and two of the lampmen had been snowed up for 4 days with scarcely any food, and were only rescued by the energy of the messengers I sent, who with great difficulty got a party of *paháris* to assist them and pushed their way through the snow. I had posted 4 men at Saonchália, but the day before the snow fell, two of them came down the hill to buy food for the party and were afraid to go up again until my messengers arrived, and the men on the hill being also unaccustomed to snow, were afraid or unable to venture down through the deep snow, after making an unsuccessful attempt.

Having taken all the angles at Dhela except those in connection with Saonchália, I marched to Bagwára Tower Station to assist Mr. Peyton in completing the towers, with the view of making over the remainder of the observations to him and returning to your office at Dehra, to enable me, agreeably to your orders, to take early measures for erecting an observatory at Banog. Accordingly on the 9th February I made over charge to Mr. Peyton, and he took the remainder of the observations, visiting all the tower stations first and ending with the hill stations of Birond, Saonchália and Dhela. At first he progressed very slowly on account of the length of the rays between the stations of Bagwára, Sisgarh, Baheri and Atária, and the necessity of reclearing these rays, but he eventually got all the angles satisfactorily completed by the 3rd of June.

There were two theodolites employed on this work, being the two you constructed from the original 24-inch Azimuth Circles of the 3-feet Astronomical Circles. It was at first intended to use No. 1, which was considered the best, but as it was on its way up from Calcutta when I commenced work, I observed with No. 2 at the first two stations I visited, *viz.*, Banog and Ghandiál. These theodolites, especially No. 1, appear to be but little inferior to the great theodolites, and when used with care and the signals are tolerably good, the differences in the mean angles at different zeros do not appear to exceed 3 to 4 seconds in No. 1 and 4 to 6 seconds in No. 2.

The best mode of conveying the boxes of the theodolite in the mountains, is by means of a single bamboo or pole attached as in a palanquin, so that the carriers may move in single file, which enables them to take the instrument safely along any of the ordinary village tracks, and only necessitates the cutting of a small path to the station; whereas if two carriers are placed abreast, the village tracks must generally be widened for the purpose, and expensive roads made up to the stations. The ordinary bearers of the plains are preferable as carriers to the *paháris*, and get on very well in the hills after a little practice, but 2 to 6 *paháris* with drag-ropes for each box are necessary to assist when the roads are steep.

The result of the revision appears satisfactory as shown in the following instances. *1st.* The uncorrected polygons and quadrilaterals re-enter with small differences. *2nd.* The triangular error is generally under 1 second and only in one instance exceeds 2 seconds, which occurs in the triangle Bagwára, Baheri, and Sisgarh, where the error amounts to 2"80, but the sides of that triangle are long and unfavourably situated for good angles. *3rd.* In the heights, the differences by two or three independent deductions of the same stations are frequently under 1 foot, and seldom exceed 2 feet, whereas in the original work these differences were usually upwards of 10 feet and in two instances amounted to 37.7 and 46.1 feet respectively. And *4thly*,—The comparison with the Rangir Series is more favourable than previously, and an extraordinary anomaly has also disappeared, which existed in the comparisons of the Budhon with the Great Arc and Himalaya Series (which the hill portion of my revised section was formerly called) as shewn in pages iv and v of the Introduction to the General Report of the Budhon Series.

The comparison of the Rangir Series at the common side (of the two series) Saonchália-Bagwára formerly gave a difference of 5.4 inches per mile in excess, and this difference is now reduced to 2.9 inches per mile. The Budhon Series compared with the side Sheopuri to Godhna of the Great Arc was 6.24 feet in excess in 21½ miles, which amounted to 3.5 inches per mile, but when compared with the side Chándipahár to Mábegarh of the Himalaya Series there was only a difference in excess of 0.25 feet in 16½ miles, or about 0.2 of an inch per mile; from which comparisons there resulted a discrepancy of 3.3 inches per mile in the short triangulation from Godhna and Sheopuri to Chándipahár and Mábegarh, occupying only three triangles of the Budhon Series. As these three triangles formed part of the Mahesari polygon which re-entered very fairly, the discrepancy was supposed to be chiefly due to the Himalaya Series, and the result of the revision of the latter has proved this to be the case, for comparing the common triangle Chándipahár, Mábegarh, and Mahesari, of the Budhon and North-East Longitudinal Series, the former now gives an excess of 3.2 inches per mile, being a difference of only 0.3 of an inch from the result given by the Great Arc, and if the revised angles of the triangle Chándipahár, Mábegarh, and Mahesari were introduced into the Budhon Series, this difference would be still further reduced.\*

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\* It is to be remembered that the numerical values of discrepancies given in this and the preceding para. were derived from the preliminary computations, before any general adjustment of the triangulation had been attempted, and while the Budhon and the Rangir Meridional Series were still dependent for their initial elements on the old triangulation of the Calcutta Longitudinal Series the revision of which was not commenced until the year 1863.

My party being specially intended for the revision of Principal Triangulation, and composed only of such members of the Civil Establishment as could be spared for the purpose and a detachment of the Native Establishment of the North-West Himalaya Series, containing but a limited number of trained men, I was quite unable to carry on any Secondary Operations until Mr. Blewitt had completed the work assigned to him in preparing the platforms and roads at the hill stations. The Secondary Triangulation has been confined to laying down the position of the Roorkee College, and a Minor Series in the Rádarpur Taráí to fixed points on the edge of the forest for the Rohilkhand Revenue Survey. There exist however all the secondary points laid down in the operations of the Himalaya Series and sections of the Rangir and Pilibhit Series, of which only the principal triangles are superseded by the revised triangulation.

I beg to acknowledge having received the most cordial assistance from Mr. Peyton, who exerted himself very diligently to get the towers ready in proper time, notwithstanding the great natural impediments of the unhealthy situations of Bagwára and Baheri and an unusually wet season. After receiving charge of the party from me on the 9th February, he finished the remaining observations of the Revised Section between Dhela and Kaliánpur in a very satisfactory manner.

Thus was completed this chain of triangles, the length of which is 740 miles, and which is only 40 miles shorter than the Great Indus Series, the longest of any of the chains of the Indian triangulation that run directly from one base-line to another. As soon as was convenient after the completion of the triangulation, steps were taken to adjust the angles for the linear error generated between the two base-lines, and for the azimuthal error generated between certain stations, near the origin and the terminus of the Series, at which azimuths had been determined astronomically. A full description of the treatment to which the angles were subjected, in order to bring them into accordance with the verificatory base-lines and azimuths, is given in manuscript Volume XV of the "Trigonometrical Survey of the Peninsula of India", in the Introduction—dated 14th October 1861—which was written by Mr. Hennessey under the instructions of the then Surveyor General, Colonel Waugh. There too will be found a statement of the discrepancies between the respective geodetic elements of latitude, longitude and azimuth, and between the side-lengths and the heights of the principal stations common to this Series and to the several meridional series closing on it, which were met with on the completion of the calculations of each series. These discrepancies were believed to be largely due to the circumstance that the initial elements of all the meridional series were derived from the triangulation of the Calcutta Longitudinal Series which had been executed—under considerable difficulties and with a very inferior instrument—during the years 1826-32, when as yet the Survey Department was unfurnished with suitable instruments for the execution of so important a chain of triangles; see page 71 of Volume II. Thus no attempt was made to proceed with further reductions of any portion of the system of triangulation now known as the North-East Quadrilateral—which comprises the Calcutta and the North-East Longitudinal Series and the whole of the chains emanating from the former and closing on the latter—until after the revision of the southern Series which was accomplished in the years 1863-69. The reduction was further postponed until the completion of that of both the North-West and the South-East Quadrilaterals, for reasons which are fully explained in Section 7 of Chapter I of Volume II. Thus it was not taken in hand until 1876, when it was commenced under the immediate supervision of Major Herschel, in accordance with the principles which are set forth in Chapter XIV of Volume II.

The several circuits into which the chains of triangles were arranged for the final reductions of the North-East Quadrilateral were all made to close at stations appertaining to the North-East Longitudinal Series. The closing errors in Side, Latitude, Longitude and Azimuth and the portions of those errors which were thrown on the Series in the course of the final reductions, are given, the former in Section 10 and the latter in Section 18 of Chapter III of Volume VII, *Account of the Operations of the G. T. Survey of India*; a full description of the method of treatment as regards the final evaluation of the linear and geodetic elements of the triangulation is given with complete numerical details in the same chapter. Here then it is only necessary to state that the heights have been checked by connection with the Spirit Levelling Operations of this Survey at twenty-one of the principal stations (specified at pages 179—1 and 180—1 of Volume VII, *Account of the Operations of the G. T. Survey of India*); the magnitude of the errors of height which were generated in the course of the triangulation, and the methods by which they were dispersed, are set forth at pages 36 and 37 of Volume VII, *Account of the Operations of the G. T. Survey of India*.

The following table shows the season in which each section of the principal work was done, the name of the observer, the theodolite used, the number of triangles completed and the resulting triangular error.

It is noticeable that some of the best work of the Indian triangulation has been done on this series. Mr. Logan's work of 27 triangles with an average triangular error of 0·28 in season 1849-50 being a very notable performance.

| Season  | Section of Series             | Observer                   | Theodolite                | No. of triangles | Triangular error |
|---------|-------------------------------|----------------------------|---------------------------|------------------|------------------|
| 1845-46 | LXXXV - LXXIII ...            | Mr. G. Logan               | Barrow's 36-inch          | 11               | 0·38             |
| 1845-46 | C - CIX ...                   | Lt. R. Walker, R.E.        | Cary's 15-inch            | 10               | 0·74             |
| 1847    | LXIII - LXXIII ...            | Mr. G. Logan               | Barrow's 36-inch          | 10               | 0·30             |
| 1846-47 | CV & CIX - CXVIII ...         | Lt. R. Walker, R.E.        | T. & S. 36-inch           | 9                | 0·40             |
| 1848    | CXIX - CXXVI ...              | Mr. C. Lane                | T. & S. 36-inch           | 9                | 0·92             |
| 1855*   | CXX - CXXVI ...               | Mr. J. O. Nicholson        | Barrow's 24-inch<br>No. 1 |                  |                  |
| 1848-49 | LXIV - XXXIX ...              | Mr. G. Logan               | Barrow's 36-inch          | 25               | 0·38             |
| 1848-49 | LXXXIV - CI ...               | Mr. J. Peyton              | Barrow's 24-inch          | 16               | 1·01             |
| 1849-50 | XXXVIII - XII ...             | Mr. G. Logan               | T. & S. 24-inch<br>No. 2  | 27               | 0·28             |
| 1850-51 | XIII - V ...                  | Mr. J. Peyton              | Waugh's 24-inch<br>No. 1  | 9                | 0·96             |
| 1850-51 | LII, † LIV, † LVI † and I - V | Capt. T. Renny<br>Tailyour | Waugh's 24-inch<br>No. 1  | 9                | 0·67             |

\* Re-observed in 1855 by Mr. J. O. Nicholson, the weighted mean of angles of the two observers being taken.

† These stations appertain to the Great Arc Meridional Series, Section 24°-30°.

*Secondary Triangulation.*

The Secondary Triangulation which was executed in connection with the operations of this Series may be divided into three classes.

- (1). Triangles to fix the peaks of the Himalaya mountains.
- (2). Minor chains of triangles with off-shoots to fix points of importance at a distance from the principal series.
- (3). Ray traces.

(1). *The Himalayan Snow Peak Triangulation.*—The whole of the most prominent peaks on the snowy ranges situated between the meridians of  $78^{\circ}$  and  $89\frac{1}{2}^{\circ}$  were fixed by observations taken mainly at the principal stations, but partly also at auxiliary stations situated at the eastern and western extremities of the Series, *viz.*, in that portion of Sikkim which now belongs to the British Government and is known as the Darjeeling Hill Tracts, and also in the neighbourhood of Dehra Dún and Mussooree. The operations in Sikkim were executed in person by the then Surveyor General, Colonel Waugh. The observations at the hill stations, whether principal or secondary, were collaterally of much service in determining values of the coefficients of refraction to be employed in reducing the vertical observations which were made at the stations in the plains. For the mutual observations between the stations which were situated on the mountains furnished values of the coefficient of refraction which might safely be adopted in computing the heights of all the snow peaks observed at those stations, as the atmospheric conditions to which the rays between the stations and the rays between the stations and the peaks, were subjected, were fairly similar. But in the mutual observations between the principal stations situated in the plains, which considerably preponderated over the hill stations, the rays of light grazed the surface of the ground, passing through an atmosphere of which the lower strata were very generally rarified by heat radiated from the surface of the ground, at the usual time for vertical observations; and this induced a refraction which was very slight in all cases, and was sometimes even negative in sign instead of positive, as in the "Observations of Terrestrial Refractions on the Plains of the Punjab", which form the subject of Appendix 3 of Volume II; on the other hand the rays of light between the principal stations and the snow peaks passed high above the ground, and were refracted to a very much greater degree and always positively. Thus it is obvious that the values of the coefficient of refraction resulting from the mutual observations between the stations in the plains could not be employed in the reduction of the vertical angles at those stations to the snow peaks. Consequently the heights of all the peaks which were observed at the hill stations—in Sikkim, and afterwards at the western extremity of the principal series—were regarded as fixed by the observations at those stations, and were employed in calculating the probable values of refraction in the observations to the same peaks from the stations in the plains; and then these values were employed in obtaining coefficients of refraction to be used in reducing the observations to such of the peaks as were observed only at the stations in the plains.

(2). *Other Chains of Triangles.*—Of these the most important was the triangulation to the subsidiary stations in Sikkim, at the eastern extremity of the Series, which was under-

taken by the Surveyor General in person. It emanated from a base formed on the line CXVIII to CXXIII, and was executed with the largest theodolites which could be conveniently transported to the hill stations; thus Troughton's 36-inch theodolite was employed at Darjeeling, an 18-inch theodolite at Senchal and Birch Hill, and a 12-inch at Tonglu, in measuring both the angles of the triangles and those to the snow peaks.

On the western extremity of the Series auxiliary stations were fixed on the well known mountains of Nag Tiba, Kidarkanta, Sirkanda &c., from which observations were taken—some by Colonel Everest when Surveyor General—to Gangotri, Jamnotri, and all the other prominent peaks of the Himalaya in this region. Observations were also taken at the hill stations of Jagesar and Kankra, situated on the prolongation of the Rangir Meridional Series, which were principal stations of that Series as originally executed, but were omitted from the revisionary operations, probably because of the difficulty of conveying the large theodolites to them, and are now classed among the auxiliary stations.

A chain of minor triangles of which the angles were measured with a 7-inch theodolite was executed for a boundary survey of Nepal. It stretches from Station LII (Paragawa) to Station LXXXIV (Bulákipur).

A chain of first class triangulation with a 14-inch theodolite was carried, from the side XXV Dablelnagar of N.-E. L. S. to XXXII Jarúra of Amua Series, down to the town of Sháhjahánpur.

(3). *Ray Traces*.—These consist of chains of triangles which were carried over the sides of some of the principal triangles in the plains, with the primary object of enabling the direction of the lines between the stations to be exactly determined, before the 'ray cutting', as it was called, was commenced. The stations were about 2 miles apart, and were marked by a stout wooden pin, driven firmly into the ground, over which a flagstaff—usually a long bamboo—was erected for observation. The three angles of each triangle were measured with 12-inch theodolites. The requisite directions could be and usually were computed from the triangulation, without any knowledge of the side-lengths; this could only be obtained with accuracy after the lengths of the sides of the principal triangles had been determined; see Chapter II, Part IV, of the *Manual of Survey for India* by Colonels Thuillier and Smyth. In the course of the execution of the ray traces, observations were taken to all visible points in the immediate neighbourhood which it might be useful to fix for topographical purposes; thus some of the ray traces became of additional importance, and the details of thirty of them, fixing about 400 points, are given in manuscript Volume XV of the *Trigonometrical Survey*.

The above portion of this introduction with the exception of the table given at the end of the history of the principal triangulation was written by Lieutenant-General J. T. Walker in the year 1881 and appeared in Volume VII, *Account of the Operations of the G. T. Survey of India*. Since that time much secondary triangulation work connected with the North-East Longitudinal Series has been accomplished: it remains therefore to supplement the original introduction with a short review of this work.

Of the secondary triangulation mentioned under the heading of "Other Chains of Triangles" in Lieutenant-General Walker's introduction—

(a) The triangulation to the subsidiary stations in Sikkim is now incorporated in the Darjeeling Secondary Series.

(b) The auxiliary stations of Nag Tiba, Kidarkanta, Sirkanda &c. are now included in the Kidarkanta Secondary Series.

(c) The observations mentioned as having been taken from Jagesar and Kankra are incorporated in the Kumaun and Garhwál Series.

(d) Owing to the inferior instrument used and the shortness of the sides of the triangles (not exceeding 3 miles) the chain of triangles stretching from Station LII (Paragawa) to Station LXXXIV (Bulákipur) has not been included in the list of triangles and azimuths, the well-defined points of permanent nature, however, are given in the co-ordinate list.

(e) As regards the chain of triangles from Station XXV (Dahlelnagar) of the North-East Longitudinal Series to XXXII (Jarúra) of the Amua Series, no list of triangles or azimuths has been given in either this Volume or in Synoptical Volume XVI (Amua Series). Two points have been given in the co-ordinate list of this Volume and the remaining important points have already been given in the co-ordinate list of Synoptical Volume XVI.

(f) The triangulation executed for Ray traces has not been given in the list of triangles and azimuths but the stations and points of a permanent nature have been given in the Co-ordinate list.

The secondary triangulation appears now in this Volume under the following titles:—

- (1). The Dehra Dún Secondary Series.
- (2). Jaunsár Báwar Secondary Series.
- (3). Kidarkanta Secondary Series.
- (4). Kumaun and Garhwál Secondary Series.
- (5). The Gandak River Secondary Series.
- (6). Someshwar Secondary Series.
- (7). Darjeeling Secondary Series.

(1). The Dehra Dún Secondary Series comprises a network of 68 triangles based on the Dehra Dún Base-line and covering an area of 377 square miles. It was executed by Mr. L. J. Pocock in the seasons 1873-74 and 1874-75 under the superintendence of Captain H. R. Thuillier, R. E. The instrument employed was T. and S. 12-inch Vernier Theodolite No. 42. The average triangular error of this work exceeded 15 seconds, a large error for secondary triangulation. The triangulation was carried out in connection with the topographical survey of the Dún on a scale of 4 inches = 1 mile.

(2). The Jaunsár Báwar Secondary Series is a continuation of the Dehra Dún Series and is based on the side Ambári-Sidh Tiba of one of the triangles of that network. It consists of a network of 71 triangles covering an area of 360 square miles. It was executed by Mr. L. J. Pocock in the season 1874-75 under the superintendence of Captain H. R. Thuillier, R. E. The instrument employed was T. and S. 12-inch Vernier Theodolite No. 42. The average triangular error amounts to 11" also large for secondary work. The triangulation was car-

ried out in connection with the topographical survey of Jaunsár Báwar on a scale of 2 inches = 1 mile.

(3). **The Kidarkanta Secondary Series.**—This series consisting of three triangles and one quadrilateral is an extension northwards to the snowy range of the Great Arc Meridional Series. It emanates from the base Banog-Sirkanda (new) of the Great Arc Meridional Series. Observations were originally taken at some of these stations by Colonel Everest, when Surveyor General, in the year 1835. They were all, however, reobserved in the years 1902 and 1903 by Captain H. Wood, R.E. and Captain H. M. Cowie, R.E. and the values given in this Volume are those obtained by them. The instruments employed were T. and S. 12-inch Micrometer Theodolites Nos. 2 & 3 for the triangle Banog, Sirkanda, Nag Tiba and T. and S. 7-inch Micrometer Theodolite No. 1078 for the remainder of the work. The average triangular error was  $1''\cdot72$ . See Appendix No. 2, Volume XVIII, *Account of the Operations of the G. T. Survey of India*.

In 1905 after the earthquake which devastated Dharmśála the triangle Sirkanda, Banog, Nag Tiba was reobserved by Messrs. D. J. Hunter and C. D. Simons with T. and S. 12-inch Micrometer Theodolites Nos. 2 and 3. The results obtained proved conclusively that no relative change had taken place between these stations outside the limit of error of observation.

(4). **Kumaun and Garhwál Series.**—This series may be subdivided into two classes.

(a). A first class longitudinal secondary series.

(b). Various minor secondary series.

(a). The first class longitudinal secondary series emanates from the side Mábegarh I—Ránigarh II of the North-East Longitudinal Series and closes on the side Saonchália VI—Birond VIII of the same series. The series consists of a chain of 4 quadrilaterals with one hexagon and is about 125 miles in length. It comprises 20 triangles with an average triangular error of  $2''\cdot51$ . Two triangles at its eastern extremity were observed by Mr. C. Lane in 1842 with a 15-inch Micrometer Theodolite, but the main part of the series was executed by Lieut. T. T. Carter, R. E. during the seasons 1864-65 and 1865-66 with T. & S. 14-inch Theodolite No. 8 fitted with 5 Verniers to the horizontal limb. This series initiated the secondary triangulation in connection with the topographical survey of Kumaun and Garhwál.

(b). The various minor secondary series were carried out by numerous observers during the progress of the topographical survey of Kumaun and Garhwál under the superintendence of Lieut. T. T. Carter, R. E., 1864-67, Major T. G. Montgomerie, R. E., 1867-70, Capt. H. R. Thuillier, R. E., 1870-71 and 1873-75, Lt. J. Hill, R. E., 1871-73 and Mr. E. C. Ryall, 1876-78. The following table gives a list of the various series, the names of the observers, the instruments used and the years in which they were executed.



| Name of Series                                       | Name of Observer               | Instrument used | Year of Observation           |
|------------------------------------------------------|--------------------------------|-----------------|-------------------------------|
| Almora and Aiertoli Tea Plantation Triangulation ... | Carter and Todd ...            | 7" & 8" Vernier | 1865-66                       |
| Dhábar Triangulation ...                             | Ryall, Bryson & Pocock ...     | 8" & 12" "      | 1866-67, 1867-68<br>& 1871-72 |
| Byána Triangulation ...                              | Peyton ...                     | 7" "            | 1876-77                       |
| Chándipahár Triangulation ...                        | Ryall ...                      | 12" "           | 1871-72                       |
| Chaudans Triangulation ...                           | MoA'Fee ...                    | 12" "           | 1874-75                       |
| Kosi Triangulation ...                               | Ryall, Atkinson & Beverley ... | 7", 8" & 12" "  | 1869-70 & 1870-71             |
| Mána Valley Triangulation ...                        | Low ...                        | 8" & 12" "      | 1869-70 & 1871-72             |
| Milam-Hundes Triangulation ...                       | Ryall ...                      | 12" "           | 1873-74, 1874-75<br>& 1876-77 |
| Naini Tál Triangulation ...                          | Chambers ...                   | 12" "           | 1871-72                       |
| Nilang Valley Triangulation ...                      | Kinney ...                     | 7" "            | 1877-78                       |
| Niti Valley Triangulation ...                        | Pocock ...                     | 12" "           | 1869-70 & 1871-72             |
| Mussooree, Simla, Garhwál and Siwálík Triangulation  | Keelan ...                     | 14" "           | 1851-52                       |
| Ragshi-Gwanagarh Triangulation ...                   | Ryall ...                      | 12" "           | 1867-68                       |
| Ránikhet Triangulation ...                           | Hill, Beverley & Pocock ...    | 8" & 12" "      | 1869-70                       |
| Shikani-Khamlek Triangulation ...                    | Beverley ...                   | 12" "           | 1869-70                       |

It will be seen that the bulk of the work was executed with 12" Vernier theodolites, but 14", 8" and 7" instruments were also used.

The various series consist of no less than 921 triangles and these together with a few auxiliary stations and intersected points enabled the whole of the Kumaun and Garhwál topographical survey to be completed.

(5). The Gandak River Series is a short length of triangulation effected for the purpose of the survey of the Nepal boundary. It emanates from the base Balua LXVI—Bájra LXVIII of the North-East Longitudinal Series.

It consists of a chain of 14 triangles and was executed by Mr. W. C. G. Barckley with a 12" Vernier theodolite in the year 1884-85 under the superintendence of Colonel H. C. B. Tanner R.E.

(6). The Someshwar triangulation comprises a network of triangles immediately to the north of the section Balua LXVI to Tarharwa LXXII of the North-East Longitudinal Series; it was also carried out for the purpose of the survey of the Nepal boundary. It consists of 31 triangles and was observed by Colonel Tanner and Mr. R. Waller-Senior with the 10" and 12" Vernier theodolites in 1882-83, with the exception of the triangle Tarharwa-Naonangarhi-Chandkigar which was observed by Mr. G. Logan in 1847 with an 18" micrometer theodolite.

(7). The Darjeeling triangulation.—Three triangles of this series may be termed 1st Class Secondary work, they were observed by Mr. C. Lane and Colonel A. S. Waugh in the years 1846-48 with 36", 18" and 12" theodolites.

The remainder of this triangulation forms a network of 242 triangles carried out for the Darjeeling and Sikkim topographical surveys, and for the survey of the Nepal Boundary, it was executed during the years 1878-85 by means of 12", 10", 6" and 5" theodolites by Captain H. J. Harman R.E., Colonel Tanner and their assistants Messrs. Ryall, Barckley, Robert and Sullivan.

When the Secondary triangulation appertaining to this Volume was extended, the opportunity was taken to fix numerous prominent peaks beyond the frontier of N. E. India: a table is given below showing the names of the observers, the years in which they worked, the series to which the bases fixing the peaks belong and the number of the peaks accepted for incorporation in this Volume. In all 950 peaks have been fixed by this means on and beyond the borders of British India. In addition 109 peaks which have already appeared in Synoptical Volume VII (N. W. Himalaya Series) and 30 peaks belonging to the Assam Longitudinal Volume (not yet published) have been included in this Volume.

In cases where only two intersections to a peak have been obtained unless two accordant heights have also been observed it has as a general rule been rejected. The maximum difference allowed to a common side of two triangles formed by three intersections is 200 feet, Where the difference has exceeded this, the peak has been rejected.

*Peaks observed in the work of different seasons of the triangulation appertaining to N.E. Longitudinal Series.*

| Name of Observer | Name of Officer in charge       | Year                               | Series to which bases appertain                                                   | No. of Peaks Observed |
|------------------|---------------------------------|------------------------------------|-----------------------------------------------------------------------------------|-----------------------|
| Waugh            | ...                             | 1847-48                            | Darjeeling ... ..                                                                 | 73                    |
| Keelan           | Waugh                           | 1851-52                            | Mussooree, Simla, Garhwál and Siwálik ... ..                                      | 6                     |
| Carter           | ...                             | 1864 to 66                         | Kumaun and Garhwál ... ..                                                         | 38                    |
| Beverley         | Montgomerie                     | 1864-65 and 1868 to 70             | Shikani-Khamlek of Kumaun and Garhwál and Kumaun and Garhwál ... ..               | 98                    |
| Ryall            | Montgomerie, Thuillier and Hill | 1867-68, 1871 to 73, 1874 and 1877 | Ragshi-Gwanagarh and Milam-Hundes of Kumaun and Garhwál and Kumaun and Garhwál... | 138                   |
| Bryson           | Montgomerie                     | 1868-69                            | Kumaun and Garhwál ... ..                                                         | 5                     |
| Pocock           | Montgomerie and Hill            | 1869 to 72                         | Niti Valley of Kumaun and Garhwál ... ..                                          | 51                    |
| Low              | Montgomerie, Hill and Thuillier | 1869 to 72 and 1873-74             | Mána Valley of Kumaun and Garhwál ... ..                                          | 35                    |
| McA'Fee          | Thuillier                       | 1873-74                            | Chaudans of Kumaun and Garhwál                                                    | 22                    |

*Peaks observed in the work of different seasons of the triangulation appertaining to N. E. Longitudinal Series.—(Continued).*

| Name of Observer | Name of Officer in charge | Year                   | Series to which bases appertain                                                | No. of Peaks Observed |
|------------------|---------------------------|------------------------|--------------------------------------------------------------------------------|-----------------------|
| Peyton           | Ryall                     | 1877                   | Byáns Valley of Kumaun and Garhwál ... ..                                      | 12                    |
| Kinney           | Ryall                     | 1877-78                | Nilang Valley of Kumaun and Garhwál ... ..                                     | 16                    |
| Harman           | ...                       | 1878 to 82             | Darjeeling ... ..                                                              | 75                    |
| Robert           | Harman & Tanner           | 1879-80 and 1883 to 85 | Darjeeling and Assam Longitudinal Series ... ..                                | 137                   |
| Tanner           | ...                       | 1882 to 85             | Someshwar, N. E. Longitudinal Series, Darjeeling and Kumaun and Garhwál ... .. | 168                   |
| Barckley         | Tanner                    | 1883 to 85             | N. E. Longitudinal Series ... ..                                               | 72                    |
| Ramsaran         | Tanner                    | 1887-88                | N. E. Longitudinal Series ... ..                                               | 3                     |
| Rinzin           | Tanner                    | 1887-88                | N. E. Longitudinal Series ... ..                                               | 1                     |

During the progress of these secondary triangulation triangulators had instructions to intersect any distant peaks that were visible. The table shows that this was done throughout the triangulation of Kumaun and Garhwál, but the fact receives no special mention in the annual reports. From season 1882-83 to season 1884-85, Colonel Tanner, in addition to the work of superintending the Sikkim, Darjeeling and Nepal Boundary Surveys, was employed in fixing by triangulation all the most prominent peaks in Nepal between the British Frontier and the great snowy ranges. The chief peaks of the latter had already been fixed, but this had not been done for the lower ranges.

In carrying out this work Colonel Tanner was assisted by Mr. W. Robert and Mr. W. C. G. Barckley. Unfortunately they were too anxious to ensure the location of all the visible peaks; the result has been a great confusion of rays and the identification either by computation or chart of many peaks observed to, has been impossible.

In season 1882-83 observations were taken from five of the tower stations of the N. E. Longitudinal Series and from eleven hill stations selected on the Someshwar range, which is about 2900 ft. above sea-level. Peaks were also fixed by Colonel Tanner working along the Sikkim—Nepal frontier as far as Lampheram h.s.

In 1883-84 Colonel Tanner took observations to almost every peak and ridge visible from the plains of Bengal between Sikkim on the east and Darbhanga on the west. Mr. Barckley also observed to a large number of peaks from the tower stations in the Champaran district.

In 1884-85 many peaks were trigonometrically fixed by intersection.

The triangulation executed by Major C. H. Ryder and Captains H. Wood and H. M. Cowie in the year 1904 when accompanying the Tibet mission and subsequent expedition is not included in this Volume.

AN ACCOUNT OF THE TOPOGRAPHICAL SURVEY OF KUMAUN AND GARHWÁL  
INCLUDING A LARGE SCALE SURVEY OF MUSSOOREE AND LANDOUR.

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The country known as Kumaun and Garhwál is situated in a central position on the Northern Frontier of India between the meridians 78° 15' and 81° 0' and parallels of latitude 29° 0' and 31° 0'. It lies immediately south of western Tibet and is bounded on the west by Tehri-Garhwál and on the east by Nepal. Its area is about 14000 square miles, and embraces the greater portion of the Himalayan drainage areas of the Ganges\*, the Káli\* and the Rám-ganga\* rivers.

In the north the boundary between Kumaun and Garhwál follows closely the water-parting between the Káli and Ganges, in the south that between the Rám-ganga and Ganges. Thus Kumaun embraces the two former drainage areas and Garhwál a greater portion of the latter.

Taking the principal tributaries of the Ganges in Garhwál from west to east we have—

- (i). The Mandakini or Káliganga having its source on the southern faces of Kedarnáth and Badrináth and joining the Alaknanda at Rudraprayág.
- (ii). The Vishnuganga and the Dhauli, both rising on the north side of the Great Himalaya range, the former at the Mána Pass and the latter at the Niti Pass, join at Joshimath 6000 feet and form the Alaknanda.
- (iii). The Pindar river rising on the southern slopes of the Great Himalaya range joins the Alaknanda at Karnprayág 2600 feet.

The Káli river which rises near the Lipu Lekh Pass on the Zaskar range behind the Kumaun Himalaya range, forms the boundary line between Kumaun and Nepal almost from its source to the point where it enters the plains; consequently only the tributaries flowing in from the western side fall within Kumaun. Taking these from north to south we have the Lissar and Dharma rising behind the Kumaun Himalaya range to the N.E. of Nanda Devi: they flow for many miles parallel to the Káli before finally joining it. The Gori also rising behind the Kumaun Himalaya range to the N.E. of Nanda Devi, flows into the Káli at Askot. The Sarju rising to the south of the Himalaya range, is joined by the Rám-ganga at Rameshwar and itself joins the Káli at Pancheshwar.

The Rám-ganga drains the southern slopes of the Lesser Himalaya range in Kumaun. Its principal affluent the Kosila or lesser Kosi, also rises in the Lesser Himalaya range and joins the Rám-ganga in the plains beyond the limits of Kumaun.

The following ranges traverse Kumaun and Garhwál running north-west and south-east.

- 1†. The Great Himalaya range. Under this heading there are two more or less parallel ranges.

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\* *Geography and Geology of the Himalaya Mountains and Tibet*, Part III, Burrard and Hayden.

† *Vide Geography and Geology of the Himalaya Mountains and Tibet*, Part II, Burrard and Hayden.

(a). The Zaskar range, a bifurcation of the Nepal Himalaya range, itself a section of the Great Himalaya. This range is on the extreme north of the district and its most notable peak, Kamet 25447 feet, stands on the Garhwál border.

(b). The Kumaun Himalaya range. This range is one of the four great sections of the Great Himalaya range: it lies to the south of the Zaskar range and runs parallel to it. The following principal peaks of this range are situated in Kumaun and Garhwál:—Nanda Devi 25645 feet,  $\frac{\text{Pk. 114}}{53 \text{ N.}}$  25563 feet,  $\frac{\text{Pk. 116}}{53 \text{ N.}}$  24391 feet, Trisul West 23360 feet, Badrináth 23190 feet, Dunagiri 23184 feet, Kedarnáth 22770 feet, Panch Chulhi 22650 feet, Tharlasagar 22610 feet, Nandakot 22510 feet, Trisul East 22320 feet, Kharchakund 21695 feet, Nilakanta 21640 feet and Nandakna 20700 feet.

## 2. The Lesser Himalaya range consisting of—

(a). The Dhauladhar range.—This range branches from the Great Himalaya range near Badrináth in the north of Garhwál and only some 30 miles of its length fall within Garhwál.

(b). The Nag Tibá range.—This range branches from the Great Himalaya range near Dhaulagiri in Nepal and has a depth of from 40 to 50 miles.

3. The Siwálik range.—This range separates the Himalaya Mountains from the plains. At the south-west corner of Garhwál, where the Ganges debouches into the plains, it presses up against the Lesser Himalaya and is distinguishable as a separate range only from its formation.

It will be seen from the above, that the district of Kumaun and Garhwál has a range of over 24000 feet in altitude from the level of the lands at the southern foot of the Himalaya to that of the summit of the peaks of the Kumaun Himalaya range. It consequently presents every variation of climate from that of the lowlands of the Taráí which are extremely unhealthy during and for several months after the rainy season to the regions of perpetual snows which are only accessible during a few months of the summer.

The district may be divided into five zones.

No. 1 zone has an average width of 15 miles and extends from the Mána valley in the west to the Byáns valley on the Nepal frontier in the east. The average height of the valleys in this zone is about 14000 feet, the highest Mána being 15500 and the lowest Byáns 12500. The average height of the mountain spurs and ranges is about 20000 feet. The ground though lofty is for the most part undulating and the ascents are not particularly difficult.

No. 2 zone averages about 15 miles in width, the mountains are extremely precipitous and difficult of ascent comprising the main Great Himalaya range. The drainage from the comparatively open upper valleys of Mána, Niti, Milam, Rálam, Dharma and Byáns breaks through the main range and the six gorges thus formed average about 4 miles in breadth. The sides of these gorges are overhung by almost sheer precipices capped by towering needle shaped peaks.

No. 3 zone consists of from 8 to 10 miles of spurs emanating from the Kumaun Himalaya range and averaging about 12000 feet in height. The spurs are as a rule precipitous on one side and sloping on the other, so that ascents are not difficult.

No. 4 zone averages about 50 miles in width and comprises the Lesser Himalaya ranges averaging about 7000 feet in height; the width of this zone is greatest in Kumaun and least in Garhwál. The ground is forest-clad and intricate, presenting many formidable difficulties to the topographer.

No. 5 zone has an average width of about 5 miles and an average height of about 3000 feet. This portion owing to the dense forests also presents great difficulties to the surveyor.

Owing to the great variability of climate in the district it was impossible for the survey to be carried on continuously over the entire area. Surveyors had to be employed in different localities at different times of the year entailing an expenditure of a considerable portion of the field season in merely marching from one locality to another.

In accordance with Lieutenant-General Walker's directions to the Topographical Officers accurate surveys were not made above 16000 feet. The areas of perpetual snow and ice were mapped by means of sketches made occasionally from considerable distances.

The work was commenced in the season 1864-65 and was not finally finished until the year 1877. During season 1869-70 no topographical work was executed and the triangulation was only carried on for half the season; in 1870-71 the work was stopped entirely; this break in the work was due to the party being employed on a large scale survey of Ránikhet. At the end of season 1872-73 only the snow-clad Himalaya main range with a small portion on the southern spurs and the area beyond the range remained to be surveyed.

During the years 1865-70 a large scale survey of Mussooree and Landour on the scale of 12 inches to a mile was carried on simultaneously with the Kumaun and Garhwál survey, principally whilst the party was in recess at Mussooree, and its history is included in that of the Kumaun and Garhwál survey.

Both the triangulation and topographical work of these surveys were carried out entirely by European surveyors.

In the season 1873-74 work was stopped altogether and the party was employed on a survey of Dehra Dún on a scale of 4 inches to a mile. From this time on to the completion of the survey in 1877 only a small detachment was employed on the survey of Kumaun and Garhwál, the remainder of the party being engaged on the survey of Dehra Dún and Jaunsár Báwar.

On the completion of the survey of Kashmir, Captain T. G. Montgomerie R.E. was requested to take up that of Kumaun and Garhwál on the scale of 1 inch = 1 mile. Accordingly he directed Lieut. T. T. Carter R.E. to take charge of a detachment detailed to commence the survey of Garhwál.

The detachment took the field on the 3rd November 1864, work being apportioned as follow:—Lieut. Carter

SEASON 1864-65.

*Personnel.*

Capt. T. G. Montgomerie R.E., in charge.

Lt. T. T. Carter R.E., 1st Assistant.

Lt. A. Pullan B.S.C., 2nd

Mr. W. G. Beverley, Civil Asst.

„ W. Todd, Civil 2nd Assistant.

undertook the triangulation of the 1st Class Secondary Series, Mr. Todd preceded him selecting suitable stations. Mr. Beverley was directed to break up Lieut. Carter's triangulation and form a network over the area.

Some delay was experienced in starting the triangulation as the pillar and mark of one of the proposed base stations Ghandiál H. S. was found to have been destroyed. This necessitated falling back on the base Mábegach H.S.—Ránigarh H.S. of the N. E. L. Series. After completing observations at 5 stations, Lieut. Carter had to proceed in February 1865 to Dehra Dún to take over charge of the party from Captain Montgomerie. During the remainder of the season Lieut. Carter succeeded in finishing the observations at 4 additional stations and in fixing the positions of 56 snow peaks.

Lieut. Carter's stations averaged in height about 9000 feet, the highest being Jatropáni 13357 feet,—falls of snow from 4 to 10 feet were experienced on some stations. The length of the triangulation was about 80 miles and covered an area of nearly 1600 square miles. Lieut. Carter closed work on the 13th May 1865 and returned to Dehra Dún on the 24th of the same month.

Mr. Todd who was engaged on the approximate work, laid out 3 quadrilaterals and 1 hexagon. The total length of the series is about 125 miles.

Mr. Beverley commenced work on the 12th November 1864 and by the end of February had carried out a network of triangulation embracing about 1000 square miles computing the same in the field and supplying

Lieut. Pullan with sufficient data to carry on the topographical survey of the area triangulated. Mr. Beverley then moved down to the lower forest-clad hills (known as the Bhábar) of Garhwál. This ground being most unfavourable for triangulating over, Mr. Beverley merely cleared such hill tops as he considered necessary and deferred the observations until the following season, when the ground could be flagged and the points immediately taken up by the topographer.

Lieut. A. Pullan was directed to take up the sketching of the *parganas* of Ganga Salán and Báráhsyún south of the civil station of Pauri in Garhwál, the data for which was furnished by Mr. Beverley. He commenced work about the end of November and continued in the field till the 20th April. Lieut. Pullan accomplished 270 square miles of plane tabling.

It may be noted here that it was during this year 1864 that Mani and Nain Singh commenced their explorations in Tibet: they failed at this time, but Nain Singh and A—K finally succeeded, the results of their operations have been published in the Reports on Explorations in Tibet by Colonel Montgomerie and need not be discussed here.

During the recess of 1865 Mr. H. E. Keelan started on the triangulation of Mussooree and Landour to

SEASON 1865-66.

Personnel.

Lieut. T. T. Carter R.E., in charge.  
 " A. Pullan B.S.C., 2nd Assistant.  
 Mr. W. H. Johnson, Civil Assistant.  
 " W. G. Beverley, " "  
 " J. Peyton, Civil 2nd Assistant.  
 " W. Todd, " "  
 " J. Low, Senior Sub-Assistant.  
 " C. Braithwaite, 2nd Class Sub-Assistant.  
 " H. Todd, 3rd " "  
 " C. Bryson, 3rd " "  
 " H. E. Keelan, 1st " "  
 (during recess of 1865)

provide points for a survey on the scale of 12 inches = 1 mile. As this survey was carried on by the party simultaneously with that of Kumaun and Garhwál, its history is included in that of the general survey. The topographical survey of Mussooree and Landour was commenced by Lieut. A. Pullan and Mr. W. Todd about the middle of July, at which time Mr. Keelan's triangulation had been sufficiently far advanced to enable plane tabling to be commenced. Lieut. Pullan's total outturn was 2885 acres and included an area from Banog H. S. to Hátipáon and the Mussooree Botanical Gardens and another area starting from Landour and stretching eastward. He closed work at the beginning of November and left Mussooree for work on the Kumaun and Garhwál general survey.

Mr. W. Todd's section embraced 1229 acres containing much detail of houses. He closed work at Mussooree about 15th November and proceeded to Pauri in Garhwál.

After the recess work, arrangements were made by Lieut. Carter to take the field. He left Dehra Dún on the 20th October 1865 and marched *viâ* Roorkee and Hardwár through the Bijnor district, eventually reaching Naini Tál on the 3rd November. From Naini Tál Lieut. Carter proceeded *viâ* Almora to observe the angles at his remaining six stations. His first station was Shikáni n.s.; at his fifth station Dhaj n.s. his work was delayed for 3 days by snow and after completion of that station, he deemed it advisable to defer the further prosecution of the work.

At the request of the Lieutenant Governor of the N. W. Provinces (now United Provinces) the Superintendent of Trigonometrical Surveys sanctioned the detailed survey of tea plantations lying to the north-west of Almora and on the left bank of the Kosi river on the scale of 8 inches = 1 mile. The work was required to be completed by March 1866, Lieut. Carter, perceiving that it could not be done in this time, obtained the services of a small revenue survey party under Mr. Campbell to determine the areas, which was all that was actually required by the civil authorities. This work was carried out in the prescribed time.

Arrangements however were made by Lieut. Carter to sketch in the orographical details lying within three of the skeleton blocks taken up by Mr. Campbell. These skeleton blocks were surveyed by traverse with chain and compass. With a view to fill in the topographical details it became necessary to carry small series of triangles on to each of the blocks for laying down base points for the work of sketching. Three estates were dealt with—Hawalbágh (Government) 210 acres, Airtoli (Government) 2546 acres and Gadoli (Mr. Henry) 953 acres. The triangulation for Hawalbágh and Gadoli was carried out by Lieut. Carter and that of Airtoli by Mr. W. Todd. The topography of Hawalbágh was undertaken by Lieut. Carter and finished by the end of February whilst Mr. W. Todd undertook that of Airtoli, but owing to illness completed 629 acres only, the remaining portion being finished by Mr. J. Peyton by the 9th June. The topography of the Gadoli tea-estate was executed by Lieut. A. Pullan.

After completing the survey of the Hawalbágh tea-estate, Lieut. Carter accompanied the Commissioner of the district along the boundary line of Garhwál and Bijnor in order to find out to what limits the survey of Kumaun and Garhwál should be extended in a southerly direction. He then inspected the work of his different assistants and proceeded to Jhum n.s. to complete his secondary triangulation; arriving there on the 19th April 1866 he completed the work by the 23rd and proceeded to head-quarters at Dehra Dún.

Mr. W. G. Beverley was employed on triangulation: he covered an area of 1480 square miles, visiting 76 stations and fixing 407 other points.

The party returned to recess quarters by the 25th May 1866. The triangulation of Mussooree and Landour

SEASON 1866-67.

*Personnel.*

Lieut. T. T. Carter R.E., in charge.  
 " A. Pullan B.S.C., Asst. Surveyor 1st Grade.  
 " J. Hill R.E., Asst. Surveyor 2nd Grade.  
 Mr. E. C. Ryall, Civil Asst. 3rd Grade.  
 " J. Peyton, " " "  
 " J. Low, Sub-Asst. 1st Grade "  
 " G. W. E. Atkinson, Sub-Asst. 2nd Grade.  
 " C. Braithwaite, " " "  
 " H. Todd, " 4th "  
 " C. Bryson, " " "  
 " A. Low, " " "

was extended, but no topographical work was undertaken before or during the rainy season. At the end of September Messrs. J. Peyton and J. Low were employed on the topographical work. Mr. Peyton contributed 1666 acres and Mr. Low 455 acres, making the total area surveyed 6235 acres.

To facilitate the survey of the low forest-clad districts, known as the Siwálíks of Garhwál or the Bhábar, Government had sanctioned the employment of 8 elephants but as it is notoriously unhealthy it was not deemed safe to enter this ground before the 15th December; in the meanwhile the topographers were employed on the higher mountains

ranging from 5000 to 10000 feet above sea-level.

Lieut. Carter was employed in the early part of the season superintending the work of protecting the pillars at Ghandiál, Máníknáth, Ránigarh and Mábegarh stations. On the 17th December he left Dehra Dún to undertake the triangulation of the Bhábar; he observed at 17 stations and fixed 93 points, the computations being carried on simultaneously with the field work. He closed work on the 15th February 1867. Lieut. J. Hill R. E., who had joined the department on the 1st December, after spending 3 weeks with Lieut. Carter under instruction, proceeded to take up the triangulation west of Almora; he observed at 21 stations and fixed 72 other points.

Mr. Bryson was for some time employed in office work but towards the end of the season was employed on the triangulation of the Dasoli and Nágpur *parganas*. He commenced work on the 15th March and closed on the 15th May. He observed at 22 stations and fixed 72 other points.

Lieut. Pullan was employed on the topography in the Bhábar hills and the lower parts of the Patli Dún about the banks of the Rámanga. His work amounted to about 120 square miles, he closed work on the 14th March.

Mr. Ryall commenced topographical work on the 11th October in the forest-clad areas of the Dudatoli and adjoining ranges in the Cháandpur and Dewalgarh *parganas* rising to about 9000 feet. On the 1st January Mr. Ryall descended to the lower ground lying to the north and east of Kotdwára.

Mr. Peyton was first employed planetabing on ground about 6000 feet above sea-level, he commenced work on the 1st November. In February he was deputed to survey 55 square miles of the low Bhábar ground after which he returned to the higher hills.

Mr. J. Low took the field on the 1st November and was employed till the 4th April planetabing 182 square miles in the Kumaun district, owing to his bad delineation of the natural features his work had to be revised during the next field season.

Mr. C. Braithwaite took the field on the 20th October and continued planetabing until the 22nd of April.

Mr. H. Todd commenced work on the 15th October and worked in the higher hills about Pauri till the 1st January when he took up a second planetable in the Bhábar ground completing 90 square miles.

Mr. A. Low was employed during the season in current office work.



On the 1st May 1867 Captain Montgomerie R.E. took over charge of the party from Lieut. Carter R.E.

## SEASON 1867-68.

*Personnel.*

Captain T. G. Montgomerie R.E., in charge.  
 Lieut. A. Pullan B.S.C., Aest. Surveyor 1st Grade.  
 J. Hill R.E., " " 2nd "  
 Mr. W. G. Beverley, Civil Asst. 1st Grade. "  
 " E. C. Ryall, " " 2nd "  
 " J. Peyton, " " " "  
 " J. Low, " " 4th "  
 " G. W. E. Atkinson, Sub-Asst. 1st Grade.  
 " C. Braithwaite, " 2nd "  
 " L. Pocock, " " "  
 " H. Todd, " 3rd "  
 " C. Bryson, " " "

During recess the work of computing the triangulation and the plotting of charts on the scale of  $\frac{1}{4}$  inch to the mile was taken in hand. Three sheets of the Kumaun and Garhwál map were completed, also two sheets of the Mussooree and Landour map.

Towards the end of the recess Lieut. Hill and Mr. Ryall were deputed to lay down the settlement boundary of Mussooree and Landour. The original boundary was marked on Major Brown's map of 1840, but it had apparently never been indicated by permanent pillars and it had consequently been encroached upon by private proprietors. The boundary was first transferred from Brown's map to the new map; the boundary thus transferred was examined on the ground and it was evident that it coincided very nearly with the original boundary. Lieut. Hill demarcated 5456 yards and Mr. Ryall 4303 yards; at the same time they finished the sketching on a scale of 12 inches to one mile of 378 acres.

At the end of the recess the usual preparations were made for taking the field.

Only a small amount of triangulation being ready for topographical work, it was necessary to arrange for a large excess of triangulation during the current season.

The triangulation was pushed to the north of Garhwál so as to cover the whole of the elevated basins of the Káli and Mandakini rivers; stations were established close up to the highest peaks of the Himalaya. To the east the triangulation was extended through Kumaun, more especially to the north and east of Almora. Subsequently a further extension was made to the south and a series of triangles was carried eastward from the border of Garhwál to Haldwáni south-east of Naini Tál. Two-thirds of the ground triangulated was of an Alpine nature, the work being executed in the winter when the surveyors were exposed to constant snow-storms, while the remainder formed a portion of the Tarái subject to heavy fogs. The total outturn of triangulation was 2315 square miles.

With a view to a further extension of the triangulation Captain Montgomerie marched from Dehra Dún through Garhwál and made a reconnaissance of the lower part of Kumaun from the borders of Garhwál up to the frontier of Nepal on the Gogra river; he also examined a considerable portion of the previous season's work. He then commenced the examination of the current season's topographical work; during his progress through the mountains he took the opportunity of determining the heights of a large number of obligatory points by means of aneroid barometers. Three aneroids packed in a box with cotton were employed; these were read at a number of high and low trigonometrical points of which the heights were known. From the readings at the trigonometrical points the value of the scale of the aneroid between any two points was easily ascertained and with that value the height due to any intermediate reading could be at once obtained by proportion. It was found that the error by this method was from 4 to 5 per cent of the actual difference. The results proved that aneroids are useful in mountains where the differences of altitude are great but they give approximate heights only.

Lieut. Hill undertook the triangulation of the mountains north and east of Almora; being employed on the Mussooree boundary demarcation he did not reach his ground till December. In February and March he was delayed by bad weather and as he was bringing his work to a close he got a very severe attack of illness which prevented him from finishing. The total area triangulated was 765 square miles.

Mr. Ryall on completion of the Mussooree boundary demarcation work was deputed to work towards the north of Garhwál and triangulate the basin of the Káli and Mandakini rivers lying between elevations from 9000 to 23000 feet above sea-level. Mr. Ryall started for the field on the 15th October and by the 7th November the hill tops were sufficiently cleared to enable him to commence his observations. By the end of the month he had completed 700 square miles having observed at 27 stations and fixed 140 other points by intersection; he also partially computed his work to enable the planetabling to proceed immediately. Mr. Ryall then proceeded to take up the triangulation in the Kumaun Bhábar: about 600 square miles of this area had been triangulated in 1865-66 by Mr.

Beverley, the portion remaining covered an area of about 850 square miles. Mr. Ryall on arrival proceeded to have the hill tops cleared, on the 10th January he commenced work and completed the whole triangulation by the 15th April. Mr. Bryson under Mr. Ryall's orders took observations from several auxiliary stations.

Mr. Pocock spent the earlier part of the season in learning how to sketch, he was subsequently employed on the triangulation with Lieut. Hill observing from auxiliary stations, taking heights etc.

The topographical operations were commenced by the sketching of a portion of the valley of the Alaknanda river above Karnprayág and of the lower portion of the Pindar Valley with ground of every altitude from 2500 to 13000 feet. Subsequently the mountains east of Almora were sketched. The mountains near Ránikhet were also sketched, including all the hills between that station and the plains.

Captain Pullan was employed during the whole season sketching in the mountains of Garhwál chiefly on the Alaknanda and its branches. During February and March he was much delayed by severe weather. The ground was of a very precipitous nature. His outturn amounted to 390 square miles.

Mr. Peyton was at first employed in sketching a section embracing Almora, the hills in that part were so densely populated, that it was hardly possible to introduce the whole of the village sites on the scale of 1 inch to a mile. Subsequently Mr. Peyton was employed in sketching a very wooded tract of rough ground between the Kosila and Rámanga rivers.

Mr. Braithwaite sketched the upper feeders of the Rámanga river and the lower part of the Pindar Valley. Subsequently he was employed on the Alaknanda and Káli above Rudraprayág. The area sketched amounted in all to 390 square miles.

Mr. H. Todd was employed in sketching the lower part of the Kosi Valley and the mountainous tracts between that river and the Rámanga, including the site of Ránikhet.

Mr. Atkinson assisted in the office work. He also took observations to determine the height of the Patli Dún. Subsequently he took a large number of observations with aneroids for the heights of various obligatory points.

During the recess of 1868 computations connected with the previous season's triangulation were worked out.

SEASON 1868-69.

*Personnel.*

Major T. G. Montgomerie B.E., Dy. Supt. 1st  
Grade, in charge.  
Captain A. Pulian B.S.C., Assistant Supt.  
Lieut. McCullagh R.E.,  
Mr. W. G. Beverley, " Surveyor."  
" E. C. Ryall, "  
" J. Peyton, "  
" J. Low, " Asst. Surveyor.  
" G. W. E. Atkinson, " "  
" C. Braithwaite, " "  
" L. Pocock, " "  
" H. Todd, " "  
" C. Bryson, " "  
" T. Kinney, " "

completed an aggregate of 8002 acres.

Three contoured sheets, two skeleton sheets and one degree sheet of the Kumaun and Garhwál map were completed. Two skeleton sheets of the Mussooree and Landour Survey were also prepared.

The redemarcation of a further portion of the Mussooree boundary was taken up by Mr. Ryall who completed 4700 yards.

Towards the end of the recess arrangements were made to complete the triangulation and sketching of the Mussooree and Landour settlements. Captain Pullan was employed on the triangulation, he visited 30 stations and fixed 75 other points. Subsequently he sketched 5168 acres, on the scale of 12 inches to a mile. Messrs. Pocock, Todd and Kinney were also employed on planetabling on the same scale. They

The total area sketched amounted to 13173 acres and this completed the survey of Mussooree and Landour with the exception of a small portion near Rájpur.

The remainder of the party was employed on the continuation of the survey of Kumaun and Garhwál. Mr. Beverley extended the triangulation to the east of Almora, carrying it over several ranges of rugged mountains covered at times with dense forest. He completed 1100 square miles of triangulation fixing 466 points.

Mr. Bryson was employed on the triangulation of the Pindar Valley in Garhwál where he fixed 66 stations.

He was subsequently transferred to Kumaun and fixed 129 points in connection with Mr. Beverley's triangulation. He observed from 35 stations fixing altogether in the two portions of his work 195 points.

Mr. Ryall undertook a very difficult planetable section near Rámnagar, which embraced a considerable tract of Taráí land. The sketching of the Taráí land and forest involved a large amount of traversing both with the theodolite and planetable. Mr. Ryall completed the sketch of an area of 346 square miles on the scale of 1 inch to the mile including 49 traverse stations fixed with the theodolite besides running 47 short traverse lines with the planetable.

Mr. Peyton commenced sketching operations in January 1869 on some low ground to the north of Rámnagar and then took up the sketching between Ránikhet and Almora in continuation of his last season's work. The lower ground was very intricate and covered with dense forest. The higher ground included the most populous part of the Bára Mandal *pargana*, the heart of the province of Kumaun. On 30 square miles there were no less than 70 villages. Mr. Peyton completed 263 square miles of sketching.

Mr. Low took up the eastern or Madmaheshwar branch of the Mandakini river including some very high ground running up to and along the southern face of the Badrináth range. The sketching of this ground involved a great deal of exposure and hardship as great heights had to be visited. Subsequently Mr. Low took up lower ground to the east of Almora. His total area covered 338 square miles.

Mr. Braithwaite was employed on the sketching of the western branch of the Mandakini or Kálíganga river including some very high ground running up to the Kedarnáth peaks. He completed this by the middle of December. His area comprised 182 square miles of sketching.

Mr. Pocock after completing his work on the Mussooree and Landour survey was employed on sketching 65 square miles in the ground north of the Kotah Dún. He also assisted Mr. Ryall in his traverse work.

Mr. H. Todd on completing his work at Mussooree was transferred to Kumaun and there completed 144 square miles of sketching.

Mr. Atkinson during the field season was first employed in computing out the Mussooree triangulation. Subsequently he took a large number of observations with aneroids to determine the heights of various obligatory points in the Kumaun and Garhwál survey.

During the recess of 1869 all the computations connected with the previous season's triangulation were completed. The cartographic work relating to the 1 inch to a mile Kumaun and Garhwál survey and also to the 12-inch Mussooree survey were considerably advanced.

Season 1869-70.

Personnel.

|                         |                   |            |
|-------------------------|-------------------|------------|
| Major T. G. Montgomerie | R.E., Dy. Supt.   | 1st        |
| Grade, in charge.       |                   |            |
| Lieut. J. Hill          | R.E., Asst. Supt. | 2nd Grade. |
| Mr. W. G. Beverley,     | Surveyor          | 1st Grade. |
| " E. C. Ryall,          | "                 | 2nd "      |
| " J. Peyton,            | "                 | " "        |
| " J. Low,               | "                 | 4th "      |
| " G. W. E. Atkinson,    | Asst. Surveyor    | 1st Grade. |
| " L. Pocock,            | "                 | 2nd "      |
| " H. Todd,              | "                 | 3rd "      |
| " T. Kinney,            | "                 | 4th "      |
| " E. Litchfield,        | "                 | " "        |

The redemarcation of the Mussooree boundary was continued by Mr. Ryall assisted by Mr. Todd. 62480 yards or 35½ miles of the boundary line were retraced and finally laid down on the field sheets.

During this field season a portion of the highest part of the great Himalayan range remained to be triangulated for further topographical operations. Early preparations were made for this purpose. Triangulation operations in the higher ranges are best carried on immediately after the rainy season, the surveyors were therefore equipped and

started while the rains were still in progress.

In Garhwál the triangulation was carried up to Joshimath at the junction of the Vishnuganga and Dhauri rivers. From Joshimath one minor series of triangles was carried up the Vishnuganga branch to a little beyond Badrináth and another was carried up the Dhauri river as far as Niti. These series involved stations of observations at altitudes of from 12000 to 17000 feet above sea-level. The total area triangulated in Garhwál was 1906 square miles.

In Kumaun the triangulation was carried along the outer part of the great snow range. The total area triangulated in Kumaun was 685 square miles.

Mr. Ryall took the field at the end of September and extended the triangulation from the base Gwanagarh E.S.—Jatropáni R.S. up the Alaknanda river as far as Joshimath in order to provide bases for the triangulation of the two upper branches of that river, the Vishnuganga and Dhauli. At the same time he fixed numerous snow and other peaks. He then returned to the lower ground and ultimately took up the triangulation of the lower part of the Kosi river.

Mr. Low starting from the base given him by Mr. Ryall carried a minor series of triangles up the Vishnuganga river to beyond Badrináth, he triangulated 446 square miles with stations running up to over 17000 feet. The series is called the Mána Valley series.

Mr. Pocock also starting from a base given by Mr. Ryall triangulated the Dhauli branch of the Alaknanda river working up to Niti. This series is known as the Niti Valley series. Mr. Pocock continued work up to the end of November when the cold became so intense that he had to suspend work. His work amounted to 640 square miles of triangulation.

Mr. Beverley early in October took up the triangulation of the mountainous region lying at the foot of the great snow ranges of Kumaun. He extended this work considerably to the east of the Gori Valley being finally stopped by the snow.

During this season no advance was made with the general survey of Kumaun and Garhwál, as at the end of 1869 the Government of India made an urgent request for an accurate survey on a large scale of the hill sanatorium of Ránikhet and of the Kosi Valley leading up to it. Orders were consequently issued to stop all regular work and the surveyors were directed to assemble at Ránikhet. The history of this survey is treated separately and will not therefore be discussed here.

No work was done on the general survey of Kumaun and Garhwál during this season, as the entire party was employed on a large scale survey (6 inches to the mile) of the Kosi Valley. The description of this survey is given with that of Ránikhet. Mr. Kinney was employed from the middle of November to the 9th December in laying down the part of the settlement boundary of Mussooree and Landour which includes Rájpur. This work completed the survey of Mussooree and Landour.

The surveys of Ránikhet and the Kosi Valley having been completed, the party was at liberty to take up once more the general survey of Kumaun and Garhwál.

In April 1871 the guide map of Mussooree and Landour was published, as however several changes had taken place since the survey was made, a revised edition was prepared during the recess and published in September 1871.

## SEASON 1870-71.

## Personnel.

|                             |                      |
|-----------------------------|----------------------|
| Lieut. J. Hill R. E.,       | Dy. Supt. 3rd Grade, |
| in charge.                  |                      |
| Lieut. H. M. Chambers R.E., | Asst. Supt. 2nd "    |
| Mr. E. C. Ryall,            | Surveyor 1st "       |
| " J. Peyton,                | " 2nd "              |
| " J. Low,                   | " 3rd "              |
| " L. Pocock,                | Asst. " 1st "        |
| " H. Todd,                  | " " 2nd "            |
| " T. Kinney,                | " " 3rd "            |
| " E. F. Litchfield,         | " " 4th "            |

Mr. J. Peyton and Mr. T. Kinney undertook the corrections.

The Kosi Valley survey maps were also prepared during the recess.

The field work commenced with the extension of the triangulation in the higher mountain ranges of Garhwál which had been stopped in November 1869. The Mána and Niti Valleys up which this triangulation was carried are enclosed by mountains the average height of whose peaks is considerably over 21,000 feet. The valleys present the appearance of narrow gorges overhung by stupendous and inaccessible precipices, and it is obvious that in such ground a triangulator has little or no choice as to the shape of his figures, but has to observe from any commanding point on which he may be able to set up his instrument. To these physical difficulties must be added the difficulties of obtaining supplies and transport.

In addition to the above, the triangulation in Kumaun to the east of Naini Tál and that in the Bhábar tracts between Haldwáni and Barmdeo was completed. A small portion of hilly ground opposite Hardwár was also triangulated and sketched.

The topographical work for the season consisted in sketching the districts round Baijnáth, Bágesar, Lohaghát, Pithoragarh and a part of the Bhábar to the south of Káladhungi, all within Kumaun.

Mr. Low was employed in extending his series up the Mána Valley from the temple of Badrináth to the village of Gastoli and fixed a sufficient number of points to enable the topographers to finish the survey of the valley. He closed work in the Mána Valley on the 5th November, after which he was employed on sketching the ground in the district of Bágesar. He completed this early in April, and marched into Káli Kumaun and sketched the part of the frontier which lies immediately to the north and south of the junction of the Sarju and Káli rivers. He closed work in the first week of May.

Mr. Pocock was able to complete thoroughly the triangulation of the Niti Valley from the village of Kurkuti to the Niti Pass. On reaching the Niti Pass, Mr. Pocock selected three stations each of them over 17000 feet high from which he was able to fix the positions of 8 remarkable peaks beyond the Sutlej. One was the famous Kailas, the most commanding peak visible from the Niti Pass. His bases were however very short giving very acute triangles, and the peaks were subsequently refixed. On completion of this work Mr. Pocock was employed for the rest of the season on topographical work in the Bhábar to the south of Káladhungi. On completion of this early in February he took up the sketching of the country south of Lohaghát in Káli Kumaun. He closed his work for the season on the 15th April.

Lieut. Chambers was employed in triangulating the district east of Naini Tál. In spite of an accident which delayed him for six weeks, he succeeded in finishing his triangulation by the end of the field season.

Mr. Ryall was employed on the triangulation and sketching of the hill tract of Chándipahár opposite Hardwár. On completion of this work Mr. Ryall was employed on the triangulation of the Bhábar hills extending from Haldwáni to Barmdeo: this he completed by the second week in April.

The principal hill station of Chándipahár of the Great Arc series was repaired by Mr. Ryall before leaving the Hardwár district.

Mr. Peyton was employed in sketching the highly cultivated district of Pithoragarh; he also sketched 48 square miles of the Nepal border.

Mr. Todd sketched the ground in the neighbourhood of Baijnáth; it consisted chiefly of high ridges varying from 6000 to 9000 feet above sea-level. Towards Bhadkot peak the ground is lofty, steep and covered with dense forests; in other parts the ground was comparatively open, containing cultivation and tea plantations.

Mr. Kinney was employed in office work.

Mr. Litchfield took up the planetabling in the ground immediately west of Mr. Peyton's area. He closed work on the 13th April.

During recess the party was employed on computations and mapping.

#### SEASON 1872-73.

##### Personnel.

|                                                  |  |
|--------------------------------------------------|--|
| Lieut. J. Hill R.E., Offg. Dy. Supt. 3rd Grade,  |  |
| in charge.                                       |  |
| Lieut. H. J. Harman R.E., Asst. Supt. 2nd Grade. |  |
| Mr. E. C. Ryall, Asst. Supt. 2nd Grade.          |  |
| " J. Peyton, Surveyor 2nd Grade.                 |  |
| " J. Low, " 3rd "                                |  |
| " L. Pocock, Asst. Surveyor 1st Grade.           |  |
| " H. Todd, " " 2nd "                             |  |
| " T. Kinney, " " 3rd "                           |  |
| " E. F. Litchfield, " " " "                      |  |
| " I. Pocock, " " 4th "                           |  |

The plan of operations for the field season was as follows: To survey topographically the whole of the Mána Valley and the district immediately to the west of the southern part of that valley. The surveyors on this portion, when the weather became too cold, were to move south and take up the planetabling between the Dhuali and Pindar rivers. The remainder of the party were to be employed on the topography of the following districts: the Bhábar tracts from Haldwáni eastwards to the Sárda river, the lake country to the east of Naini Tál, the country round Lohaghát and those portions of Gori and Rámanga valleys which lie in the vicinity of Askot.

The portion of the Mána Valley lying between the junction of the Vishnuganga and Dhauli rivers and the Badrináth temple, a distance of about 14 miles, consists merely of a gorge bounded on either side by precipitous mountains. The fall between the above two points is 7700 feet, a drop of 550 feet in the mile. Above Badrináth the Mána Valley opens out and 5 miles further on at Gastoli the fall of the main channel becomes very moderate. Above Gastoli the sides of the valley again become precipitous rising to altitudes of 23000 and in one place to 25447 feet. This is the mountain known as Kamet and locally called Ibi Gamin.

Mr. Pocock to whom was assigned the lower portion of the Mána Valley commenced work at Badrináth temple on the 12th October. He completed his work in the Mána Valley on the 8th November and then marched southwards to take up the other portion of country assigned to him. He completed 534 square miles of topography besides triangulating an area of 83 square miles.

Mr. Todd was directed to sketch the upper portion of the Mána Valley extending from the Badrináth temple to the Mána Pass.

Mr. Todd making for the highest part of his ground first reached the Mána Pass 18200 feet on the 19th October. Owing to insufficiency of triangulation he found it impossible to commence topographical operations; to supplement the triangulation necessitated climbing to far higher elevations, but as the season was too far advanced for this, Mr. Todd was obliged to return and take up an area south of Joshimath where he completed 88 square miles of topography. He then marched south and took up his area south of the Dhauli river, in the *pargana* of Dasoli where he completed 288 square miles of planetabling, when he had to cease work on account of illness.

Lieut. Hill, who established his head-quarters at Haldwáni up to the 19th March, was employed in inspecting the work in that neighbourhood, he then moved his head-quarters to Almora and inspected the work in that neighbourhood.

Lieut. Harman's planetabling area was of three distinct varieties. To the north he had to sketch the lake country which includes Naini Tál, Bhím Tál, Sít Tál and Naukuchia Tál; in this district the differences of level are very great and the ground is crowded with important details. Southwards the ground changes in character giving place to intricate hills resembling the Siwálíks. At the foot of these hills lie the flat tracts of the Bhábar, covered with *sál* and jungle. Lieut. Harman completed 268 square miles of topography.

Mr. Ryall took up the portion of country to the east of Lieut. Harman's Bhábar ground. To the north it rises into sandstone hills thickly covered with forest; below these the ground consisted of densely wooded flats intersected by numerous tortuous streams. The climate only permitted of the work being carried on in December, January and February, during which time the jungle grass is high, presenting a great obstacle to the surveyor's progress. Whilst engaged on this topography Mr. Ryall simultaneously carried on a minor triangulation to determine the position of some points required for traverse purposes. Mr. Ryall completed 270 square miles of planetabling and triangulation. At the end of the season he visited Naini Tál and determined the height of the lake there trigonometrically.

Mr. Peyton's first piece of work consisted in sketching the portion of the Bhábar hills which lies immediately to the north of Lieut. Harman's and Mr. Ryall's Bhábar survey. The southern portion of this tract is densely covered with forest. To the north the hills are more free from forest and sketching was proportionately easier. Owing to a fall of snow at the latter end of April, Mr. Peyton was unable to complete the upper portion of his area which included some snowy spurs between the Gori valley and the district of Dárma. He closed work on the 17th May having surveyed 330 square miles of country.

Mr. Low was employed on the topography of two separate portions of Kumaun. He first undertook the survey of the portion of the country which includes Lohaghát and lies between Pithoragarh and Champáwat. The country consists of broad open flats terminating on the north-west in a sudden fall. Mr. Low finished the survey of this tract of country by the middle of February and then proceeded to the portion of the Rám-ganga Valley which lies near Askot. He completed this work by the end of June. He surveyed altogether 430 square miles of hill country.

Mr. Kinney reached his ground near Devidhurra and commenced his sketching on the 26th December. The part of the country he surveyed lies to the east of Naini Tál, and amounted to 260 square miles. He finished work on the 16th April.

Mr. Litchfield first worked on the portion of country east of Naini Tál lying between Mr. Kinney's and Lieut. Harman's work. It included the sacred peak of Kailas. Mr. Litchfield completed this portion of his work on the last day of February and then took up that part of the Gori Valley lying between the grounds assigned to Messrs. Peyton and Low. Before he was able to complete this portion Mr. Litchfield fell ill and was obliged to stop work. He completed 274 square miles of planetabing.

Mr. I. Pocock who joined the department on the 28th October was employed principally on office work.

At the close of the season 1872-73, all the lower tracts of Kumaun and Garhwál had been surveyed and there only remained the higher portions amongst the snow peaks. As it was impossible to carry on work in this area during the cold weather, Colonel Walker, Superintendent Trigonometrical Surveys, decided to employ the whole of the party with the exception noted below on a resurvey of Dehra Dún on a scale of 4' = 1 mile. The history of this survey is given separately.

SEASON 1873-74.

Mr. J. Low instead of joining the rest of the party on the Dehra Dún Survey, was employed in Kumaun running a series of minor triangulation from the base Húm h.s.—Punya h.s. up the valley of the Gori to the passes above Milam. He commenced operations on the 27th September and continued work up to the 1st December. During that time he visited 24 stations ranging in height from 4000 to 13800 feet and completed 399 square miles of triangulation.

In May 1874, operations were resumed but with a very much reduced personnel, the majority of the

SEASON 1874.

Personnel.

|                                            |  |
|--------------------------------------------|--|
| Mr. E. C. Ryall, Surveyor 1st Grade.       |  |
| " C. H. McA'Fee, Asst. Surveyor 1st Grade. |  |
| " E. F. Litchfield, " " 3rd "              |  |
| " I. Pocock, " " 4th "                     |  |
| " J. F. McCarthy, " " " "                  |  |

party being employed during recess on the computations and mapping of the work of the Dehra Dún Survey. About 4300 square miles of country remained to be topographically surveyed; of this about 1900 square miles had already been triangulated leaving about 2000 square miles to be dealt with.

The detachment leaving Dehra Dún on the 12th April reached Almora on the 2nd May. During the march the computations of the triangulated portions were worked out so as to be available for use in the field. On the 8th May, the detachment left Almora separating at Bágesar and marching from thence to their appointed areas in two separate parties.

The triangulation was carried up the gorges of the Gori river into the Milam Valley and onwards to the Uttardhura Pass.

The topographical operations were chiefly confined to a belt lying between latitudes 30° 0' and 30° 15' comprising the valley of Rálam and a series of high snow peaks averaging about 20000 feet in height.

Mr. Ryall undertook the triangulation and executed a series of triangles starting from the base Chipalkot h. s.—Khaparchula h. s. and running up to the Milam Valley and thence up to the Uttardhura Pass. He completed an area of 460 square miles of triangulation visiting 14 stations with an average height of 15500 feet. He closed work on the 2nd July.

Mr. McA'Fee commenced planetabing on the 24th May, but after completing 34 square miles he fell ill and had to return to Almora. He worked in ground averaging about 8500 feet in height.

Mr. Litchfield commenced work on the 26th May and accomplished 238 square miles of planetabing, the highest point visited by him was 17000 feet and the average height of his planetable stations was 12500 feet. He closed work on the 30th June.

Mr. Pocock commenced work on the 15th May working for the first few days under the supervision of Mr. Litchfield. He completed 149 square miles of planetabling. The highest point visited by Mr. Pocock was about 16000 feet and the average height at which he worked was about 10000 feet. He closed work on the 5th July.

Mr. McCarthy commenced work on the 27th May and completed 178 square miles of planetabling. The highest point visited by him was 18000 feet and he worked at an average height of 15000 feet above sea-level. He closed work on the 5th July.

The detachment remained only 5 weeks in Almora starting for the field again on the 25th August before the rainy season had ceased, so as to enable them to commence actual work as soon as the weather would permit. In order to facilitate the work, Mr. Ryall previous to the party leaving Almora made arrangements with the civil authorities to establish depots for supplies and fire-wood along the stages on the roads leading up to the Mána and Niti passes. On the arrival of the detachment at Joshimath, the depots, 5 or 6 in each valley, were all stocked.

## SEASON 1874-75.

## Personnel.

|                                    |            |
|------------------------------------|------------|
| Mr. E. C. Ryall, Offg. Asst. Supt. | 1st Grade. |
| " C. H. McA'Fee, Asst. Surveyor.   | "          |
| " E. F. Litchfield, " "            | 3rd "      |
| " I. S. Pocock, " "                | 4th "      |
| " J. F. McCarthy, " "              | " "        |

Mr. Ryall in addition to generally supervising the work, extended the Milam triangulation in a southerly direction carrying it through a stupendous gorge overhung by the lofty mountains of Chirkhana and Hasaling. His triangulation covered an area of 200 square miles with five stations visited, having an average height of 13800 feet.

Mr. McA'Fee was entrusted with the triangulation of the country about Chaudans which lies at the foot of the Dárma and Byáns valleys. He completed 600 square miles of triangulation by the 24th November, when he closed work.

Mr. Litchfield was deputed to take up the planetabling of the southern half of the Niti Valley, and of the valley of the Rishiganga river. On completing these sections he continued the topography of the higher valleys of the Pindar river. The survey of the Rishiganga Valley was a formidable undertaking, but Mr. Litchfield accomplished the work most creditably. He completed an area of 837 square miles of planetabling.

Mr. Pocock was entrusted first with the planetabling of the upper portion of the Mána Valley. He at first met with some difficulty, not being able to obtain a single planetable fixing; Mr. Ryall however assisted him in running a planetable triangulation from a base near Badrináth and from this he was enabled to recognise the various snow peaks. He completed this survey on the 5th October. From thence he went to the Johár Valley and thence on to a portion of ground on the west bank of the Káli river above Askot, and finally retraced his steps to Rudraprayág in Garhwál where a small area had inadvertently been omitted. He closed work on the 20th March. It covered an area of 108 square miles and the average height of the ground surveyed was 21000 feet, the average height of the planetable stations was 19500 feet, and the maximum height visited by Mr. Pocock was 22040 feet above sea-level.

Mr. McCarthy was employed in the survey of the upper portion of the Niti Valley.

The total area triangulated was 800 square miles and the area topographically surveyed 2176 square miles.

Mr. Pocock's survey in the Mána Valley is remarkable not only for the average height of his planetable stations, but since considerable doubt has been thrown on the fact of Mr. Johnson having visited a point 23000 feet above mean sea-level, Mr. Pocock's station at 22040 feet above mean sea-level is now the highest authenticated planetable station in the Indian survey. The height was obtained differentially by observations of the boiling point at the place itself and at a trigonometrical station of known height. In 1855 Messrs. Schlagintweit ascended the flanks of this same mountain Kamet (their Ibi Gamin) to a height of 22259 feet on an undefined spot, the height of which they obtained from observations with a mountain barometer. The whole of the topographical work was in very elevated regions and the ground in which Messrs. Litchfield and McCarthy were employed was not very far below that of Mr. Pocock's in point of height. In these barren and inhospitable regions besides the natural physical difficulties which were in themselves very trying, the commissariat arrangements were a source of anxiety.



There remained only about 1600 square miles of area to complete this survey. It is situated on the north-eastern confines of the district and at considerable altitudes: being difficult of access the work was delayed pending the completion of the

SEASON 1875-76.

Dehra Dún Survey.

The winter of 1876-77 was the severest known for many years in the Kumaun and Garhwál hills. The snow-line which as a rule at the end of April lies at an elevation of 12000 feet was this year as low as 9000 feet. Owing to this the emigration of the inhabitants of these districts from the lower to the higher levels was greatly delayed, with the consequence that the survey detachment found the greatest difficulty in obtaining cool transport. The party left Almora on the 10th April 1877.

SEASON 1876-77.

*Personnel.*

Mr. E. C. Ryall, Offg. Asst. Supt. 2nd Grade.  
 " J. Peyton, Surveyor 1st Grade.  
 " W. Todd, " 2nd "  
 " T. Kinney, Asst. Surveyor 1st Grade.  
 " J. Pocock, " " 3rd "  
 " R. F. Warwick, Asst. " " 4th "  
 Six native Surveyors.

On the 3rd June, Mr. Ryall crossed the Uttardhura Pass 17350 feet and on the 8th June succeeded in getting into Hundes in Chinese Tibet. He was met on the southern face of the Balchdhura Pass by two Hunias, who wished to stop his advance. He explained however that his object was to survey the northern limits of British territory, and on their taking this message to the Dába Jongpan, the latter notified his consent to the work being done provided that Mr. Ryall did not cross the Sutlej. On the 2nd July, Mr. Ryall recrossed the Balchdhura Pass into British territory having accomplished all the necessary triangulation. He observed at 16 stations and fixed about 75 distant peaks obtaining vertical angles also to about half of them. On his return from Uttardhura Pass to Milam, Mr. Ryall doubled the series running up the Uttardhura gorge. This series was observed by him during the season 1873-74 and the sides were very short and some of the angles rather acute. Mr. Ryall then finished off the Milam Valley triangulation and topography. He also did a reconnaissance of about 70 square miles in Hundes. He completed a total area of 640 square miles of topography including the Hundes reconnaissance. His triangulation covered an area of 560 square miles.

Mr. Peyton was employed on the survey of the Byáns Valley. His camp reached the Nirpánia Pass 11257 feet leading into Byáns on the 25th May. As the trigonometrically fixed points were few he carried a series of triangles up the valley observing with a 7-inch vernier theodolite. The triangulation extended over an area of 310 square miles. His topographical work amounted to 502 square miles executed on the scale of  $\frac{1}{2}$  inch to a mile including 67 square miles of reconnaissance. The following are extracts from Mr. Peyton's report:—

"On the 3rd July when I was in the Kuti Valley there was a snow storm, the entire valley for six days after the snow fell was perfectly white. In July I had only five days of clear sky. I was greatly surprised to find that, in the Kuti Valley, where I was fairly behind most of the great snow and rain collecting mountains, there was no change in the climate; the weather was seldom fine for more than a couple of hours in the morning and I rarely returned dry to my tent from an excursion to any of the mountains above 12000 or 13000 feet.

"There is a very rough road on the northern side of the pass of Nirpánia leading into Byáns, a staircase as it may be called overhanging through its whole extent a series of frightful precipices, where fatal accidents have often taken place. It gets worse as you descend to the valley and being quite unprotected as it leads along bluff faces of cliffs by rocky steps and rotten planks, the sense of insecurity is very great. The mountains here are intersected by a network of narrow valleys, the opposite faces of which approach each other so closely at some points that it is possible to shoot an animal or even throw a stone across the gorge.

"The total length of the valley is 31 miles and the highest peaks to the north have an elevation of more than 22000 feet".

Mr. Pocock was deputed to take up the survey of the northern portion of the Dárma Valley. He was not able to begin work till the first week in June, but he contrived to finish the work by the 15th August. His outturn was 29½ square miles of topography on the scale of  $\frac{1}{2}$  inch to a mile. His highest practicable station was about 19000 feet and the average about 16500 feet.

To Mr. Warwick was allotted the southern portion of the Dárma Valley. He completed 163 square miles of topography on the scale of  $\frac{1}{2}$  inch to a mile.

Mr. Todd and Mr. Kinney were employed at head-quarters in drawing the Dehra Dún maps.

This work completed the survey of Kumaun and Garhwál; it was executed on a scale of 1 inch to a mile, the smaller scale of  $\frac{1}{2}$  inch to a mile being used for some of the snowy regions.

### *The Ránikhet and Kosi River Survey 1869-71.*

This survey was undertaken with the view to the possible transfer of the seat of Government to Ránikhet and to the construction of a railway up the Kosi Valley.

Ránikhet is about 7000 feet above sea-level and is situated on a broad ridge with easy slopes on the north but generally precipitous on the south side. It lies about 20 miles directly north of Naini Tál, 13 miles west of Almora and 32 miles east of Rámnagar, which is at the foot of the hills. It is separated from the plains by an outer ridge of mountains known as the Gagni range, the highest peaks of which are about 8500 feet above sea-level.

At the end of 1869, soon after the Kumaun and Garhwál party had started their season's work, the Government of India made an urgent request for an accurate survey on a large scale of the hill sanatorium of Ránikhet and of the Kosi Valley leading up to it.

SEASON 1869-70.

#### *Personnel.*

|                                        |            |   |  |
|----------------------------------------|------------|---|--|
| Major T. G. Montgomery R.E., Dy. Supt. |            |   |  |
| 1st Grade, in charge.                  |            |   |  |
| Lieut. J. Hill R.E., Asst. Supt.       | 2nd Grade. |   |  |
| Mr. W. G. Beverley, Surveyor           | 1st        | " |  |
| " E. C. Ryall, "                       | 2nd        | " |  |
| " J. Peyton, "                         | 2nd        | " |  |
| " J. Low, "                            | 4th        | " |  |
| " G. W. E. Atkinson, Asst. Surveyor    | 1st Grade. |   |  |
| " C. Pocock, "                         | 2nd        | " |  |
| " H. Todd, "                           | 3rd        | " |  |
| " T. Kinney, "                         | 4th        | " |  |
| " E. Litchfield, "                     | 4th        | " |  |

All the surveyors, who were scattered over Kumaun and Garhwál were immediately recalled from their regular work and assembled at Ránikhet. After some preliminary training in the new style of work, the survey was commenced early in January 1870.

The scale on which the survey of Ránikhet was executed was 12 inches to one mile. Since the completion of the work was a matter of urgency, there was no time to run lines of accurate levelling, but in order to obtain contours of fair accuracy a very large number of points were determined trigonometrically, and clinometers were used to assist in getting the run of contour lines between the trigonometrical stations. In all the heights of 386 points were thus trigonometrically fixed giving 16 points per square mile.

The triangulation covered an area of 31 square miles and the sketching an area of  $24\frac{1}{2}$  square miles, the whole of this area was triangulated and traversed early in the year 1870 and the results computed in the field. By the end of May 1870 the whole of the detailed survey was completed, the work having taken six surveyors rather less than 5 months to execute.

The ground surveyed presented all the ordinary difficulties of mountain surveying. The triangulation and the sketching were rendered more difficult than usual by the dense forest, the hills being covered with pines and in the higher region with oak and rhododendron.

The triangulation fixed 497 points. The theodolite traverses  $28\frac{1}{2}$  miles in length supplied 808 points, the prismatic compass traverses 131 miles in length gave 4070 points and the planetables were fixed at 6548 places partly by intersection and partly by traverse.

As soon as the Ránikhet triangulation was finished and computed out, the triangulation of the Kosi Valley was taken in hand, the whole length of the river about 60 miles including the Kuchgadhd was completed before the close of the field season.

Lieutenant Hill was employed at first on the triangulation of the northern part of Ránikhet and covered the whole of the ground assigned to him in time for the sketching operations. On completion of his triangulation he superintended the detail survey of the northern sections, fixing additional points where required. He triangulated  $11\frac{1}{2}$  square miles fixing 126 points with 53 heights; he computed out his points and in addition did  $6\frac{1}{2}$  miles of traversing.

Mr. Beverley took up the triangulation of the southern portion. The ground included the most densely wooded part of the Ránikhet hills, making the work very difficult. He completed this work by the end of February, the results being all computed in the field. He then proceeded to take up the triangulation of the Kosi Valley and finished a length of 30 miles by the middle of April. In Ránikhet he triangulated 15½ square miles fixing 242 points with 139 heights. In the Kosi Valley he triangulated 37 square miles fixing 390 points with 298 heights.

Mr. Ryall at first took up the triangulation of the lower part of the Kosi river. As soon as a sufficient number of points was available, he took up the sketching of the highest portion of Ránikhet. The ground was covered by a dense forest of oak and rhododendron with a good deal of undergrowth, necessitating the use of traverses in fixing planetable position. He triangulated 51 square miles on the Kosi river fixing 151 points with 91 heights. In Ránikhet he sketched 2532 acres.

Mr. Peyton was employed on sketching several portions of Ránikhet, he completed 3843 acres.

Mr. Low was first employed on theodolite traverse. He then took up the sketching of a difficult piece of the hills. He accomplished this by means of traverses with the theodolite and prismatic compass and constantly using the chain when sketching. He sketched 2840 acres and carried out 9½ miles of theodolite traverse and 5½ miles of compass traverse.

Mr. Atkinson was employed on the Kosi river triangulation and theodolite traverse work in Ránikhet. He triangulated 58 square miles with 196 points and 95 heights.

Mr. Pocock at first assisted in the triangulation. He then took up the sketching of a section, including the centre of the cantonments with a large amount of detail in the way of roads etc. involving 34½ miles of traversing.

Mr. Todd was employed on sketching, he traversed about 5 miles with the theodolite and 5 more with the prismatic compass. His ground was covered with a dense forest of pines and his chain had to be in constant use. He completed 2200 acres.

Mr. Kinney took up the sketching of the north-westerly part of Ránikhet. He accomplished about 6 miles of traversing with the theodolite and 17 miles with the prismatic compass. His sketching covered an area of 2755 acres.

Mr. Litchfield was employed in office work.

Major Montgomerie writes:—"The large scale survey of Ránikhet, considering its elevation, the denseness of its forest and undergrowth and the time of the year when it was begun, formed in itself about as difficult a task as could be given to a body of surveyors".

The operations of this season were confined to the Kosi Valley in order to carry out a survey which the Government of India required to facilitate the investigation into the practicability of the construction of a railway up the valley.

#### SEASON 1870-71.

##### Personnel.

Major T. G. Montgomerie R.E., Dy. Supt. 1st Grade.  
 Captain H. R. Thuillier R.E., Offg. Dy. Supt. 1st Grade.  
 Lieut. J. Hill R.E., Offg. Dy. Supt. 3rd Grade.  
 Mr. E. C. Ryall, Surveyor 1st Grade.  
 " J. Peyton, " 2nd "  
 " J. Low, " 3rd "  
 " F. Ryall, " 4th "  
 " L. Pocock, Asst. Surveyor 1st Grade.  
 " H. Todd, " " 2nd "  
 " T. Kinney, " " 3rd "  
 " E. Litchfield, " " 4th "

The survey was executed on the scale of 6 inches to a mile and was confined to the ground within a width of one mile on each side of the river. It extended from Rám Nagar to Bujan by the Kosi Valley and thence to the nearest point in Ránikhet by the Kuchgadh.

Major Montgomerie on his being appointed as Officiating Supt. Trigonometrical Surveys, at the commencement of the field season gave over charge of the work to Captain Thuillier; owing to sickness however the latter was obliged to go on leave and the charge thus devolved on Lieutenant Hill.

The triangulation of the valley had been carried out during the previous field season: it covers an area of 146 square miles with 735 points and 551 heights, the latter being supplemented by 815 theodolite traverse heights and 302 other heights determined by approximate methods in the field, making a total of 1668 heights. These extra heights were necessary owing to the purpose for which the survey was made, they were invaluable guides to the topographers in laying down their eye contours in the field. A rigorous theodolite traverse with back and forward vertical observations was carried through the entire length of the survey, and served not only to bind the whole work together and give a great number of valuable heights, but acted also as an efficient check on the accuracy of the work of the surveyors.

The topographical survey on the scale of 6 inches to a mile covers an area of 60027 acres in the course of which 5882 points were fixed either by planetable or by prismatic compass traverse.

Mr. E. C. Ryall took the field about the middle of November and proceeded to sketch the ground in the vicinities of Mohan and Rámnagar, separated from each other by the ground in the neighbourhood of Dikoli. It covers an area of 10000 acres and is for the most part covered with dense forest, a circumstance which obliged him to adopt a system of traverses. He also executed some additional triangulation computing his work in the field.

Mr. Peyton started work about the middle of November. The ground he surveyed embraces an area of nearly 9000 acres.

Mr. Low took the field at the beginning of November: he was employed on the sketching of the portion extending from Dhaniakot on the Kosi river to Bujan and thence up the Kuchgadh to the limits of the Ránikhet survey. He completed this work on the 15th April.

Mr. F. Ryall after working in the head-quarters camp up to the beginning of February 1871, was employed on a rigorous theodolite traverse up the whole length of the survey.

Mr. Pocock took the field in the middle of November: his work lay in the part of the Kosi Valley between Kumeria and Talla Seti. He completed his work on the 26th April.

Mr. Todd took up the section between Talla Seti and Thorna; his sketching covered an area of 6400 acres and he completed it by the end of March, after which he assisted Mr. F. Ryall in his traverse work.

Mr. Kinney commenced work in the middle of December taking up the section between Thorna and the village of Simalkha, and on completion of this executed a portion between Khairali and Kumeria. He then proceeded to carry a planetable and chain traverse along a part of the Ránikhet cart-road near Kumeria. The extent of country surveyed by him exceeded 11400 acres.

Mr. Litchfield was employed on office work.

#### THE DEHRA DÚN SURVEY, 1873-76.

The survey of this district was commenced by the Forest Survey Department under Captain Bailey on the scale of 4 inches to one mile. Owing to other calls being made upon that department, Captain Bailey could only undertake the survey of the forest tracts. In November 1873 the work on the Kumaun and Garhwál survey was suspended and Captain Thuillier was directed to employ his party on the survey of the non-forest tracts of Dehra Dún on the scale of 4 inches to 1 mile. The Kumaun and Garhwál survey had been carried out entirely by European agency, but for the survey of the Dún native surveyors were employed under European supervision. These surveyors were all newly enlisted men and had to be first trained to the work. As it was essential to commence work as early as possible, the native surveyors 16 in number were taught the use of the simplest instruments for traversing, *viz.*, a circular protractor mounted on a planetable.

The field work commenced early in November 1873. The East End station of the Dehra Dún Base-line was

adopted for the starting point of the survey. The traverse lines were in all cases measured with two chains of different units, whose lengths were from time to time corrected with a standard. The main traverses were in all cases run between trigonometrical stations; the direction of these main traverse lines was laid out with the object of connecting boundary pillars at sufficiently close intervals to form proper checks on the village boundary traverses. In addition to these checks 51 boundary pillars were fixed trigonometrically. The boundary traverses comprise 184 villages and estates, these were done entirely by native surveyors.

Mr. Ryall was entrusted with the duty of training the native surveyors and supervising some of the boundary and main circuit traverses. He closed work in the Dún at the end of March and proceeded to resume operations in the higher regions of Kumaun and Garhwál.

#### SEASON 1873-74.

##### Personnel.

|                                                |  |
|------------------------------------------------|--|
| Capt. H. R. Thuillier, R. E., Off. Dy. Supt.   |  |
| 1st Grade.                                     |  |
| Mr. E. C. Ryall, Asst. Supt. 2nd Grade.        |  |
| Lieut. St. G. C. Gore, R. E., Off. Asst. Supt. |  |
| 2nd Grade.                                     |  |
| Mr. J. Peyton, Surveyor 1st Grade.             |  |
| " J. Low, " 3rd "                              |  |
| " L. Pocock, Asst. Surveyor 1st Grade.         |  |
| " J. Macdougall, " 2nd "                       |  |
| " H. Todd, " " "                               |  |
| " T. Kinney, " " "                             |  |
| " C. J. Neuville, " " "                        |  |
| " E. Wrixon, " 3rd "                           |  |
| " E. Litchfield, " " "                         |  |
| " I. Pocock, " 4th "                           |  |
| 16 Native Surveyors.                           |  |

Lieutenant Gore was employed with five native surveyors in the boundary surveys of the villages west of the Dehra-Sherpur road. He also made a survey of the Harbanswála and Arcadia tea plantations on the scale of 20 inches to 1 mile. He closed work on the 27th May, 1874.

Mr. Peyton was employed in the head-quarters offices.

Mr. Neville was employed in the head-quarters camp on office work and traverse computations.

Mr. Low was employed from the 20th December, 1873 to the middle of February, 1874 on traverse work. He was afterwards employed on triangulation work in the Siwálíks east of the Mohau Pass. He closed work on the 27th May, 1874.

Mr. L. Pocock was employed in triangulation work: he took the field on November 8th, 1873. He executed a network of triangulation covering 267 square miles. He closed work at the beginning of May, 1874.

Mr. Macdougall joined the party at the end of January, 1874. He was employed till the end of April on computation work. During May he was employed in traverse work in and about the station of Dehra.

Mr. H. Todd commenced planetabling on the 12th March, 1874 and completed an area of 22507 acres executed at the rate of 16 square miles per mensem. He closed work on the 23rd May, 1874.

Mr. Kinney took the field on the 25th November, 1873 and was first employed in triangulating in the neighbourhood of Dehra. He was afterwards employed on traverse work and connecting boundary pillars with trigonometrical stations. He then took up some of the topographical work commencing on the 10th March and completed 13,530 acres at the rate of  $14\frac{1}{2}$  square miles per mensem. He closed work on the 27th May, 1874.

Mr. Wrixon was employed throughout the greater part of the field season in carrying main traverses for fixing trijunction pillars so as to form proper checks on the boundary traverses. Later he executed some minor triangulation with the same object.

Mr. Litchfield took the field on 24th November, 1873 and was employed in carrying on main circuit traverses over ground to the north-west of Dehra. From the beginning of March he was employed on topographical work on intricate ground. He completed 4014 acres at a rate of 11 square miles per mensem. He closed work on the 4th April on account of his services being required for the Kumaun and Garhwál Survey.

Mr. I. Pocock was employed for the first half of the field season in office work: he subsequently carried a series of traverses from the east end of the Dehra Dún Base-line through the valleys of the Asan and Jumna. He closed work on the 4th April and proceeded to Kumaun.

During the season 529 square miles of triangulation were completed; 40,051 acres of country were topographically surveyed, 271 miles of theodolite traverses and 577 miles of boundary traverses were executed.

The native surveyors having been trained and employed on traversing in the previous season had now to be

| PERSON 1874-75.       |                          |            |
|-----------------------|--------------------------|------------|
| Personnel.            |                          |            |
| Capt. H. R. Thuillier | B. E., Offg. Dy. Supt.   | 1st Grade. |
| Lieut. St. G. C. Gore | R. E., Offg. Asst. Supt. | 2nd "      |
| Mr. C. J. Neville     | Surveyor                 | " "        |
| " J. Low,             | "                        | 3rd "      |
| " I. Pocock,          | "                        | 4th "      |
| " H. Todd,            | Asst. "                  | 1st "      |
| " T. Kinnoy,          | " "                      | " "        |
| " E. Wrixon,          | " "                      | 2nd "      |
| 11 Native Surveyors.  |                          |            |

taught planetabling. This, together with the intricacy of the ground surveyed, caused the progress of the work to be somewhat slow. The country surveyed included ground of every variety from flat cultivated lands to hills up to 7000 feet in height. The low spurs at the foot of the hills covered with thick forest and intersected by deep precipitous ravines gave much trouble in surveying.

The triangulation and traverse work in Dehra Dún was completed during the season.

Lieutenant Gore who took the field on the 7th October 1874 was employed in superintending the village boundary traverses and on planetabling work. He closed his field season on 20th April 1875.

Mr. Neville was employed on office work.

Mr. Low was employed throughout the field season on planetabling.

Mr. Pocock completed the triangulation work in the Dún by the middle of January when he started for Jaunsár Báwar to carry on a triangulation in that district.

Mr. Todd with two native surveyors under him was employed on topography throughout the season. He closed work on the 30th April, 1875.

Mr. Kinney commencing work on 17th October, 1874 was employed on planetabling first in the Aasn Valley and later on the high hill portion.

Mr. Wrixon was employed in minor triangulation between the Dehra-Rájpur road and the Song river and on traverse work.

The native surveyors were mostly employed on topographical work.

During the season 110 square miles of triangulation were completed, 225 square miles of country were topographically surveyed and 70 miles of main theodolite traverses, 328 miles of boundary traverses and 63 miles of check lines were run.

In addition to the work carried out by this party, the Forest Survey party under the supervision of Captain Bailey completed 288 square miles of topography and 326 miles of boundary and interior traversing in the Siwálik forests.

During this season the survey of the Dún, including a survey of 8 square miles round Dehra on the scale of 12 inches to a mile was completed with the exception of 20 square miles of the Siwálik forest portion, which was being surveyed by the Forest Survey department under the superintendence of Captain Bailey.

#### SEASON 1875-76.

##### Personnel.

Captain H. R. Thuillier R.E., Offg. Supt. 1st Grade.

Mr. C. J. Neuville, Surveyor 2nd Grade.

" W. Todd " 2nd "

" H. Todd, Asst. Surveyor 1st Grade.

" I. S. Pocock " 3rd "

6 native surveyors.

Mr. Neuville was employed in the party office throughout the season.

Mr W. Todd commenced work on the 13th October and was employed on the topography of the mountain portions of the survey. He also supervised the work of two native surveyors who were employed in planetabling the flat country to the south of his work. He closed work on the 22nd May, 1876.

Mr. H. Todd commenced work on the 14th October, 1875 and was employed on topographical work in the Dún till the 23rd March, when he started for work in Jaunsár Báwar.

Mr. Pocock took the field on 16th October, 1875 and was employed in planetabling and supervising the work of three native surveyors in the Dún till the 23rd February when he left for work in Jaunsár Báwar.

The native surveyors were employed throughout the season on planetabling work first on the scale of 4 inches to the mile and on completion of this work, they executed a survey of 8 square miles round Dehra on a scale of 12 inches to a mile.

The total area topographically surveyed on the scale of 4 inches to a mile aggregated 124 square miles.

The work of this season completed the survey of the non-forest tracts of Dehra Dún on the scale of 4 inches to a mile.

#### THE JAUNSAAR BAWAR SURVEY.

Jaunsár Báwar lies to the N.W. of Dehra Dún and consists of that part of lesser Himalaya contained between the Jumna on the east and its tributary the Tons on the west. Its highest peaks rise to about 8300 feet above sea-level.

The survey was carried out on a scale of 2 inches to a mile during the seasons 1874-75 and 1875-76 simultaneously with the survey of Dehra Dún.

In the season 1874-75 the triangulation was commenced and completed by Mr. L. Pocock. The area covered amounted to 360 square miles.

During this season the topographical work under the supervision of Mr. Ryall was commenced and completed.

## SEASON 1875-76.

*Personnel.*

|                                    |            |
|------------------------------------|------------|
| Mr. E. C. Ryall, Offg. Asst. Supt. | 2nd Grade. |
| " H. Todd, Asst. Surveyor          | 1st Grade. |
| " T. Kinney, " "                   | " "        |
| " E. F. Litchfield, " "            | 2nd "      |
| " I. S. Pocock, " "                | 3rd "      |
| " R. F. Warwick, " "               | 4th "      |
| 1 native surveyor.                 |            |

The area surveyed amounts to about 430 square miles. In addition, 72 square miles were surveyed by the Forest Survey department on the scale of 4 inches to a mile.

The details of the survey included the mapping of forest and other boundaries, also the cantonment boundary of Chakráta in so far as this latter could be ascertained.

Mr. Ryall was employed on the topographical survey of the Benol Gadh and Amláwa valleys and general supervision of the party.

Mr. Todd, on his arrival on the 28th March, 1876 from his work in Dehra Dún, was employed on the survey of the middle portions of the Kbutni river east of Chakráta completing his work on the 28th April.

Mr. Kinney returning from leave on the 15th April took up the survey of the ground about Sainj, Anu and Bána villages on both banks of the Tons river.

Mr. Litchfield starting from head-quarters on the 16th October was employed on the survey of the country about the valley of the Tons, Pábar and Dhára Gadh rivers, and on the east of the Tons river down to its confluence with the Jumna. He closed work at the end of April.

Mr. Pocock on completion of his work in the Dún in February 1876 was employed on ground lying to the west of the Chakráta-Mussooree road and afterwards to the east of the Tons river. He closed work on the 18th May.

Mr. Warwick was first employed on the survey of the ground on the western bank of the Jumna between the Rulna river and the bridge on the Mussooree-Chakráta road: on completion of this he undertook a portion to the east of the Tons river about the village of Kandni. The native surveyor was employed on traverse work.

## THE DARJEELING AND SIKKIM SURVEY.

On the conclusion of the triangulation and geographical operations in Assam the party which had been working there under Lieut. Harman, was sent to recess at Darjeeling in order to be available for similar operations in Sikkim.

## SEASON 1878-79.

*Personnel.*

|                                              |            |
|----------------------------------------------|------------|
| Lieut. H. J. Harman R. E., Offg. Asst. Supt. |            |
| 2nd Grade, in charge.                        |            |
| Mr. W. J. O'Sullivan, Surveyor               | 4th Grade. |
| Mr. W. Robert, Asst. " "                     | 2nd "      |
| Mr. D. J. Collins, " "                       | 4th "      |
| Mohibulla Khán, Sub-Surveyor.                |            |
| Bhawáni Dín, " "                             |            |

At the request however of the Government of Bengal the party instead of immediately taking up work in Sikkim was employed on special surveys in the Darjeeling district.

The special surveys undertaken were:—

1. A new survey of the station of Darjeeling on the scale of 20 inches to the mile and of the bázár on scales of 40 and 64 inches to the mile.
2. A complete survey of the Hope Town Estates on the scale of 8 inches to the mile.
3. Survey of Government lands, scale 8 inches to the mile.
4. Mapping of land plots east of the Tista river for tea plantation.
5. Large scale revenue survey of the land east of the Tista river for native cultivation.

6. Demarcation of lands in the Taráí and compilation of a new map on the basis of the previous survey by Mr. Johnson.

The personnel being new to this kind of work, spent the month of November 1878 under training. The work was then commenced and continued till 1st June 1879, the outturn consisting as follows :—

Triangulation—65 stations built and fixed, 82 intersected points fixed with heights to nearly all.

Theodolite traverses—360½ miles.

Prismatic traverses—120 miles.

Detail survey.—

In Darjeeling station 28 acres on scale of 60 inches to the mile.

“ “ 50 “ “ 40 “ “

“ “ 85 “ “ 20 “ “

Other surveys—194 square miles on the scale of 4 inches to the mile.

During this season it was decided to commence the survey of Sikkim, the work to be prosecuted simultaneously with that of the Darjeeling surveys.

#### SEASON 1879-80.

##### Personnel.

Lieut. H. J. Harman R.E., Asst. Supt., in charge.  
Mr. W. J. O'Sullivan, Surveyor 4th Grade.  
“ W. Robert, Asst. “ 2nd “  
“ D. J. Collins “ 3rd “  
Mohibulla Khán, Sub-Surveyor.  
Bhawáni Dín and 4 other Sub-Surveyors.

On these latter surveys a large amount of work was carried out in the station of Darjeeling, in the Hope Town Estates, in the Government lands and in the lands east of the Tista river, including the tracts reserved for native cultivation in the Daling hills.

As regards the survey of Sikkim, Lieut. Harman undertook himself the whole of the country lying to the east of the range running south-east from Kinchinjunga and assigned the country to the west to

Mr. Robert. Lieut. Harman proceeded immediately to the snowy ranges bordering on Tibet, in order, if possible to survey them during the interval between the rains and the cold weather. Unfortunately on the Donkia Pass his feet were badly frost-bitten, in spite of this he continued his work for 3½ months. He surveyed an area of over 1000 square miles on the scale of ¼ inch to the mile and executed a large amount of triangulation.

In western Sikkim, Mr. Robert surveyed an area of 600 square miles on the scale of ½ inch to the mile including the Nepal frontier. From numerous commanding points on the boundary, he was able to sketch an area of 900 square miles of that part of Nepal which lies to the east of the southern spurs of Mount Everest. In addition, he fixed a large number of points on the surrounding hill ranges and in Sikkim.

During this season the work of the party was restricted to surveys for new boundary lines, surveys of tea estates and other similar surveys in the Darjeeling district.

#### SEASON 1880-81.

In the recess season of 1881, Major Hutchinson pressed upon the Bengal Government the necessity of revising the survey of the hill tracts west of the Tista river, which had been executed by Mr. Johnson during 1865-67. This revision was now undertaken.

#### SEASON 1881-82.

##### Personnel.

Captain H. J. Harman R.E., Asst. Supt. 1st Grade, in charge.  
Mr. E. C. Ryall, Offg. Asst. Supt. 1st Grade.  
“ J. A. May, Surveyor 3rd “  
“ W. J. O'Sullivan, “ 4th “  
“ W. Robert, Asst. “ 1st “  
“ W. C. G. Barclay, “ 2nd Gr. (recess only).  
Bahai Dín, Sub-Surveyor.  
Bhawáni Dín, “  
Mohamed Khán, “

A large amount of triangulation had been executed in connection with the recent operations, this was extended to cover the whole of the area for revision and the old traverses were connected with and adjusted on the trigonometrical points. Much of the detail of the original survey was found to fit in well with the new work, but the hill sketching had to be entirely revised. The 2-inch scale which had been adopted for the first survey was retained for the second.

The additional triangulation was completed by Mr. O'Sullivan while Capt. Harman, Mr. Ryall and Mr. May completed 155 square miles of hill sketching.



Capt. Harman made an attempt to reach the neighbourhood of Kinchinjunga mountain and complete the survey of that portion of Sikkim, but his health broke down and he was forced to return.

Mr. Robert surveyed 180 square miles of east Sikkim. In addition, he sketched 720 square miles of Nepal and 690 square miles of Tibet on the  $\frac{1}{2}$ -inch scale.

In November 1882 Colonel Tanner relieved Captain Harman of the charge of the party, who was obliged to take leave owing to serious illness.

## SEASON 1882-83.

*Personnel.*

Lt.-Col. H. C. B. Tanner, Dy. Supt. 3rd Grade,  
in charge from 1st November 1882.  
Capt. H. J. Harman R.E., Asst. Supt. 1st Grade,  
in charge up to 1st November 1882.  
Mr. E. C. Rynn, Asst. Supt. 1st Grade.  
" D. Atkinson, Surveyor 1st Grade.  
" W. J. O'Sullivan, " 4th "  
" W. Robert, Asst. " 1st "  
" W. C. G. Barclay, " " "  
" R. Waller-Senior, " " 3rd "  
Subai Din, Sub-Surveyor.  
Rām Saran, "  
Gobardhan Chatterji and other Sub-Surveyors

The operations of the season were carried out in three different localities and consisted of:—

- (1) Darjeeling revisionary survey.
- (2) Nepal boundary survey from the Kosi river to Tribeni on the Gandak river.
- (3) Survey of independent Sikkim.

The Darjeeling revisionary survey of the district west of the Tista under the immediate charge of Mr. Rynn was completed: where the country was sufficiently open, contouring was carried on by means of spirit-levelled lines at 1000 feet intervals and eye contours were then run between these levelled lines at 50 feet intervals. On areas inaccessible to the spirit-level, the country was studded with trigonometrical points, 50 feet contours being interpolated. In all, 175 miles were spirit-levelled and over 1500 heights fixed trigonometrically, besides some 700 barometrical heights. Sixty square miles were triangulated and 373 square miles were topographically surveyed on the 2-inch scale.

The Nepal Boundary Survey was 271 miles in length. It included that portion of the line in the plains between the Kosi river in Bhāgnalpur district and Biknathori in the Champāran district on the eastern termination of the Someshwar range. Also the part of the boundary westward from Biknathori along the watershed of the range to Tribeni Ghat on the Gandak river.

Mr. O'Sullivan commencing on the left bank of the Kosi river, carried the survey along the Nepal boundary to Sinaria in the Muzaffarpur district. His traverse including branch lines amounted to 182 miles in length and the detail survey extended to  $\frac{1}{2}$  mile on either side of the boundary throughout its length.

Mr. Atkinson starting from a fixed point close to Biknathori ran a traverse along the boundary finishing on Mr. O'Sullivan's closing point. He executed 108 miles of traverse and 128 miles of detail survey extending to  $\frac{1}{2}$  mile on either side of the boundary line.

Colonel Tanner in conjunction with Mr. Waller-Senior executed the triangulation and reconnaissance map of the Someshwar hills which extended from Biknathori on the east to Tribeni Ghat on the Gandak river on the west, a distance of 50 miles.

Colonel Tanner succeeded in fixing many peaks in Nepal between the British boundary and the snowy ranges. He worked from bases of the North-East Longitudinal series, and the Someshwar triangulation, also along the Sikkim-Nepal frontier as far as Lampheram. Many points were also fixed by his assistants.

Mr. Robert continued the survey of Sikkim leaving only a small portion still to be completed.

At the end of the field season the sad news of the death of Capt. H. J. Harman, which occurred at Florence on April 14th, 1883, was received. He had been in charge of the party for 8 years previous to taking leave in November 1882.

The work of this season consisted of:—

|                                                                             |            |  |
|-----------------------------------------------------------------------------|------------|--|
| SEASON 1883-84.                                                             |            |  |
| <i>Personnel.</i>                                                           |            |  |
| Brevet-Colonel H. C. B. Tanner S. C., Offg. Dy. Supt. 2nd Grade, in charge. |            |  |
| Mr. E. O. Ryall, Asst. Supt.                                                | 1st Grade. |  |
| " J. Peyton, Surveyor                                                       | " "        |  |
| " W. J. O'Sullivan, " "                                                     | 4th "      |  |
| " W. Robert, Asst. " "                                                      | 1st "      |  |
| " W. C. G. Barckley, " "                                                    | " "        |  |
| " R. Waller-Senior, " "                                                     | 3rd "      |  |
| Sahai Din and other Sub-Surveyors.                                          |            |  |

1. Someshwar Hills survey.
2. Daling Hills survey.
3. Sikkim survey.
4. Triangulation and distant sketching of the Topography of the Himalaya.
5. Demarcation and surveys on the Nepal-Bengal boundary.

The survey of the Someshwar Hills on the scale of 1 inch to the mile embraced an area of 685 square miles and was effected by Messrs. Ryall and Waller-Senior. The survey was not extended beyond Tribeni Ghat on the Gandak river.

The Daling Hills survey was carried out by Messrs. Peyton and Robert on the scale of 8 inches to the mile, and embraced an area of 29½ miles. It was undertaken to map and demarcate certain lands in the outer hills which had been set apart by Government for tea cultivation. A trigonometrical survey was first made of the tract, it was then traversed and topographically surveyed.

The eastern extremity of the Daling Hills touches Bhutan territory and the opportunity was taken to sketch a considerable amount of topography in Bhutan.

Mr. Robert completed the survey of Sikkim with the exception of a small three-cornered portion north-west of Kinchinjunga, on the scale of ¼ inch to the mile. Mr. Robert also fixed many distant peaks. Colonel Tanner, Messrs. O'Sullivan, Barckley and Waller-Senior were employed in fixing distant peaks by triangulation.

Mr. Ryall executed certain large scale surveys of small portions of the newly settled boundary.

As the operations in the neighbourhood of Darjeeling were drawing to a close only a portion of the party was employed there during this season.

|                                                                  |            |  |
|------------------------------------------------------------------|------------|--|
| SEASON 1884-85.                                                  |            |  |
| <i>Personnel.</i>                                                |            |  |
| Colonel H. C. B. Tanner S. C., Dy. Supt. 2nd Grade, in charge.   |            |  |
| Mr. E. O. Ryall, Asst. Supt.                                     | 1st Grade. |  |
| " J. Peyton, Surveyor                                            | " "        |  |
| " W. J. O'Sullivan, " "                                          | 3rd "      |  |
| " W. Robert, Asst. " "                                           | 1st "      |  |
| " W. C. G. Barckley, " "                                         | " "        |  |
| " R. Waller-Senior, " "                                          | 2nd "      |  |
| Sub-Surveyor and explorer R—N Sahai Din and other Sub-Surveyors. |            |  |

The work carried out during the season consisted of:—

1. The demarcation of boundaries for different blocks in the Daling Hills survey.
2. Demarcating the Nepal boundary, and the execution of a detail survey on the scale of 1 inch to a mile along the Gandak river from Tribeni Ghat to pillar No. 1 of the North-West Provinces (now United Provinces) and Nepal boundary. A resurvey of the boundary between

Nepal and Darjeeling along the Mechi river.

3. Fixing distant points of the Himalaya by triangulation. Operations for this purpose were carried out in the following localities:—

- (a). On the Gandak river from bases of the Someshwar Hills triangulation.
- (b). From stations of the North-East Longitudinal series in the plains facing eastern and central Nepal.
- (c). In the Tarai along the Mechi river and in the Daling Hills from bases derived from the Darjeeling survey.
- (d). From the stations facing western Bhutan based on the data of the Assam Longitudinal series.
- (e). From stations in eastern Kumaun facing western Nepal and Tibet.

From the combination of the observations included under (a) and (b) with the work of previous seasons materials for a map of the whole Mahabarat range from Tribeni to Darjeeling were available, and also of all the chief ridges north of the Mahabarat which are visible from the plains.

The materials under the head of (c) and (d) furnished data for the rectification of a considerable amount of the geography of western Bhutan.

Colonel Tanner assisted by R—N carried out the operations under (e). In addition to filling up a blank on the east of Kumaun, he fixed three high peaks situated between Nepal and Tibet.

4. The explorer R—N made a circuit of Kinchinjunga mountain and made a sketch of the whole of that mountain, he also delineated the boundary between north-eastern Nepal and Tibet. His sketch formed a continuation to Mr. Robert's survey of Sikkim.

To bring the survey to a final conclusion, there only remained the demarcation of the Nepal-Bengal boundary along the Mechi river and in the neighbourhood of Muzaffarpur; a small detachment was detailed to carry out this work in the following field season, 1885-86.

DEHRA DÚŦ, }  
4th November 1909.

H. H. TURNER, CAPTAIN, R.E.





## NORTH-EAST LONGITUDINAL SERIES.

## PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS.

|                      |          |                                                                          |          |
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| Amwa . . . . .       | LXXXIII. | Bishanpur . . . . .                                                      | XCIII.   |
| Anárkali . . . . .   | XXXVII.  | Bulákipur . . . . .                                                      | LXXXIV.  |
| Asogapur . . . . .   | XXIX.    | Chalua . . . . .                                                         | XXXII.   |
| Atária . . . . .     | XI.      | Chanda . . . . .                                                         | LXIV.    |
| Atkonawa . . . . .   | XXXVI.   | Chandarsanpur . . . . .                                                  | XCI.     |
| Bágápár . . . . .    | LXI.     | Chándipahár . . . . .                                                    | LIV.     |
| Bagwára . . . . .    | VII.     | <small>(Of the Great Arc Meridional Series, Section 24° to 30°).</small> |          |
| Baheri . . . . .     | IX.      | Chotáki . . . . .                                                        | CXXV.    |
| Baisi . . . . .      | CIV.     | Chuni . . . . .                                                          | CVI.     |
| Bájra . . . . .      | LXVIII.  | Dadaura . . . . .                                                        | XXXVIII. |
| Bakwa . . . . .      | LXIX.    | Dahlelnagar . . . . .                                                    | XXV.     |
| Balua . . . . .      | LXVI.    | Dharamsingua . . . . .                                                   | LVI.     |
| Banarsia . . . . .   | LX.      | Dhaurahra . . . . .                                                      | XXX.     |
| Bandarjála . . . . . | CXVIII.  | Dhela . . . . .                                                          | V.       |
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| Bangra . . . . .     | LIII.    | Dipnagar . . . . .                                                       | CXIV.    |
| Bankata . . . . .    | LI.      | Diwánganj . . . . .                                                      | CII.     |
| Barhata . . . . .    | CI.      | Donao . . . . .                                                          | XII.     |
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| Batwaia . . . . .    | LXXVIII. | Ghandiál . . . . .                                                       | LVI.     |
| Bela . . . . .       | XXXIII.  | <small>(Of the Great Arc Meridional Series, Section 24° to 30°)</small>  |          |
| Bharmi . . . . .     | LVII.    | Gharbaria . . . . .                                                      | LVIII.   |
| Bhela . . . . .      | XCVII.   | Ghaus . . . . .                                                          | LIV.     |
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| Birond . . . . .     | VIII.    | Girijwála . . . . .                                                      | III.     |
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## PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS—(Continued).

|                                                           |          |                       |          |
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| Hilgi . . . . .                                           | XXVI.    | Narhar . . . . .      | XCII     |
| Humaunpur . . . . .                                       | LXXXVII. | Newáda . . . . .      | XL       |
| Isrápur . . . . .                                         | XLI.     | Newáni . . . . .      | CXXVI    |
| Janjipati . . . . .                                       | XCVI.    | Nirpur . . . . .      | CI       |
| Jarol . . . . .                                           | XC.      | Paragawa . . . . .    | LII      |
| Kaimkhera . . . . .                                       | XIV.     | Pargáwa . . . . .     | LXXXVIII |
| Kaliánpur . . . . .                                       | XIII.    | Pathárdi . . . . .    | L        |
| Kamaldaha . . . . .                                       | CXII.    | Pipari . . . . .      | XLVI     |
| Kanchabári . . . . .                                      | CXXIV.   | Piparia . . . . .     | XI       |
| Karái . . . . .                                           | XXI.     | Purena . . . . .      | L        |
| Khánpur . . . . .                                         | XXXIV.   | Rámganj . . . . .     | CXXII    |
| Kharkhari . . . . .                                       | CXIX.    | Rámnagar . . . . .    | XXVI     |
| Kokra . . . . .                                           | XXIII.   | Rámnagar . . . . .    | LXI      |
| Kuthia . . . . .                                          | XXVIII.  | Rámnagar . . . . .    | CVII     |
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| Ladnia . . . . .                                          | XCVIII.  | Ránigarh . . . . .    | II       |
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| Mábegarh . . . . .                                        | I.       | Saonehália . . . . .  | VI       |
| Madanpur . . . . .                                        | LXXXV.   | Sathwaria . . . . .   | LXXIII   |
| Mahesari . . . . .                                        | LII.     | Saunbarsa . . . . .   | LIX      |
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| Majhawa . . . . .                                         | XLVII.   | Semrao . . . . .      | XVI      |
| Manichauk . . . . .                                       | XLII.    | Sháhgarh . . . . .    | XX       |
| Mánikpur . . . . .                                        | CXI.     | Sháhpur . . . . .     | LXXXII   |
| Manúla . . . . .                                          | CVIII.   | Sikta . . . . .       | LXXV     |
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| Masi . . . . .                                            | XXXV.    | Sisgarh . . . . .     | III      |
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| Minai . . . . .                                           | CV.      | Sondahi . . . . .     | LXXXV    |
| Mirzapur . . . . .                                        | XCIV.    | Sultánpur . . . . .   | IX       |
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NORTH-EAST LONGITUDINAL SERIES.

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PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS—(Continued).

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NORTH-EAST LONGITUDINAL SERIES.

PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS.

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| I     | .                                                            | Mábegarh.    | XXVIII  | . | . | . | . |
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| III   | .                                                            | Girijwála.   | XXX     | . | . | . | . |
| IV    | .                                                            | Ghungti.     | XXXI    | . | . | . | . |
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| X     | .                                                            | Sísgarh.     | XXXVII  | . | . | . | . |
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| XIII  | .                                                            | Kaliánpur.   | XL      | . | . | . | . |
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## PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS—(Continued.)

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| LVII    | Bharmi.       | XCI      | Chandarsanpur. |
| LVIII   | Gharbaria.    | XCII     | Narhar.        |
| LIX     | Saunbarsa.    | XCIII    | Bishanpur.     |
| LX      | Banarsia.     | XCIV     | Mirzapur.      |
| LXI     | Bágápár.      | XCV      | Barsam.        |
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| LXIII   | Morairi.      | XCVII    | Bhela.         |
| LXIV    | Chanda.       | XCVIII   | Ladnia.        |
| LXV     | Mathia.       | XCIX     | Semraha.       |
| LXVI    | Balua.        | C        | Harpur.        |
| LXVII   | Upasai.       | CI       | Barhata.       |
| LXVIII  | Bájra.        | CII      | Diwánganj.     |
| LXIX    | Bakwa.        | CIII     | Latona.        |
| LXX     | Rámnapar.     | CIV      | Baisi.         |
| LXXI    | Naonangarhi.  | CV       | Minai.         |
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| LXXV    | Biarwa.       | CIX      | Ghiba.         |
| LXXVI   | Harnáhi.      | CX       | Nirpur.        |
| LXXVII  | Bigoia.       | CXI      | Mánikpur.      |
| LXXVIII | Batwaia.      | CXII     | Kamaldaha.     |
| LXXIX   | Rúpdí.        | CXIII    | Banghora.      |
| LXXX    | Dipáhi.       | CXIV     | Dipnapar.      |
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| LXXXV   | Madanpur.     | CXIX     | Kharkhari.     |

## NORTH-EAST LONGITUDINAL SERIES.

PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS—(Continued).

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## NORTH-EAST LONGITUDINAL SERIES.

### DESCRIPTION OF PRINCIPAL STATIONS.



All the Principal Stations of this Series, with the exceptions noted below, are tower stations, consisting of either solid or perforated pillars, the heights of which vary from 10 to 38 feet; out of these tower stations, only four, *viz.*, VII, IX, X and XI have perforated pillars. The exceptions are the stations I, II, III, IV, V, VI and VIII as well as LIV and LVI of the Great Arc Meridional Series, Section 24° to 30°, which are situated on hills and the station LXXI which stands on the highest part of the ruins of an ancient fortress. Each of these stations will be found fully described in their proper places.

The following descriptions have been compiled from those given by the Officers who executed the Series, supplemented, as regards adjacent villages, from Revenue and Topographical Survey Maps (wherever available) of the country traversed, and corrected, so far as the local sub-divisions in which the several stations are situated, from the Annual Returns furnished by the district officers to whose charge the stations are committed.

The orthography of proper names and Indian words is based on the official lists published under the orders of the Government of India, with this difference that the é is shewn without an accent, in conformity with the rules for spelling names in Northern India, and the short e as ê, and o is treated in the same manner.

LII. (*Of the Great Arc Meridional Series, Section 24° to 30°*). Mahesari Tower Station, lat. 29° 30', long. 78° 9'—observed at in 1843, 1851, 1865 and 1866—is situated on a sand ridge, about 20 feet in height, near the S.W. corner of the small village of the same name, about a mile S.E. of Ratanpur Raiya on the road from Mandáwar to Nágál, and 3½ miles W. of Kíratpur town on the main road from Najíbabad to Bijnor. The station is in the lands of the village of Mahesari, tahsíl Bijnor, pargana Mandáwar, district Bijnor.

The station consists of a tower of unburnt bricks and mud cement, 14 feet square at top, enclosing a central isolated pillar of masonry 13.5 feet high and 3½ feet in diameter at top, which is solid to a height of 12 feet above ground level and perforated thereafter: it has a mark-stone at the level of the ground, and others at 7 and 12 feet respectively above this level. The station of 1843—which was 12 feet in height—was revisited in 1851 in the course of the operations of the North-East Longitudinal Series, when the masonry pillar was found in good order and the upper mark-stone undisturbed. When again visited in 1865-66 in connection with the Great Arc Meridional Series, Section 24° to 30°, the pillar and upper mark-stone were found in good preservation: on this occasion the height of the pillar was raised to 13½ feet, but no mark-stone was placed at its summit, a hollow cylindrical space, 4 inches in diameter, having been left for reference to the old mark-stone. The directions and distances of the circumjacent villages are:—Sháhbázipur W., miles 1½; Bahádurpur N.E., miles 1½; Mohsanpur S.S.W., mile ½; and Mandáwar S.W. by S., miles 1½.

LIV. (*Of the Great Arc Meridional Series, Section 24° to 30°*). Chándipahár Hill Station, lat. 29° 55', long. 78° 11'—observed at in 1843, 1850 and 1866—is situated on the highest part of the hill, about a mile from the left bank of the Ganges river, 2½ miles S.E. by S. of the town of Hardwár, a noted place of an annual fair and Hindu pilgrimage, and ¾ of a mile S.S.E. of the conspicuous temple on a peak called Chándipahár. The station is in the lands of the village of Chándi, thána and pargana Najíbabad, district Bijnor.

The station consists of a platform of earth and stones enclosing a solid, circular and isolated pillar of masonry 6 feet in height, which has a mark-stone at top and another at bottom. A considerable part of the station platform was reported in 1870 to have been carried away by landslip and the remainder much injured. The directions and distances of the adjacent villages and places are:—Shámpur (on the main road from Hardwár to Najíbabad) S., miles 4; Kángri S.S.W., miles 2½; Kankhal W., miles 2½; and the head of the Ganges Canal at Maiapur N.W. by W., miles 2½.

LVI. (*Of the Great Arc Meridional Series, Section 24° to 30°*). Ghandiál Hill Station, lat. 30° 13', long. 78° 25'—observed at in 1850—is built on a hill of that name which stands in the fork formed by the junction of the Bhágirathi and Hiaúl rivers, and is in the territory of the Tehri Rája. The principal road from Tehri to Hardwár passes about 3 miles from the station. The village of Adwáni is about 5 miles distant. When again visited in 1864 in connection with the Kumaun and Garhwál Survey, no trace of the mark-stone was found.

The station consists of a platform of stones and earth 14 feet square, enclosing a solid and isolated pillar 2·6 feet high. It has a mark-stone at top and another at bottom.

I. Mábegarh Hill Station, lat. 29° 53', long. 78° 27'—observed at in 1842, 1850 and 1865—is situated on a hill locally so called, about 9½ miles N.W. by N. of the market at Kotdwára on the main road from Najíbabad, and 7 miles N.W. of dák bungalow on the same road, which is 5 miles N.N.E. of Kotdwára. A rude temple adjoins the station to the south. It is in the lands of the village of Nahli Bodoli, patti Ajmir, pargana Ganga Salán, district Garhwál.

The station was originally fixed in 1842 in the course of the operations of the Budhon Meridional Series, was visited in 1850 in connection with the work of this Series and again in 1865 to start the Kumaun and Garhwál Survey, on both these occasions the station was found in perfect preservation and no alteration in its construction was made. The station consists of a platform of earth and stones 14 feet square enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter and 6·9 feet in height, which contains a mark-stone at 1 foot above the ground level, and another at the summit. The directions and distances of the circumjacent villages are:—Shalni W. by S., miles 1½; Simalna S., miles 2; Nahli N.E. by N., miles 2½; Kholkandi E. by N., miles 2; and Muthana S.E. by S., miles 3.

II. Ránigarh Hill Station, lat. 30° 4', long. 78° 43'—observed at in 1850 and 1864—is situated on the highest of the hill of this name, about ¼ a mile W. of Adwáni spring on the high road from Kotdwára to Srinagar, 6¾ miles S.W. by S. of Pauri. The station is in the lands of the village of Gidrásu, patti Patwalsiun, pargana Barasiun, district Garhwál.

The station consists of a platform of earth and stones 14 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter and 2½ feet in height, which has a mark-stone at top and another at ground level. When visited in 1864 in connection with the Kumaun and Garhwál Survey, the station was found in perfect preservation and no alteration in its construction made. The directions and distances of the circumjacent villages are:—Gidrásu E.S.E., miles 1½; Dunga S.S.E., miles 1¾; Sutar S.S.W., miles 1¾; Kathur W.S.W., miles 2; and Khon N.W. by W., miles 2¾.

III. Giriwála Hill Station, lat. 29° 33', long. 78° 42'—observed at in 1842 and 1850—is situated on a high peak of a low range of hills dividing Patli Dún from the Doáb, about 2¾ miles W. by N. of the confluence of the Nimbuwála stream with the Rámanga river, and the same distance S. by W. of the camping ground of Khairia on the high road to Lukrihát on the Rámanga river. The formation of the hill is a friable sandstone, and its northern face is very abrupt and quite inaccessible. The station is close to the village of Kálusaiyyed, patti Bhábar, pargana Tallasalán, district Garhwál.

The station as built in 1842 consisted of a platform of earth and stones 1 foot in height having a mark-stone in its upper surface and another at the ground level. When visited in 1850 in the course of the operations of this Series, the old platform was entirely removed and over the original mark at the ground level, a solid, circular and isolated pillar of masonry 3½ feet in diameter and 2 feet in height was built with a mark-stone in its upper surface, and surrounded by a platform of earth and stones 14 feet square. The directions and distances of the circumjacent villages are:—Kálusaiyyed W.N.W., miles 2½; Kálagarh S.E., miles 5; and Gotkolari S.W., miles 2½.

IV. Ghungti or Ghuntigarh Hill Station, lat. 29° 46', long. 78° 55'—observed at in 1850—is situated on a hill so called, about 3½ miles S.S.E. of Choráni village on the main road from Dháru to Srinagar, and 8 miles S.W. by W. of the large village of Ghunsiáli on the road from Kainur to Rámnagar. The station is in the lands of the village of Samroli, patti Iriakot, pargana Mallasalán, district Garhwál.

The station consists of a platform of earth and stones 14 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter and 3 feet in height, which has a mark-stone in its upper surface and another at the ground level. The directions and distances of the circumjacent villages are:—Kimgaon N.W., miles 1½; Sumuli N., miles 1½; Rewa N.E., mile ¾; and Unait (on the road from Dháru to Srinagar) W.S.W., miles 3.

V. Dhela Hill Station, lat. 29° 27', long. 78° 59'—observed at in 1851—is situated on a low range of hills near the south-eastern extremity of the Patli Dún, about 1½ miles N.N.W. of the straggling village of Dhela close S. of the main road from Kotdwára to Rámnagar, and 4¾ miles N.W. by W. of the large village of Sáwaldi also on the main road to Rámnagar. The station is in the lands of the village of Dhela, thána Rámnagar, pargana Kota, district Kumaun.

The station consists of a platform of earth and stones 14 feet square, enclosing a solid, circular and isolated pillar of masonry  $3\frac{1}{2}$  feet in diameter and 1·7 feet in height, which has a mark-stone at top and another at bottom.

VI. Saonchália Hill Station, lat.  $29^{\circ} 30'$ , long.  $79^{\circ} 19'$ —observed at in 1841 and 1851—is situated on a lofty peak about  $3\frac{3}{4}$  miles S.S.E. of Seti village which is at the junction of the main roads from Ránikhet and Almora to Rámnagar. It is in the lands of the village of Bagni, thána Káladhúngi, pargana Kota, district Kumaun.

The station consists of a solid platform, 4 feet in height, having a mark-stone in its upper surface, and a mark engraved on the rock *in situ*. The station as described above was originally built in 1841 in connection with the Rangír Meridional Series, when visited in 1851, it is presumed from the absence of any remarks in the field records that the station was found uninjured and no alteration made in its construction. The directions and distances of the circumjacent villages are:—Halsán N.E. by N., miles 3; Bismoli N.W., miles  $4\frac{1}{2}$ ; Amail N., miles  $3\frac{1}{2}$ ; and Bagui S. by E., miles  $2\frac{1}{2}$ .

VII. Bagwára Tower Station, lat.  $28^{\circ} 59'$ , long.  $79^{\circ} 19'$ —observed at in 1841 and 1851—is situated on an elevated mound about 500 yards north of the village of the same name, about  $1\frac{1}{4}$  of a mile S.W. of a dák station on the metalled road from Gadarpur to Rudarpur and 6 miles W.N.W. of the latter town. It is in the lands of the village of Bagwára, tahsil and pargana Rudarpur, district Taráí.

The station as originally built in 1841 for the Rangír Meridional Series consisted of a perforated column of masonry 37·75 feet in height having a mark-stone in the basement and surrounded by a temporary scaffolding for the accommodation of the observatory tent. When visited in 1851 in connection with the operations of this series, the masonry column was found so greatly deflected that the mark in the basement could not be plumbed from its summit, to effect this, 30 feet of the pillar had to be pulled down and it was rebuilt to a height of 38·42 feet, and enclosed in a solid tower of sun-dried bricks set in mud cement to within 4 feet of its summit, with an arched passage through it at ground level giving access to the lowest mark-stone. The station was inspected in 1866 when the tower was found partly washed down and some bricks extracted from the central pillar which was then protected by a conical pile, and the arched passage closed up. The directions and distances of the circumjacent villages are:—Kulcráh E. by S., miles  $2\frac{1}{2}$ ; Dánpur E. by N., miles 2; Saiduliganj N.W., miles  $1\frac{1}{2}$ ; Khánpur N. by W., miles 2; and Ratanpura W. by N., miles  $2\frac{1}{2}$ .

VIII. Birond Hill Station, lat.  $29^{\circ} 15'$ , long.  $79^{\circ} 43'$ —observed at in 1841 and 1851—is situated on the highest part of a hill about  $3\frac{1}{2}$  miles E. of the junction of the Karai-ki-gadh stream with the Gola river. The station is in the lands of the village of Barhon, thána Haldwáni, pargana Dhianirau, district Kumaun.

The station consists of a platform enclosing a solid, circular and isolated pillar of masonry,  $3\frac{1}{2}$  feet in diameter, having a mark-stone in its upper surface and a mark engraved on the rock *in situ*. The station as described above was originally built in 1841 in connection with the Rangír Meridional Series, when visited in 1851 in connection with the operations of this series, it is presumed from the absence of any remarks in the field records that the station was found uninjured and no alteration made in its construction. The directions and distances of the circumjacent villages are:—Barhon N., miles 2; Timar N.N.E., miles  $1\frac{1}{2}$ ; Chamli N.E. by N., miles 2; Patrání S.W. by S., miles  $2\frac{1}{2}$ ; and Babiár N.W. by N., miles 3.

IX. Baheri Tower Station, lat.  $28^{\circ} 52'$ , long.  $79^{\circ} 36'$ —observed at in 1839 and 1851—stands on an eminence close to the west side of the village after which it is named, about  $1\frac{3}{4}$  miles S.E. by S. of the large village of Sidaura which is  $\frac{1}{2}$  a mile N. of the main road from Kicha to Sitárganj, and 8 miles N.E. of Sháhgarh on the high road from Bareilly to Naini Tal. The station is in the lands of the village of Baheri, thána and pargana Rudarpur, district Taráí.

The station consists of a perforated pillar of masonry, 37·8 feet in height, the upper portion being circular and isolated, enclosed in a tower of sun-dried bricks; an arched passage gives access to the ground level mark. When visited in 1866, the tower was found washed down, the central pillar cracked horizontally at  $7\frac{1}{2}$  feet from the top and the upper portion shifted 7 inches to the S.E.; the arched passage was then closed up and the masonry pillar surrounded by a pile of masonry of sun-dried bricks to a height of 30 feet. The station as originally built in 1839 in connection with the Rangír Meridional Series, consisted of a perforated column of masonry 38 feet in height above the mark in the upper surface of the solid basement. It was next visited in 1843 in connection with the operations of the Pilibhít Series and found intact. When visited in 1851 for the observations of this series, the pillar was found too much deflected to permit of plumbing over the original mark, yet not so much but that it admitted of another mark being plumbed and cut on the old mark-stone, distant  $3\frac{1}{2}$  inches with an azimuth of  $120^{\circ} 30'$  from the old mark. The pillar was enclosed in a solid tower of sun-dried bricks to within 5 feet of the summit at which height a temporary scaffolding was constructed for the observatory tent. At the close of the observations at Bagwára Station a further deflection of the pillar took place owing to the sinking of the surrounding tower, which necessitated the taking down and rebuilding of the upper 14 feet of the pillar. The directions and distances of the circumjacent villages are:—Nadili S.S.E., miles  $1\frac{1}{2}$ ; Chitaunan E.S.E., miles 2; Ajitpur W., mile 1; and Madhopur N.W., miles 2.

X. Sísgarh Tower Station, lat.  $28^{\circ} 44'$ , long.  $79^{\circ} 19'$ —observed at in 1839 and 1851—is situated in the centre of the fort at the southern end of the large village of Sísgarh on the main road from Bareilly to Rudarpur. It is in the lands of the village of Sísgarh, tahsil Baheri, pargana Sírsáwah, district Bareilly.

The station as originally built in 1839 for the Rangir Meridional Series, consisted of a column of masonry standing 38.3 feet above the mark-stone in the upper surface of the solid basement, 9 feet square 2 feet high, and circular and perforated thereafter—the diameter at top of shaft being 3 feet—surmounted by a capital of  $\frac{1}{2}$  feet diameter. When visited in 1851 in connection with the operations of this series, the column was found to be so deflected as to necessitate the dismantling of a considerable portion of it; it was then rebuilt to its present height, *viz.*, 38.0 feet, and enclosed in a solid tower of sun-dried bricks 14 feet in diameter at top—the upper 5 feet of the pillar is isolated, and another mark 1.81 inches N.W. of the former one was cut on the original mark-stone. The directions and distances of the circumjacent villages are:—Chandpura N.W., miles  $1\frac{1}{4}$ ; Bilsapur S.E. by E., mile  $\frac{3}{4}$ ; Girdharpur S., mile  $\frac{3}{4}$ ; and Bilsa S.S.W., miles  $1\frac{1}{4}$ .

XI. Ataria Tower Station, lat.  $28^{\circ} 38'$ , long.  $79^{\circ} 35'$ —observed at in 1839, 1843 and 1851—stands on a mound about  $\frac{1}{4}$  of a mile east of the Bahgul river, and  $2\frac{3}{4}$  miles S.W. by S. of Bálpur on the main road from Richha to Pilibhit and  $5\frac{3}{4}$  miles S.E. of the former town. The station is in the lands of the village of Ataria, pargana Richha, district Bareilly.

The station consists of a circular tower of sun-dried bricks and mud cement 14 feet in diameter at top, enclosing a perforated pillar of masonry 37.8 feet in height above the mark-stone in the basement which is 2 feet above the level of the ground; the upper portion of the pillar is circular and isolated. The station of 1839 consisted of a perforated column of masonry 37.3 feet above the mark-stone in the upper surface of the solid basement, 9 feet square, 2 feet high, and circular thereafter—the diameter at top being 3 feet—surmounted by a capital of  $\frac{1}{2}$  feet in diameter; the column was found greatly deflected when the observations of the Rangir Meridional Series came to be made, so that the mark-stone in the basement could not be plumbed from the summit of the pillar. The point of observation was indicated by the intersection of the diagonals of a quadrilateral, each angular point of which was denoted by a dot engraved on an iron bolt embedded in a masonry pillar built in the adjacent fields. When visited in 1843 in the course of the operations of this series, the pillar was found still further deflected, and no trace of the four outer pillars was forthcoming, the theodolite was accordingly plumbed over a mark engraved on a new mark-stone let into the basement. On again visiting the station in 1851 in the course of the operations of this series further eastward, it was found necessary to dismantle a considerable portion of the pillar which was then rebuilt to its present height, and enclosed in a tower of sun-dried bricks, at the same time a second mark 3.5 inches W.N.W. of the mark of 1843 was engraved on the mark-stone of that year. The directions and distances of the circumjacent villages are:—Ataria E., mile  $\frac{1}{2}$ ; Sayyidpur E., mile 1; Mádhapur S. by E., mile  $\frac{3}{4}$ ; Báraur S. by W., miles  $1\frac{1}{2}$ ; and Pachwa W., mile 1.

XII. Donao Tower Station, lat.  $28^{\circ} 45'$ , long.  $79^{\circ} 46'$ —observed at in 1843, 1850 and 1851—stands on a low mound said to be the site on which the village of Donao stood, about 2 miles S.E. by E. of the large village Amarea on the main road from Jahánabad to Sitárganj, and 8 miles N.N.W. of the town of Pilibhit. The station is in the lands of the village of Bara Danwa, pargana Jahánabad, district Pilibhit.

The station consists of a solid, circular tower of sun-dried bricks 18 feet in diameter at top, enclosing a solid pillar of masonry 24 feet in height of which the upper portion is isolated; there are five mark-stones, one in the upper surface of the pillar and four others at 5, 10, 16 and 22 feet respectively below it, the lowest being 2 feet above the surface of the mound. The station was originally built in 1843 in connection with the operations of the Pilibhit and Tarai Series. It was revisited in 1850 in connection with the operations of this series, when the tower was found fallen down and had to be entirely rebuilt, the pillar was in good order but the upper mark-stone had been taken out: the upper 5 feet of the pillar was removed at which depth a mark-stone was found, the pillar was then rebuilt to its original height and a new mark-stone placed in its upper surface and in the normal of the one referred to. When again visited in 1851, the pillar and its upper mark-stone were found in good preservation, but the enclosing tower damaged in part which was rebuilt. The directions and distances of the circumjacent villages are:—Bara Danwa S.E., mile 1; Majalia S.S.E., mile 1; Pinjra S. by W., miles  $1\frac{1}{4}$ ; Kaichu W.S.W., mile  $1\frac{1}{4}$ ; and Jagat N.E., miles  $1\frac{1}{4}$ .

XIII. Kaliánpur Tower Station, lat.  $28^{\circ} 35'$ , long.  $79^{\circ} 45'$ —observed at in 1843, 1850 and 1851—stands on a mound about 15 feet in height, the eastern declivity of which is occupied by the small village after which the station has been named, about  $\frac{1}{2}$  a mile W. of a canal,  $3\frac{1}{2}$  miles S. E. by S. of the town of Jahánabad on the main road from Richha to Pilibhit, and  $4\frac{1}{4}$  miles S.W. of the latter town. The station is in the lands of the village of Kaliánpur, tahsil Pilibhit, district Pilibhit.

The station consists of a circular tower of sun-dried bricks and mud cement enclosing a solid pillar of masonry 20 feet in height of which the upper portion is circular and isolated; there are four mark-stones, one in the upper surface of the pillar and three others at 6, 12 and 18 feet below it respectively, the lowest being 2 feet above the surface of the mound. The station was originally built in 1843 in connection with the operations of the Pilibhit-Tarai Series. It was next visited in 1850 and 1851 in connection with the operations of this series when the central pillar and the mark-stone in its upper surface were found in good condition but the surrounding tower had to be almost entirely rebuilt to its original height. The directions and distances of the circumjacent villages are:—Bhagwantpur S. by W., mile 1; Sainjana E.N.E., miles  $1\frac{1}{4}$ ; Sheopura N.N.E., mile  $\frac{3}{4}$ ; Jatipur N.W., miles  $1\frac{1}{4}$ ; and Khamaria W., miles  $1\frac{1}{4}$ .

XIV. Kaimkhera Tower Station, lat.  $29^{\circ} 37'$ , long.  $79^{\circ} 53'$ —observed at in 1843 and 1850—stands on a flat piece of cultivated land, about  $\frac{1}{4}$  of a mile N. of Nawagaon or Kaliánpur village on the main road from Pilibhit to Madho Tanda, and  $4\frac{3}{4}$  miles E. of the former town. The station is in the lands of the village of Kaliánpur, pargana Pilibhit, district Pilibhit.

The station consists of a solid tower of sun-dried brick enclosing a solid pillar of masonry 24 feet in height of which the upper portion is isolated; there are five mark-stones, one in the upper surface of the pillar and four others at 4, 10, 16 and 22 feet respectively below it, the lowest being 2 feet above the ground level. The station was originally built in 1843 in connection with the operations of the Pilibhit Series. When visited in 1850 in connection with the operations of this series, the pillar and its upper mark-stone were found in good preservation, but the enclosing tower had almost entirely fallen down and had to be reconstructed. The station was reported to have fallen down in 1867. The directions and distances of the circumjacent villages are:—Khaikhhera N., mile  $\frac{3}{4}$ ; Debipura W. by S., miles  $1\frac{1}{4}$ ; Bhálfá Gaukhera S.W., miles  $1\frac{1}{2}$ ; and Sirsa Sardha, S.E., miles  $1\frac{3}{4}$ .

XV. Umra Tower Station, lat.  $28^{\circ} 29'$ , long.  $79^{\circ} 53'$ —observed at in 1843 and 1850—stands on a mound rising about 10 feet above the general level of the surrounding country, about  $\frac{1}{4}$  of a mile N. E. of the village of Umra,  $3\frac{1}{4}$  miles N. W. by W. of the large village of Rámnagar and  $4\frac{3}{4}$  miles N. E. by E. of Barkhera Kalán on the main road from Bísálpur to Pilibhit. The station is in the lands of the village of Umra Khán Singh, pargana Bísálpur, district Pilibhit.

The station consists of a solid tower of burnt bricks set in mud cement enclosing a solid pillar of masonry 20 feet in height of which the upper portion is isolated; there are four mark-stones, one in the upper surface of the pillar and three others 6, 12 and 18 feet respectively below it, the lowest being 2 feet above the ground level. The station as described above was originally built in 1843 in connection with the operations of the Pilibhit Series. When visited in 1850 in connection with the operations of this series, the tower was found in tolerably good condition and the pillar entire, but the upper mark-stone destroyed, the upper 6 feet of the pillar was removed in order to refer to the mark-stone at that level, it was then reconstructed to its original height and a new mark-stone inserted in its upper surface and in the normal of the mark referred to. The directions and distances of the circumjacent villages are:—Madhpur S.S.W., mile  $\frac{3}{4}$ ; Sháhpur N.E. by N., mile  $\frac{3}{4}$ ; Amdár S.S.E., mile  $\frac{3}{4}$ ; and Musapur E.S.E., miles  $1\frac{1}{2}$ .

XVI. Sháhgarh Tower Station, lat.  $28^{\circ} 33'$ , long.  $80^{\circ} 1'$ —observed at in 1843 and 1850—stands on the centre of the mound said to be the site of the ancient fort of Sháhgarh, about  $\frac{1}{4}$  of a mile W. of the village of the same name, and  $1\frac{3}{4}$  miles N. of Bhuntpur village which is  $\frac{1}{4}$  of a mile N. of the southern main road from Púranpur to Pilibhit and 8 miles W. N. W. of the former town. The station is in the lands of the village of Sháhgarh, pargana Púranpur, district Pilibhit.

The station consists of a solid tower of burnt bricks set in mud cement enclosing a solid pillar of masonry 20 feet in height of which the upper portion is isolated; there are four mark-stones, one in the upper surface of the pillar and three others at 6, 12 and 18 feet respectively below it, the lowest being 2 feet above the surface of the mound. The station was originally built in 1843 in connection with the operations of the Pilibhit Series. When visited in 1850 in connection with this series, five-sixths of the tower had fallen down and had to be rebuilt, the pillar was found in good order, but its upper mark-stone taken out; the upper 6 feet of the pillar was removed in order to refer to the mark-stone left at that level, it was reconstructed to its original height and a new mark-stone inserted in its upper surface in the normal of the one referred to. The directions and distances of the circumjacent villages are:—Mánpur S., mile 1; Abbeppur N.N.E., mile 1; Khatpura S.E., miles  $1\frac{1}{4}$ ; Rámpur Ráipur or Mittarsámpur N., mile  $\frac{1}{2}$ .

XVII. Semrao Tower Station, lat.  $28^{\circ} 23'$ , long.  $80^{\circ} 2'$ —observed at in 1843 and 1850—stands on a small low mound adjoining a tank about 3 miles W. N. W. of the large village of Kásganja, and  $1\frac{1}{2}$  miles S. W. by S. of Simraia village close E. of the main road from Bísálpur to Púranpur. The station is in the lands of the village of Simraia, pargana Púranpur, district Pilibhit.

The station consists of a solid tower chiefly of sun-dried bricks with the exception of 4 feet at the base and 3 feet at the summit, which are of burnt bricks set in mud cement, enclosing a solid pillar of masonry 27 feet in height, the upper portion of which is isolated; there are five mark-stones, one in the upper surface of the pillar and four others at 1, 6, 14 and 22 feet respectively below it. The station as described above was originally built in 1843 in connection with the operations of the Pilibhit Series, when visited in 1850 in connection with the operations of this series three-fourths of the tower had been washed away which had to be rebuilt, the central pillar was in good condition, but its upper mark-stone removed, the upper 6 feet of the pillar had therefore to be pulled down in order to refer to the mark at that level, it was then reconstructed to its original height, and a new mark-stone inserted in its upper surface and in the normal of the one found. The directions and distances of the circumjacent villages are:—Nawáda S.E., miles 2; Máhulia E.S.E., miles  $1\frac{1}{4}$ ; Fatehpur N.E., miles  $1\frac{1}{2}$ ; and Diláwarpur N.E., miles  $2\frac{3}{4}$ .

XVIII. Udepur Tower Station, lat.  $28^{\circ} 29'$ , long.  $80^{\circ} 11'$ —observed at in 1843 and 1850—is situated about  $\frac{1}{4}$  of a mile east of the main road from Púranpur to Muzaffarnagar, 4 miles S. E. of the former and  $1\frac{1}{4}$  miles N. W. by N. of the latter, and  $3\frac{1}{2}$  miles S. W. by W. of the large village of Jatpura. The station is in the lands of the village of Udepur, tahsil and pargana Púranpur, district Pilibhit.

The station consists of a solid tower chiefly of sun-dried bricks set in mud cement enclosing a solid pillar of masonry 22 feet in height of which the upper 3 feet is isolated; there are five mark-stones, one in the upper surface of the pillar and four others at 1, 3, 11 and 18 feet respectively below it, the lowest being 4 feet above the ground level. The station as described above was originally built in 1843 in connection with the operations of the Pilibhit Series. When visited in 1850 it

connection with the operations of this series, four-fifths of the tower had tumbled down and had to be repaired, but the central pillar and its upper mark-stone were found in good preservation. The directions and distances of the circumjacent villages are:—Lálpur Imrat N.E., mile  $\frac{1}{2}$ ; Udepur Khurd E. by N., mile  $\frac{1}{2}$ ; Pepuria Dutha W., miles  $1\frac{1}{2}$ ; and Simaria N.N.W., miles  $1\frac{1}{2}$ .

**XIX. Piparia Tower Station**, lat.  $28^{\circ} 20'$ , long.  $80^{\circ} 11'$ —observed at in 1843 and 1850—is situated on an extensive grassy plain between the Gumti and Juknia rivers, about 4 miles E. of the large village of Gularia, and 3 miles W. by N. of Tilakpur on the road from Púranpur to Khutár. It is in the lands of the village of Rámpur, tahsil Pawáyan, pargana Khutár, district Sháhjahánpur.

The station consists of a solid tower of sun-dried bricks set in mud cement, enclosing a solid pillar of masonry 25 feet in height of which the upper portion is isolated; there are five mark-stones, one in the upper surface of the pillar, and four others at 1, 5, 13 and 21 feet respectively below it, the lowest being 4 feet above the ground level. The station described above was originally built in 1843 in connection with the operations of Pilibhít Series. When visited in 1850 in connection with the operations of this series, the tower was found completely destroyed, and had to be rebuilt, but the central pillar and its upper mark-stone were uninjured. A new tower of turf was constructed round the pillars. The approximate directions and distances of the circumjacent villages are:—Dundwa S.E., mile  $\frac{3}{4}$ ; Jamunia S. by W., miles  $1\frac{1}{4}$ ; Guria N. by E., mile 1; and Tajpur Duobri E., miles  $1\frac{1}{4}$ .

**XX. Sultánpur Tower Station**, lat.  $28^{\circ} 25'$ , long.  $80^{\circ} 19'$ —observed at in 1842, 1844 and 1850—is situated about  $\frac{3}{4}$  of a mile N. N. E. of the village of Sultánpur,  $5\frac{1}{2}$  miles N. by W. of the well known place called Seramau, and 8 miles E. S. E. of the large village of Jatpura. It is in the lands of the village of Sultánpur, tahsil Pawáyan, pargana Khutár, district Sháhjahánpur.

The station consists of a tower of sun-dried bricks enclosing a solid masonry pillar 28 feet high and isolated in its upper portion having 5 mark-stones one at the upper surface, the others at 1, 7, 15 and 23 feet respectively below it, the last being 5 feet above ground level. The station was built in 1842 in connection with the operations of the Pilibhít Series, and when visited in 1850 for the observations of this Series, the tower as well as the upper portion of the pillar was found completely destroyed. A mark-stone was found at a height of 13 feet from the ground and from this point the pillar was raised to its original height and the outer tower reconstructed. It was reported to have been much injured by the heavy rains of 1850. The approximate directions and distances of the circumjacent villages are:—Gópálpur W. by N., miles  $2\frac{1}{4}$ ; Chatipur N.W. miles  $1\frac{1}{2}$ ; and Tanda S.W., mile 1.

**XXI. Karái Tower Station**, lat.  $28^{\circ} 16'$ , long.  $80^{\circ} 19'$ —observed at in 1843, 1844 and 1850—is situated on low ground in the midst of a dense forest, and close west of the Katna stream, about 5 miles N. N. E. of the town of Khutár, and  $2\frac{3}{8}$  miles S. W. of Mailani on the metalled road from Pilibhít to Lakhimpur. It is in the lands of the village of Hirpur, tahsil Pawáyan, pargana Khutár, district Sháhjahánpur.

The station consists of a circular tower of sun-dried bricks enclosing a solid masonry pillar 26 feet high of which the upper portion is isolated. It has 5 mark-stones, one at the upper surface of the pillar and the others at 1, 7, 14 and 21 feet respectively below it, the last being 5 feet above ground level. The station was originally built in 1843 in connection with the operations of the Pilibhít Series, and at that time the height being found insufficient a temporary square structure of sun-dried bricks was raised above the circular tower, and a mark-stone plumbed in its upper surface at a height of 70 inches above the pillar. When revisited in 1850 in connection with the operations of the N.E. Longitudinal Series the pillar and its upper mark were found undisturbed but the tower required extensive repairs. Subsequently the station was reported to have sustained much injury by the heavy rains of 1879. The approximate directions and distances of the circumjacent villages are:—Cháudpur N., miles  $3\frac{1}{2}$ ; Damodarpur N.E., miles  $2\frac{1}{2}$ ; and Nadhautah Debi Dás S.W., miles  $1\frac{1}{2}$ .

**XXII. Rámuápúr Tower Station**, lat.  $28^{\circ} 22'$ , long.  $80^{\circ} 29'$ —observed at in 1850—is situated on the S. of a stream, about  $\frac{3}{4}$  of a mile W. by N. of Rámuápúr village,  $2\frac{1}{2}$  miles S. W. of Bandi, and  $2\frac{3}{8}$  miles N. N. W. of Bhira. The station is in the lands of the village of Piparia, tahsil Lakhimpur, pargana Bhairahánpur, district Kheri.

The station consists of a temporary tower composed of earth supported by strong posts and branches of trees enclosing a solid masonry pillar 28 feet high, 6 feet square at base and circular at top with a diameter of  $3\frac{1}{2}$  feet and having 2 mark-stones, one at the top and the other at the bottom of the pillar. The original station of this name that was selected in connection with the Amúá Meridional Series was entirely washed away by the rising of the Chauka river,—its site was the present station which was built in connection with the work of the N.E. Longitudinal Series. When visited by Mr. Heaviside in 1885 in the course of latitude operations no upper mark-stone was found. The latitude station is 380 feet above the level of the sea. The directions and distances of the circumjacent villages are:—Piparia S.E. by S., mile 1; Maghahánpur S.E. by S., mile  $\frac{1}{2}$ ; and Jankapur S.S.E., miles  $1\frac{1}{4}$ .

**XXIII. Kokra Tower Station**, lat.  $28^{\circ} 12'$ , long.  $80^{\circ} 28'$ —observed at in 1833, 1838, 1843 and 1850—is situated on a flat ground on the western verge of an extensive jungle, about a mile N. E. by E. of the large village of Kokra near the intersection of the main roads from Gola Gorakhnáth to Bhira and from Aliganj Khas to Pilibhít. The station is in the lands of the village of Kokra, tahsil Muhamdi, pargana Haidarábád, district Kheri.



The station consists of a tower of sun-dried bricks 26 feet high enclosing a solid masonry pillar, circular and isolated in the upper part, having mark-stones at top and bottom and 3 others at intervals of 2, 6 and 12 feet respectively above the lowest which is 2 feet below ground level. The station as constructed in 1833 for the Amúá Meridional Series was a tower of sun-dried bricks and mud cement 25 feet high with 2 mark-stones, one 2 feet below the level of the ground, the other at the surface of the tower. In 1843 when visited in connection with the operations of the Pilibhít Taráí Series the upper mark-stone was missing and the tower was in a dilapidated condition. The entire structure was then dismantled and a new tower, 26 feet high constructed, enclosing a central isolated pillar of solid masonry, containing mark-stones at intervals of 2, 6, 12, 18, 24 and 28 feet respectively above the lowest and original mark of 1833 which was 2 feet below ground level. On being revisited in 1850 in connection with the N.E. Longitudinal Series the upper portion of the pillar and tower were found destroyed. The pile was dismantled to within 10 feet of the ground when a mark-stone having been found the pillar and tower were rebuilt from this point (in the normal of the lower mark) and a fresh mark-stone fixed at the surface of the pillar. This is the present structure as described above. In 1871 the pillar was reported to have partly fallen down. The directions and distances of the circumjacent villages are:—Kamaria S., miles  $1\frac{1}{4}$ ; Babuapur N.N.E., miles  $2\frac{1}{2}$ ; and Pahárapur S.S.E., miles  $1\frac{1}{2}$ .

**XXIV. Rámánagar Tower Station**, lat.  $28^{\circ} 17'$ , long.  $80^{\circ} 39'$ —observed at in 1838, 1844 and 1850—is situated immediately to the west of the large village of this name, about  $5\frac{3}{4}$  miles N. W. by W. of the Sirsi ferry across the Chauka river and on the main road from Lakhímpur. The station is in the lands of the village of Rámánagar, tahsil Lakhímpur, pargana Bhur, district Kheri.

The station consists of a circular tower of sun-dried bricks about 18 feet in diameter at top and enclosing in its upper portion an isolated pillar of solid masonry 3 feet 2 inches in diameter and 4 feet 2 inches high. There are 3 mark-stones, one at top and bottom of the pillar and a third at ground level. When originally built for the Amúá Meridional Series the station consisted of a circular tower of sun-dried bricks 18 feet in diameter and 23·8 feet high, but when visited in 1844 by Captain DuVernet it was found necessary owing to a village intercepting the view to a forward station, to erect the pillar 4·2 feet high as above described above the original platform, thus giving the entire structure its present height of 27·9 feet. When revisited in 1850 the pillar and platform were both found in good preservation. The directions and distances of the circumjacent villages are:—Bijua W. by S., miles  $2\frac{3}{4}$ ; Gauri E. by S., miles  $1\frac{1}{4}$ ; Khánpur N.W. by N., miles  $2\frac{1}{2}$ ; and Ramshurapur S.W., miles  $1\frac{1}{2}$ .

**XXV. Dahlelnagar Tower Station**, lat.  $28^{\circ} 4'$ , long.  $80^{\circ} 39'$ —observed at in 1838, 1844 and 1850—is situated on the summit of the mound on which the village of Dahlelnagar stands, about 4 miles S. E. of the large village of Aliganj on the metalled road from Lakhímpur to Pilibhít. The station is in the lands of the village of Dahlelnagar, tahsil Lakhímpur, pargana Aliganj, district Kheri.

The station consists of a tower of sun-dried bricks 28 feet high enclosing a solid pillar of masonry isolated in the upper portion and having 2 mark-stones one at top and the other at bottom. The station was originally built in connection with the Amúá Meridional Series and when revisited in 1844 and again in 1850 in the course of the N.E. Longitudinal Series the pillar and mark-stone were found intact but the tower needed repairs. The pillar was reported in 1871 to have partly fallen, down. The directions and distances of the circumjacent villages are:—Bhurkunda S.W., miles  $1\frac{1}{4}$ ; Khánpur N.E. by E. mile  $\frac{3}{4}$ ; Kanchanpur N., mile  $\frac{3}{4}$ ; and Phuta Kuan S.S.E., mile  $\frac{3}{4}$ .

**XXVI. Hilgi Tower Station**, lat.  $28^{\circ} 8'$ , long.  $80^{\circ} 48'$ —observed at in 1844 and 1850—is situated on the north bank of the Chauka river on a slightly elevated piece of ground, the site of the ancient village of Hilgi, and about  $4\frac{3}{4}$  miles N. of Phulbihar near the northern extremity of a metalled road leading north from Lakhímpur. The station is in the lands of the village of Hilgi, tahsil Lakhímpur, pargana Bhur, district Kheri.

The station consisted of a solid masonry pillar 38 feet high with mark-stones at top and bottom and some intervening ones at intervals of 6 feet apart. When first observed at in 1844 no tower was constructed—a scaffolding being used instead. When visited in 1850 the pillar was found intact and a temporary turf tower was erected for the observatory tent. The station was entirely washed away by the Chauka river in 1869. The directions and distances of the circumjacent villages are:—Srinagar Khas S., miles  $2\frac{1}{4}$ ; Basaha S.W., mile 1; Mehdi W. by N., miles 2; and Gangapur N.E. by N., miles  $1\frac{3}{4}$ .

**XXVII. Saidhari Tower Station**, lat.  $27^{\circ} 58'$ , long.  $80^{\circ} 47'$ —observed at in 1844 and 1850—is situated on the site of an ancient town elevated about 40 feet above the level of the surrounding country, about  $1\frac{1}{4}$  miles N. of town of Lakhímpur. The station is in the lands of the village of Saidhari, tahsil Lakhímpur, pargana and district Kheri.

The station consists of a circular tower of sun-dried bricks 22·5 feet high, 16 feet diameter at top with a flight of steps and enclosing a solid masonry pillar  $3\frac{1}{4}$  feet square at top, isolated and containing besides the top and bottom mark-stones 5 others at regular intervals of 4 feet above the foundation. When revisited in 1850 the pillar and mark-stones were in good preservation but the tower needed repairs. The directions and distances of the circumjacent villages are:—Báludi N.E., mile  $\frac{3}{4}$ ; Fatehpur S.S.E., mile  $\frac{1}{2}$ ; Sangárpur N. by E., mile  $\frac{3}{4}$ ; and Madanián W., mile  $\frac{3}{4}$ .

**XXVIII. Kuthia Tower Station**, lat.  $28^{\circ} 3'$ , long.  $80^{\circ} 56'$ —observed at in 1844 and 1850—is situated on an elevated site in the village of this name, about 3 miles S. of the Minaha ferry on the Chauka river. The station is in the lands of the village of Kuthia, tahsil Lakhímpur, pargana Srinagar, district Kheri.

The station consists of a solid masonry pillar 22·5 feet high enclosed in a turf tower and has mark-stones at top and bottom with 3 others at 6, 12 and 18 feet respectively above the latter. When visited in 1850 the tower had been wholly destroyed and only 4 feet of the pillar was found entire. This was removed and a new pillar erected to the original height as given above and a turf tower built round it. The directions and distances of the circumjacent villages are:—Udára E., miles 2½; Bel S.W., mile ¾; Jamanía N.W. by N., miles 1¾; and Chanéli N. by W., mile 1.

**XXIX.** Asogapur Tower Station, lat. 27° 53', long. 80° 56'—observed at in 1844 and 1850—is situated on a mound rising about 12 feet above the level of the annual inundation of the Chauka river. It is close west of the village of Asogapur, and 2¾ miles N. E. by N. of Mohola on the main road to Lakhimpur town. The station is in the lands of the village of Asogapur, tahsil Lakhimpur, pargana and district Kheri.

The station consists of a turf tower 24 feet high enclosing a solid masonry pillar having mark-stones at top and bottom and 2 others at 6 and 15 feet respectively above the latter. When visited in 1850 the tower was found in ruins and the upper mark-stone removed, this was replaced and the turf tower built round the pillar. The directions and distances of the circumjacent villages are:—Nakha S.S.E., mile ½; Sahajni N., mile ½; Pandri S.W., miles 1½; and Jagand N.W. by N., miles 1½.

**XXX.** Dhaurahra Tower Station, lat. 28° 0', long. 81° 5'—observed at in 1844 and 1850—is situated within an old fortress in the centre of the village of Dhaurahra, the site of the station is about 16 feet above the level of the surrounding country, about 5½ miles S. S. E. of the large village of Kafara, and 6½ miles S.W. of Mattera on the right bank of the Gogra river. The station is in the lands of the village of Dhaurahra, tahsil Nighásan, pargana Dhaurahra, district Kheri.

The station consists of a tower of sun-dried bricks 22 feet high and 13 feet in diameter at top, enclosing a solid masonry pillar isolated, and having besides the mark-stones at top and bottom, 3 others at 6, 12 and 18 feet respectively above the latter. When visited in 1850 the tower and pillar were found in good preservation. The directions and distances of the circumjacent villages are:—Karawán W.S.W., miles 2½; Babri S.E., miles 2; Sháhpur W. by N., miles 2½; and Chatkálá N. by E., miles 3.

**XXXI.** Lákhun Tower Station, lat. 27° 49', long. 81° 7'—observed at in 1844 and 1850—is situated in the centre of the village of this name, on a site rising 13 feet above the level of the annual inundation of the Chauka river, about 6½ miles N. N. W. of the large village of Tambaur on the metalled road from Malapur to Láharpur. The station is in the lands of the village of Lákhun, tahsil Nighásan, pargana Dhaurahra, district Kheri.

The station consists of a tower of sun-dried bricks 24 feet high and 13 feet in diameter at top, enclosing a solid masonry pillar having mark-stones at top and bottom and 2 others at 2 and 8 feet respectively above the latter. When revisited in 1850 the pillar and mark-stone were found in good order but the tower needed repairs. The directions and distances of the circumjacent villages are:—Parsia N. by W., mile 1; Fatehpur S.W., mile ½; Chaurna N.E. by N., miles 1¾; and Kamharía Khurd N.E. by E., miles 1½.

**XXXII.** Chaluá Tower Station, lat. 27° 56', long. 81° 15'—observed at in 1844 and 1850—is situated about ½ a mile E. N. E. of the small village of this name, close to the right bank of the Gogra river, and 3 miles N. E. of the large village of Isanagar. The station is in the lands of the village of Chaluá, tahsil Nighásan, pargana Dhaurahra, district Kheri.

The station consists of a tower of earth supported by strong post at the corners and sides enclosing a solid masonry pillar 24 feet high and having mark-stones at top and bottom, with 2 intermediate ones 8 and 16 feet respectively above the latter. When revisited in 1850 the mark-stone at top had been dug out and removed. It was replaced and the present mud tower as above described was put up round the pillar. In 1871 the pillar was reported as partly fallen down. The directions and distances of the circumjacent villages are:—Khairatgarh S.S.E., mile ¼; Murálsing N. by W., mile ¾; Palhá W.S.W., miles 2; and Kabarhá W., miles 2½.

**XXXIII.** Bela Tower Station, lat. 27° 47', long. 81° 18'—observed at in 1844 and 1850—is situated on a slightly elevated piece of ground on an island in the Gogra river, about a mile N. N. W. of the small village of Bela, and 3½ miles W. N. W. of the large village of Dukia on the metalled road from Malapur to Shiupur. The station is in the lands of the village of Patak Purwa, tahsil Nánpara, taluka Malapur, district Bahraich.

The station consists of a tower of earth and strong posts enclosing a solid masonry pillar 24 feet high and 3½ feet square at top having mark-stones at top and bottom and 2 others at 2 and 8 feet respectively above the latter. When visited in 1850 the pillar and mark-stone were found uninjured and the present earthen tower was put up round the pillar to steady it. The station was reported in 1893 to have been cut away by the Gogra river. The directions and distances of the circumjacent villages are:—Mánjha S.W. by S., miles 2; Chandauli N.W. by W., miles 2½; Purvá Umrau Sing N.E., mile ¾; and Tapá E., miles 3½.

**XXXIV.** Khánpur Tower Station, lat.  $27^{\circ} 39'$ , long.  $81^{\circ} 9'$ —observed at in 1844, 1845 and 1850—is situated in the centre of an old fortress in the village so called, about a mile S. of Sikri, and 4 miles N.N.W. of the large village of Seota. The station is in the lands of the village of Khánpur, thána Tambaur, pargana Kundri, district Sitapur.

The station consists of an earthen tower 12 feet high with diameters at top and bottom of 13 and 17 feet respectively enclosing a central solid pillar of masonry having mark-stones at 6 and 12 feet respectively above the base. It was originally built in 1844. When visited in 1845 at the close of the Karára Meridional Series and again in 1850 in connection with the operations of the N.E. Longitudinal Series the mark-stone and pillar were found intact, but it was necessary to repair the earthen tower. The directions and distances of the circumjacent villages are:—Haraia Pind N. by W., mile  $\frac{1}{2}$ ; Píkampur S.W., mile  $\frac{1}{2}$ ; Mauraria Kalan S. by W., mile 1; and Jamoli S.E., miles 2.

**XXXV.** Masi Tower Station, lat.  $27^{\circ} 38'$ , long.  $81^{\circ} 23'$ —observed at in 1844, 1845 and 1849—is situated in the centre of the village so called, on a site about 8 feet above the level of the annual inundation, about  $\frac{1}{2}$  a mile E. of the metalled road from Sisia thána and bazar to Baispurwa, and 3 miles S. of the latter. The station is in the lands of the village of Masi, thána Sisia, pargana Fakhrpur, district Bahraich.

The station consists of a circular earthen tower 24 feet high, 40 feet in diameter at base and 18 feet at top, enclosing a solid pillar of masonry having mark-stones at 3, 8 and 24 feet respectively above the base. A staircase of burnt bricks and mud cement leads to the summit of the tower. When originally built in 1844 the tower was only 11 and 18 feet respectively in its upper and lower diameters and when visited in 1845 at the close of the Karára Meridional Series it was found in good preservation. When revisited in 1849 in the course of the operations of the N.E. Longitudinal Series the mark-stone at summit and the upper 4 or 5 feet of the pillar were found removed. The pillar was rebuilt to its original height, a new mark-stone embedded (in the normal of the centre of the pillar) and the surrounding tower extended to its present dimensions. The directions and distances of the circumjacent villages are:—Singia Nasáirpur N.W., miles  $1\frac{1}{2}$ ; Dildársing W. by S., miles  $1\frac{1}{2}$ ; Pandit Gauri S.E. by E., miles  $1\frac{1}{2}$ ; and Bilhaura S. by E., miles  $1\frac{1}{2}$ .

**XXXVI.** Atkonawa Tower Station, lat.  $27^{\circ} 46'$ , long.  $81^{\circ} 30'$ —observed at in 1850—is situated on the site of a deserted village on the western extremity of the high ground E. of the Dharsoti stream, about  $1\frac{1}{2}$  miles N. W. by W. of the large village of Asua, and  $2\frac{1}{2}$  miles W. by N. of Charsanda village which is close W. of the metalled road from Bahraich to Nanpara. The station is in the lands of the village of Muhamadpur, tahsil and pargana Nanpara, district Bahraich.

The station consists of a solid masonry pillar 30 feet high,  $6\frac{1}{2}$  feet square at base and 4 feet diameter at top, surrounded by an earthen mound 20 feet high, on the top of which a tower of sun-dried bricks 10 feet high and 14 feet square has been erected. The pillar has a mark-stone embedded in its upper surface. The directions and distances of the circumjacent villages are:—Muhammadpur S.E., mile  $\frac{3}{4}$ ; Masúdnagar S.W. by S., mile 1; Bighauli W.N.W., miles  $1\frac{1}{2}$ ; Sarian N.E., miles  $1\frac{1}{2}$ .

**XXXVII.** Anárkali Tower Station, lat.  $27^{\circ} 36'$ , long.  $81^{\circ} 37'$ —observed at in 1849—is situated on the site of a deserted village on the western side of a jhál or marsh called Anárkali, about a mile N.W. by N. of the large village of Singhaparási on the metalled road from Bahraich to Bhinga, and 2 miles N. by E. of the city of Bahraich. The station is in the lands of the village of Ratnapur, tahsil, pargana and district Bahraich.

The station consists of a tower of sun-dried bricks 30 feet high and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet diameter at top with a mark-stone in its upper surface. A staircase leads to the top of the tower. The directions and distances of the circumjacent villages are:—Banwári Gopálpur N.W., miles  $1\frac{1}{2}$ ; Rasiali Janial N.N.W., miles  $1\frac{1}{2}$ ; and Bakshipura S., miles  $1\frac{1}{2}$ .

**XXXVIII.** Dadaura Tower Station, lat.  $27^{\circ} 43'$ , long.  $81^{\circ} 43'$ —observed at in 1849—is situated on the N. W. corner of an old fortress about  $\frac{1}{3}$  of a mile S. of the village so called,  $3\frac{3}{4}$  miles S. W. by W. of the large village of Madhava, and 6 miles N.W. by W. of Fatuhapur on the metalled road from Bahraich to Bhinga. The station is in the lands of the village of Dadaura, tahsil and pargana Nanpara, district Bahraich.

The station consists of a kacha tower 14 feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base, 4 feet diameter at top and 30 feet high. It has a mark-stone on its upper surface. The directions and distances of the circumjacent villages are:—Ghauspur E. by N., mile 1; Gopára Sarai E., miles  $1\frac{1}{2}$ ; Ganespur N.E., mile 1; Utganian W. by N., miles  $1\frac{1}{2}$ ; and Galgalkulia S., mile  $\frac{3}{4}$ .

**XXXIX.** Tilakpur Tower Station, lat.  $27^{\circ} 33'$ , long.  $81^{\circ} 47'$ —observed at in 1849—is situated on the eastern bank of a tank, about  $\frac{1}{2}$  a mile W. of the village so called immediately N. of the metalled road from Bahraich to Ikauna, and  $2\frac{1}{2}$  miles W. by S. of the large village of Subkha. The station is in the lands of the village of Tilakpur, tahsil Bahraich, pargana Ikauna, district Bahraich.

The station consists of a tower of sun-dried bricks 28 feet high,  $18\frac{1}{2}$  feet square at base, and 14 feet square at top, enclosing a solid isolated masonry pillar having 2 mark-stones embedded therein, viz., one at top, the other 2 feet perpendicularly below it.

A staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. The directions and distances of the circumjacent villages are:—Kamaulia S.W., mile 1; Sitkanajotkesho W., miles  $1\frac{1}{4}$ ; Bhitaura N.E., miles  $1\frac{1}{4}$ ; and Gilaula E. by S., miles  $1\frac{1}{4}$ .

**XL.** Newáda Tower Station, lat.  $27^{\circ} 40'$ , long.  $81^{\circ} 54'$ —observed at in 1849—is situated about  $\frac{2}{3}$  of a mile W. of Parsrámpur village, 3 miles N. by W. of the large village of Naubasta, and  $3\frac{3}{4}$  miles S. E. by E. of Hasnapur on the metalled road from Bahraich to Bhinga and  $3\frac{1}{3}$  miles S. W. by S. of the latter town. The station is in the lands of the village of Newáda, tahsil Bahraich, pargana Bhinga, district Bahraich.

The station consists of a tower of sun-dried bricks 28 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base and 3.9 feet diameter at top with 2 mark-stones embedded therein, one at top and the other 2 feet below it. A staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. The station was washed away by the river Rápti in 1877. The directions and distances of the circumjacent villages are:—Chitápur S., mile  $\frac{2}{3}$ ; Kundri W.S.W., miles  $1\frac{1}{4}$ ; Patna N.W., miles  $1\frac{1}{4}$ ; and Gopi N.E. by E., miles  $1\frac{1}{4}$ .

**XLI.** Isrápur Tower Station, lat.  $27^{\circ} 29'$ , long.  $81^{\circ} 57'$ —observed at in 1849—is situated on the site of a deserted village, about  $\frac{2}{3}$  of a mile E. of the large village of Balapur, and  $3\frac{3}{4}$  miles S. S. W. of Ikauna on the metalled road from Bahraich to Balrámpur. The station is in the lands of the village of Isrápur, tahsil Bahraich, pargana Ikauna, district Bahraich.

The station consists of a tower of sun-dried bricks 27 feet high, 20 feet square at base and 14 feet square at top, enclosing an isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet diameter at top with 2 mark-stones embedded therein, one in its upper surface and the other 2 feet perpendicularly below it. The directions and distances of the circumjacent villages are:—Lalitnagar N.N.E., mile  $\frac{2}{3}$ ; Pandit W.N.W., miles  $1\frac{1}{4}$ ; Tirra W.S.W., miles  $1\frac{1}{4}$ ; and Bálanager Kundri S.W. by S., miles  $1\frac{1}{4}$ .

**XLII.** Manichauk Tower Station, lat.  $27^{\circ} 37'$ , long.  $82^{\circ} 5'$ —observed at in 1849—is situated about  $\frac{1}{3}$  a mile W. of the road from the village of Karmaiti to Lachaunagar which is close to the N. bank of the Rápti river, and  $1\frac{3}{4}$  miles S. E. of the village of Padri. The station is in the lands of the village of Manichauk, thána and pargana Balrámpur, district Gonda.

The station consists of a kacha tower 20 feet square at base and 14 feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base,  $3\frac{3}{4}$  feet diameter at top and 28 feet high. It has a mark-stone at top and another 2 feet below it. The directions and distances of the circumjacent villages are Arnahwa N.W., mile  $\frac{1}{2}$ ; Ratanpur N.E. by E., mile 1; Dhanna S.E. by E., mile 1; Amarnagar S.E. by S., mile 1 and Marahna S.W., mile 1.

**XLIII.** Saibara Tower Station, lat.  $27^{\circ} 27'$ , long.  $82^{\circ} 6'$ —observed at in 1847 & 1849—is situated at the N. W. angle of a square tank N. W. of the village of Saibara, about  $2\frac{1}{4}$  miles W. by S. of the large village of Sekharpur Gangapur, and  $5\frac{3}{4}$  miles W. N. W. of the town of Balrámpur at the junction of the main roads from Utraula, Ikauna and Gonda. The station is in the lands of the village of Saibara, thána Balrámpur, pargana Utraula, district Gonda.

The station consists of an earthen tower 24 feet high, enclosing a solid masonry pillar having mark-stones at top, and 2, 8 and 14 feet respectively above the base. Built in 1847 in connection with the Gurwani Meridional Series, it was found intact when visited in 1849 in connection with this series. The directions and distances of the circumjacent villages are:—Sarúpur S.E. by E., miles  $1\frac{1}{4}$ ; Baizpur S.S.E., miles  $1\frac{1}{4}$ ; Baráipur W. by S., mile  $\frac{2}{3}$ ; and Belwa N.W. by N., miles  $1\frac{1}{4}$ .

**XLIV.** Lohápania Tower Station, lat.  $27^{\circ} 33'$ , long.  $82^{\circ} 15'$ —observed at in 1849—is situated about  $\frac{2}{3}$  of a mile E. of the bed of the Kharjhar Nadi,  $5\frac{1}{2}$  miles S. W. by W. of the large village of Lálnagar which is  $\frac{1}{2}$  a mile W. of the road from Tulsipur to Hararia, and  $9\frac{1}{2}$  miles N. N. E. of Balrámpur on the metalled road from Ikauna to Utraula. The station is in the lands of the village of Lohápania, thána Balrámpur, pargana Balrámpur, district Gonda.

The station consists of a kacha tower, 14 feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base,  $3\frac{3}{4}$  feet diameter at top and 24 feet high. It has a mark-stone at top and another 2 feet below it. The directions and distances of the circumjacent villages are:—Sáhebnagar E., mile  $\frac{1}{2}$ ; Jahándih E.N.E., miles  $1\frac{1}{4}$ ; Lohápania N., mile  $\frac{1}{2}$ ; Rámang S.W., miles  $1\frac{1}{4}$ ; and Pathájot N.E., mile  $\frac{2}{3}$ .

**XLV.** Básadela (Bánsidila) Tower Station, lat.  $27^{\circ} 24'$ , long.  $82^{\circ} 17'$ —observed at in 1847 and 1849—is situated about a mile N. of the metalled road from Balrámpur to Utraula,  $5\frac{1}{2}$  miles E. S. E. of the former, and  $9\frac{1}{2}$  miles N. W. by W. of the latter, and  $1\frac{1}{4}$  miles S. by W. of the village of Rájghát. The station is in the lands of the village of Básadela, thána and pargana Balrámpur, district Gonda.

The station as built in 1847 consists of an earthen tower enclosing a central, isolated masonry pillar 20 feet high, having a mark-stone at top, another at bottom and others 7 and 13 or 14 feet respectively above the latter. When again visited in 1849, in the course of operations of the North-East Longitudinal Series, no alteration in its construction appears to have been made. The directions and distances of the circumjacent villages are:—Tendua N.E. by N., mile 1; Kázipur W.N.W., miles  $1\frac{1}{4}$ ; Deorawan S.W., miles  $1\frac{1}{4}$ ; and Madhwajot S., mile  $\frac{2}{3}$ .

**XLVI.** Tulsipur Tower Station, lat.  $27^{\circ} 31'$ , long.  $82^{\circ} 25'$ —observed at in 1849—is situated on the western bank of a stream,  $\frac{1}{4}$  of a mile S. by E. of the S. E. corner of a large tank immediately S. of the metalled road from Utraula to Bishanpur Tantanwa, and 2 miles S. E. by S. of the large village of Pátan. The station is in the lands of the village of Tulsipur Khás, thána and pargana Tulsipur, district Gonda.

The station consists of a kacha tower 20 feet square at base and  $14\frac{1}{2}$  feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base,  $3\frac{3}{4}$  feet in diameter at top and 25 feet high. It has a mark-stone at top and another 2 feet below it. The directions and distances of the circumjacent villages are:—Tulsipur N., miles  $1\frac{1}{4}$ ; Ramwánpur W., mile 1; Gainrahua S. by W., mile  $\frac{3}{4}$ ; and Madhnagri S.E. by S., mile 1.

**XLVII.** Majhawa Tower Station, lat.  $27^{\circ} 21'$ , long.  $82^{\circ} 29'$ —observed at in 1849—is situated about  $\frac{1}{4}$  of a mile S.S.W. of the village so called, 2 miles in the same direction of the large village of Pepra Khás on the road from Raula to Biskhuhar, and  $4\frac{1}{2}$  miles S. W. by W. of the latter. The station is in the lands of the village of Majhawa, thána Utraula, pargana Balrámpur, district Gonda.

The station consists of a kacha tower 20 feet square at base and 14 feet square at top, enclosing a solid and isolated pillar 7 feet square at base,  $3\frac{3}{4}$  feet in diameter at top and 30 feet high. It has a mark-stone at top and another 2 feet below it. The directions and distances of the circumjacent villages are:—Aintahi N.N.E., mile 1; Naudiha E.N.E., miles  $1\frac{1}{4}$ ; Ramapur N.N.W., mile  $\frac{3}{4}$ ; and Jaukár S.W., mile  $\frac{1}{4}$ .

**XLVIII.** Ganespur Tower Station, lat.  $27^{\circ} 28'$ , long.  $82^{\circ} 36'$ —observed at in 1849—is situated immediately east of the road from Bishanpur Tantanwa to Budhi, about 4 miles S. S. W. of the former and  $5\frac{3}{4}$  miles N. of the latter. The station is in the lands of the village of Ganespur, thána and pargana Tulsipur, district Gonda.

The station consists of a kacha tower 20 feet square at base and  $14\frac{1}{2}$  feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base, 4 feet in diameter at top and 25 feet high. It has a mark at top and another 2 feet below it. The directions and distances of the circumjacent villages are:—Panchnpirwa N.E. by N., miles 4; Sonhati N.E. by E., mile 1; Aurahwa N.N.W., mile 1; Dhowáhi S.W. by W., miles  $1\frac{1}{4}$ ; and Madhwanagar S.E., mile  $\frac{3}{4}$ .

**XLIX.** Pipari Tower Station, lat.  $27^{\circ} 18'$ , long.  $82^{\circ} 39'$ —observed at in 1849 stands on the S. W. corner of an old fort in the village of Pipari,  $2\frac{3}{4}$  miles S. W. of Intwa on the main road from Domariaganj to Semri close on the Nepal Frontier and 7 miles N. of the town of Domariaganj on the Rápti river. The station is in the lands of Pipari village, sub-division Bánsi, district Basti.

The station consists of a tower of sun-dried, faced with burnt bricks, mud and cement 30 feet high, 20 feet square at base and 14 feet square at top, enclosing an isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A staircase of burnt bricks and mud cement leads to the summit of the tower. In 1867 no upper mark-stone was reported to have been found. The directions and distances of the circumjacent villages are:—Mandila N. by W., mile  $\frac{3}{4}$ ; Semra N.E. by N., miles  $1\frac{1}{4}$ ; Suhelwa S.W., mile 1; Bhaupur N.W., miles  $1\frac{1}{4}$ ; and Mandila Shiodat E.S.E., mile 1.

**L.** Pathárdi Tower Station, lat.  $27^{\circ} 26'$ , long.  $82^{\circ} 45'$ —observed at in 1849—is situated on the Gonda-Basti boundary E. of the road from Domariaganj to Nepal frontier, and close N. of the Aráh stream. The station is in the lands of the village of Pathárwei, thána Dhebarua, pargana Nagar East, district Basti.

The station consists of a kacha-paka tower 20 feet square at base and 14 feet square at top, enclosing a solid and isolated pillar  $6\frac{1}{2}$  feet square at base, 4 feet in diameter and 30 feet high. It has a mark-stone at top and another at bottom. When visited by the Revenue Party in 1888, the tower station was found in a very dilapidated condition, there being only  $4\frac{1}{2}$  feet of brickwork left. The directions and distances of the circumjacent villages are:—Bairia N., mile  $\frac{3}{4}$ ; Semra N., miles  $1\frac{1}{4}$ ; Mahádeo N.W. by N., miles  $1\frac{1}{4}$ ; Kataia N.W., mile  $\frac{3}{4}$ ; and Khankot S.S.W., miles  $3\frac{1}{4}$ .

**LI.** Bankata Tower Station, lat.  $27^{\circ} 16'$ , long.  $82^{\circ} 50'$ —observed at in 1849—stands on a slightly elevated piece of ground in the village of Bankata at the western extremity of a large piece of water and close E. of the high road from Bánsi *via* Pachahr to Intwa, and 8 miles N. W. of the town of Bánsi. The station is in the lands of Bankata village, sub-division Bánsi, district Basti.

The station consists of a tower of sun-dried, faced with burnt bricks and mud cement 30 feet high, 20 feet square at base and 14 feet square at top, enclosing an isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide of the same material as the tower leads to its summit. The directions and distances of the circumjacent villages are:—Khaira N., miles  $1\frac{1}{4}$ ; Semri W., mile 1; Nagchauri N.E., miles 2; Pachahr S. by E., miles  $1\frac{1}{4}$ .

**LII.** Paragawa Tower Station, lat.  $27^{\circ} 24'$ , long.  $82^{\circ} 56'$ —observed at in 1849—stands on the ruins of an old building distant about 350 yards N. of the village of Paragawa on the southern edge of a large

piece of water about a mile S. W. of Koiri Diha at the junction of the two main roads from Chilia and Misraulia, and 5 miles N. W. of Chilia. The station is in the lands of the village of Paragawa, sub-division Bánsi, district Basti.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement, enclosing a solid isolated pillar of masonry 6½ feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A staircase 5½ feet wide of the same material as the tower leads to its summit. The directions and distances of the circumjacent villages are:—Nagthar E., mile ¾; Antri W., mile 1; Nabri N., mile 1; and Marwa N.N.E., miles 1½.

LIII. Bangra Tower Station, lat. 27° 13', long. 83° 1'—observed at in 1849—stands on the W. side of the village of that name, 5½ miles N. E. by E. of the town of Bánsi, 2¾ miles S. of Udaipur village on the main road from Bánsi to Uska Bazar Railway Station, on the Bengal and North-Western line. The station is in the lands of Tighra village, sub-division Bánsi, district Basti.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement 30 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid isolated masonry pillar 6½ feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A staircase 5½ feet wide of the same material as the tower leads to its summit. The upper part of masonry was reported to have been destroyed in 1867. The directions and distances of the circumjacent villages are:—Keotalia W., mile ½; Badgaon S.W., mile ½; Sonbarsa E., miles 1¾; Gondha N., miles 1¼; and Kusmali S.E., mile ¼.

LIV. Ghaus Tower Station, lat. 27° 21', long. 83° 6'—observed at in 1849—stands on the summit of an elevated piece of ground, the site of an ancient village, immediately west of the main road from Uska Bazar Railway Station on the Bengal and North-Western line to the Nepal frontier, about 4 miles W. of Neura Khás village, and 5½ miles N. W. of Bargadwa. The station is in the lands of the village of Ghaus Khás, thána Chilia, sub-division Bánsi, district Basti.

The station consists of a tower of kacha-paka masonry 20 feet square at base and 14 feet square at top, enclosing a solid isolated pillar 6½ feet square at base, 4 feet in diameter at top and 26 feet high. It has a mark-stone at top and another at bottom. The directions and distances of the circumjacent villages are:—Alidapur Khás N.W., miles 2½; Birdpur (market) S.W., miles 1½; Shiupur N.W. by N., miles 2½; and Naugarh S., miles 3¾.

LV. Purena Tower Station, lat. 27° 11', long. 83° 11'—observed at in 1849—is situated in the village of this name, about 4½ miles W. of Bangadhi on the main road to Gorakhpur. The station is in the lands of the village of Purena, thána Semra, pargana Haveli, district Gorakhpur.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement 26 feet high, 20 feet square at base and 14 feet square at top, enclosing an isolated pillar of masonry 6½ feet square at base and 4 feet in diameter at top with mark-stones at top and bottom. A staircase 5½ feet wide leads to the summit. In 1867 only 6 feet of the structure was reported as standing and no mark-stone could be found. The directions and distances of the circumjacent villages are:—Chainpur N., mile ½; Tihur W., mile ¼; Belagharia N. by E., mile 1; and Kudáuri S.S.E., mile 1.

LVI. Dharamsingua Tower Station, lat. 27° 5', long. 83° 4'—observed at in 1847 and 1849—stands on the bank of a tank 200 yards E. S. E. of the village of that name, about 4 miles E. by N. of Bankata village on the high road from Bánsi to Khalilabad Railway Station on the Bengal and North-Western line, 10½ miles S. E. of the town of Bánsi. The station is in the lands of Dharamsingua, sub-division Bánsi, district Basti.

The station consists of a tower about 25 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid isolated masonry pillar with mark-stones. Originally built in 1847, when revisited in 1849 it was found in good preservation and no alteration was made. The directions and distances of the circumjacent villages are:—Gaurirai N.E., mile ¼; Sikri S.W., mile ¼; Badhia S.E. by S., mile 1; Gulaur W., miles 1¼.

LVII. Bharmi Tower Station, lat. 27° 20', long. 83° 15'—observed at in 1849—is situated on the E. of the high road from Bánsi to the Nepal frontier about 2½ miles W. of the Basti-Gorakhpur-Nepal trijunction and 4½ miles E. of the Telar stream, and ¾ miles N. by E. of the large village of Lotan. The station is in the lands of Bharmi, pargana Bináyakpur, district Basti.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement 26 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid isolated masonry pillar 6½ feet square at base and 4 feet in diameter at top. A staircase 5½ feet broad composed of the same materials as the tower leads to its summit. In 1867 the upper part of masonry was reported much broken and the mark-stone missing. The directions and distances of the circumjacent villages are:—Bagheli S.W. by S., mile ¾; Dharmauli N.E. by E., mile ¾; Barwas S.E., mile 1; Bakharia W., miles 1¼.

LVIII. Gharbaria Tower Station, lat. 27° 3', long. 83° 15'—observed at in 1847 and 1849—is situated

within 50 yards of the western verge of allotment No. 4 of Bhari Baisi forest, about  $1\frac{3}{4}$  miles N. W. of Chaumukha on the main road from Ragauli thána to Captainganj, and 3 miles N. E. of the former. The station is in the lands of the village of Gharbaria, thána Ragauli, pargana Haveli, district Gorakhpur.

The station consists of a solid tower 25 feet high, 20 feet square at base and 14 feet square at top, enclosing a circular masonry pillar isolated and perforated with mark-stones at top and bottom. Built in 1847 for the Gora Meridional Series, when revisited in 1849 in connection with the operations of the N.E. Longitudinal Series it was found in good preservation. In 1867 the tower was reported to have been injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Guplapur S.W. by S., mile  $\frac{1}{2}$ ; Chitáhi Buzurg N.W. by N., miles 2; Baraipár W.S.W., miles 2; and Phulwaria N.N.E., miles  $3\frac{3}{4}$ .

LIX. Saunbarsa Tower Station, lat.  $27^{\circ} 11'$ , long.  $83^{\circ} 21'$ —observed at in 1849—is situated about 200 yards S. W. of the village of this name, about  $2\frac{1}{2}$  miles N. W. by N. of the large village of Semra, and  $\frac{3}{4}$  of a mile W. of Soharwalia Buzurg village which is  $\frac{1}{4}$  of a mile N. of the road from Bangadhi to Bágápár. The station is in the lands of the village of Saunbarsa, thána Semra, pargana Haveli, district Gorakhpur.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement 30 feet high, 20 feet square at base and 14 feet square at top, enclosing an isolated and perforated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top having mark-stones at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. In 1867 the tower was found injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Agya N.W. by W., mile 1; Parsa Buzurg N.E. by N., miles  $1\frac{1}{4}$ ; Parsolhiya S. by W., mile  $\frac{1}{2}$ ; and Soharwalia Khurd S.E. by S., mile  $\frac{3}{4}$ .

LX. Banarsia Tower Station, lat.  $27^{\circ} 19'$ , long.  $83^{\circ} 27'$ —observed at in 1849—is situated on the site of an ancient town, close N. N. E. of the village of Banarsia Kalán,  $4\frac{1}{2}$  miles S. E. of the large village of Paisia, and  $8\frac{3}{4}$  miles N. W. by N. of Bágápár on the road from Bangadhi to Nichlaul. The station is in the lands of the village of Banarsia, thána Paisia, pargana Haveli, district Gorakhpur.

The station consists of a tower 16 feet high of sun-dried, faced with burnt, bricks and mud cement 20 feet square at base and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top having mark-stones at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. In 1867 part of the tower was reported to have been injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Sirsia N.N.E., miles 6; Karaila Ajarha N.E. by E., mile 1; Karamwa Basantpur N.W., mile  $\frac{1}{2}$ ; and Harmandil S.W. by S., miles  $1\frac{1}{4}$ .

LXI. Bágápár Tower Station, lat.  $27^{\circ} 11'$ , long.  $83^{\circ} 31'$ —observed at in 1848—is situated on the site of a deserted village, about  $\frac{1}{3}$  of a mile E. of Katahra village,  $1\frac{1}{4}$  miles S. of the large village of Bágápár on the road from Bangadhi to Nichlaul, and nearly 4 miles N. W. of the town of Maharájganj. The station is in the lands of the village of Bágápár, thána Maharájganj, pargana Haveli, district Gorakhpur.

The station consists of a tower of sun-dried, faced with burnt, bricks and mud cement 25 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid pillar of masonry  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. In 1867 part of the tower was reported to have been injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Barahra S., miles  $1\frac{1}{2}$ ; Sonára E., miles  $2\frac{1}{2}$ ; Riháwa N.E. by E., miles 2; and Barwa N.E. by N., miles  $2\frac{3}{4}$ .

LXII. Supur Tower Station, lat.  $27^{\circ} 18'$ , long.  $83^{\circ} 38'$ —observed at in 1848—is situated on a slight swell of ground, about  $1\frac{1}{4}$  miles S. W. by S. of Sihpur village, 6 miles W. by S. of Nichlaul on the main road to Gorakhpur, and  $2\frac{1}{2}$  miles N. W. of Parari Kalán on the road from Bágápár to Nichlaul. The station is in the lands of the village of Sihpur, thána Maharájganj, pargana Nichlaul, district Gorakhpur.

The station consists of a tower of sun-dried bricks 26 feet high, 20 feet square at base, 14 feet square at top, enclosing a solid pillar of masonry  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, with a mark-stone at top and another at bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. In 1867 part of the tower was reported to have been injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Naksa Baksa S.E., mile  $\frac{3}{4}$ ; Parsa S.S.E., miles 2; Dighawa E., miles 2; and Sogaura S.W. by S., miles  $3\frac{3}{4}$ .

LXIII. Morairi Tower Station, lat.  $27^{\circ} 10'$ , long.  $83^{\circ} 42'$ —observed at in 1847 and 1848—is situated on a mound elevated 15 feet above the level of the surrounding country, about  $\frac{1}{2}$  a mile E. of Hirni Nála,  $4\frac{3}{4}$  miles N. W. by W. of Kothibhár and  $3\frac{1}{2}$  miles E. by N. of Mohanpur village which is close E. of the main road from Gorakhpur to Nichlaul. The station is in the lands of the village of Morairi, thána Kothibhár, pargana Tilpur, district Gorakhpur.

The station consists of a tower of sun-dried bricks and mud cement 15 feet high, 17 feet square at base and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, with a mark-stone at top and another at bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. In 1867 part of the tower was reported to have been injured and the mark-stone missing. The approximate directions and distances of the circumjacent villages are:—Rataipur E.S.E., mile  $\frac{1}{2}$ ; Pakri E.N.E., miles  $1\frac{1}{4}$ ; Barwa S.S.E., mile  $\frac{1}{2}$ ; and Mathanian W., mile  $\frac{3}{4}$ .

**LXIV.** Chanda Tower Station, lat.  $27^{\circ} 16'$ , long.  $83^{\circ} 48'$ —observed at in 1847 and 1848—is situated on the western bank of a large tank on the S. E. portion of No. 7 Domakband Jungle, about  $1\frac{1}{2}$  miles N. N. E. of Chanda village, and  $5\frac{1}{2}$  miles S. E. of the large village of Nichlaur on the road to Gorakhpur. The station is in the lands of the village of Jelda, thána Nichlaur, pargana Tilpur, district Gorakhpur.

The station consists of a tower of sun-dried bricks with mud cement 26 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base, 4 feet in diameter at top, with a mark-stone at top and another at bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the top. In 1867 the tower was reported to have been partly injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Karbathi N.E., yards 200; Kalán S.E. by E. mile  $\frac{1}{2}$ ; Bijha N.W. by N., miles  $2\frac{3}{4}$ ; and Baraipur S.W. by S., miles 3.

**LXV.** Mathia Tower Station, lat.  $27^{\circ} 8'$ , long.  $83^{\circ} 51'$ —observed at in 1847—is situated close to the Banri stream, about  $\frac{1}{2}$  a mile S. W. of Mathia village on the road from Parauna to Sabeya, and 6 miles E. of the town of Kothibhár. The station is in the lands of the village of Mathia, thána Kothibhár, pargana Tilpur, district Gorakhpur.

The station consists of a tower of sun-dried bricks and mud cement 27 feet high, 20 feet square at base and 14 feet square at top, with a flight of steps of the same material, enclosing a pillar of solid masonry  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top having mark-stones at top and bottom. In 1867 part of the tower was reported to have been injured and the mark-stone removed. The directions and distances of the circumjacent villages are:—Kardah N.E., miles 2; Patakdauna S.E. by S. mile  $\frac{1}{2}$ ; Kursaha E. by N., mile  $\frac{3}{4}$ ; and Langri N.N.W., mile  $\frac{1}{2}$ .

**LXVI.** Balua Tower Station, lat.  $27^{\circ} 14'$ , long.  $84^{\circ} 0'$ —observed at in 1847—is situated on the outskirts of a forest extending along the east bank of the Gandak river, close W. of the road from Bagaha on the Gandak to Bháwan Garhi and about  $\frac{1}{3}$  of a mile S. S. E. of its crossing the Argarna stream. The station is in the lands of the village of Balua, thána Bagaha, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 20 feet high, 18 feet square at base and 14 feet square at top, enclosing a solid isolated masonry pillar with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. The directions and distances of the circumjacent villages are:—Telsaudi S. by E., mile  $\frac{1}{2}$ ; Madanpur S.W. by S., mile  $\frac{3}{4}$ ; Balua N.N.E., miles  $1\frac{1}{2}$ ; and Budránd E.S.E., miles  $1\frac{1}{2}$ .

**LXVII.** Upasni Tower Station, lat.  $27^{\circ} 5'$ , long.  $84^{\circ} 1'$ —observed at in 1847—is situated on the western bank of a branch of the Gandak river which separates Champaran from Gorakhpur district, about 8 miles N. E. by E. of Naurangia village on the road from Parauna to Nichlaur. The station is in the lands of the village of Kathihai Bharpurwa, thána Parauna, district Gorakhpur.

The station consists of a tower of sun-dried bricks 27 feet high, 18 feet square at base and 14 feet square at top, enclosing a solid masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, isolated and having mark-stones at top and bottom. In 1867 part of the tower was found to have been injured and the mark-stone missing. The directions and distances of the circumjacent villages are:—Ikaunahi S.W. by W., miles 3; Kathihai Bharpurwa W. by S., miles 3; and Jarár S.W. by S., miles  $2\frac{1}{2}$ .

**LXVIII.** Bájra Tower Station, lat.  $27^{\circ} 12'$ , long.  $84^{\circ} 9'$ —observed at in 1847—is built on the deserted village site, about a mile N. N. W. of Dhakdiha village on the road from Bagaha on the N. bank of the Gandak river. The station is in the lands of the village of Bájra, thána Bagaha, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 20 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid, isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. The approximate directions and distances of the circumjacent villages are:—Saur Bandobasti W.N.W., miles  $1\frac{1}{2}$ ; Katkuian S.W., miles  $1\frac{1}{2}$ ; and Siuraha N., miles 2.

**LXIX.** Bakwa Tower Station, lat.  $27^{\circ} 3'$ , long.  $84^{\circ} 11'$ —observed at in 1847 and 1852—is situated about  $\frac{1}{4}$  of a mile N. of the road from Rajwatia to Lauria,  $3\frac{1}{2}$  miles S. E. by E. of the former,  $1\frac{1}{2}$  mile N. N. E. of the Gandak river and 1 mile E. N. E. of Chandarpur. The station is in the lands of the village of Bakwa, thána Bagaha, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 20 feet high, 20 feet square at base and 14 feet square at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. The approximate directions and distances of the circumjacent villages are:—Patiladh (on the above named road) S.E., mile 1; Ratwal S., miles  $2\frac{1}{2}$ ; Baldiha S.W., miles  $2\frac{1}{2}$ ; and Kharatwa N.W. miles 2.

**LXX.** Rám Nagar Tower Station, lat.  $27^{\circ} 9'$ , long.  $84^{\circ} 20'$ —observed at in 1847—is situated near a mile S. by E. of the Rám Nagar Rája's house, and  $\frac{1}{2}$  a mile E. of Belaspurwa on the road from Lauria



Rámnagar. The station is in the lands of the village of Baila, tappa Haveli, pargana Rámگیر, district Champaran.

The station consists of a tower of sun-dried bricks 30 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide gives access to the top. The station was reported as greatly damaged in 1872. The directions and distances of the circumjacent villages are:—Pachrukha S.E. by E., miles  $1\frac{1}{4}$ ; Bahuri N.E. by E., mile  $\frac{3}{4}$ ; Bishunpurwa S.E. by S., miles  $1\frac{1}{4}$ ; and Díu Marwa S.W. by S., miles  $1\frac{1}{4}$ .

LXXI. Naonangarhi (Lauria) Station, lat.  $26^{\circ} 59'$ , long.  $84^{\circ} 24'$ —observed at in 1847 and 1852—is situated on the highest part of a hillock formed by the ruins of an ancient fortress elevated about 80 feet above the level of the surrounding country, about  $\frac{1}{4}$  of a mile W. of Lauria village on the road from Bettiah to Gondauli Khás, and  $2\frac{3}{4}$  miles S. E. by S. of the latter. The station is in the lands of the village of Lauria, tappa Belwa, district Champaran.

The station consists of a platform of burnt bricks and mud cement 2 feet high, and 14 feet square, enclosing a solid isolated masonry pillar 4 feet in diameter with mark-stones embedded therein at top and bottom. The station was revisited in 1852 in connection with the operations of the Huriláong Meridional Series but no change was made in its construction. No trace of the station could be found in 1873. The directions and distances of the circumjacent villages are:—Padraun N.W. by N., mile  $\frac{1}{2}$ ; Pakri N.N.W., mile  $\frac{1}{2}$ ; Dubaulia S.E. by E., mile 1; and Marahia S.S.E., mile  $\frac{1}{2}$ .

LXXII. Tarharwa Tower Station, lat.  $27^{\circ} 6'$ , long.  $84^{\circ} 30'$ —observed at in 1847—is situated on a slight swell of ground, about  $\frac{1}{4}$  of a mile S. E. of the village of this name close east of the road from Barwa Baranti to Singárpur, 2 miles N. N. W. of the former and nearly the same S. S. E. of the latter. The station is in the lands of the village of Tarharwa, tappa Haveli, pargana Rámگیر, district Champaran.

The station consists of a tower of sun-dried bricks 30 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. Both tower and pillar reported in 1872 to have fallen down. The directions and distances of the circumjacent villages are:—Singárpur W.N.W., miles  $2\frac{1}{2}$ ; Katgharwa S.W. by S., miles  $1\frac{1}{4}$ ; Narkatia W., mile  $\frac{1}{2}$ ; and Baldi N., mile  $\frac{3}{4}$ .

LXXIII. Sathwaria Tower Station, lat.  $26^{\circ} 58'$ , long.  $84^{\circ} 32'$ —observed at in 1846 and 1847—is situated on the north bank of the Sikrana river, about  $2\frac{1}{2}$  miles S. by E. of Sáthi, and  $3\frac{1}{2}$  miles N. E. by N. of Pokharia Rái. The station is in the lands of the village of Sathwaria, tappa Haveli, pargana Rámگیر, district Champaran.

The station consists of a tower of sun-dried bricks  $25\frac{1}{2}$  feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A spiral staircase leads to the summit of the tower. The directions and distances of the circumjacent villages are:—Jaintia S.E., miles 3; Sathwaria N. by E., mile 1; Lakshampur N.W. by W., miles  $1\frac{1}{4}$ ; Basantpur N.E. by E., miles  $1\frac{1}{2}$ .

LXXIV. Sikta Tower Station, lat.  $27^{\circ} 2'$ , long.  $84^{\circ} 41'$ —observed at in 1846 and 1847—is situated on the northern bank of a tank, about  $\frac{1}{4}$  of a mile S. of the boundary between the British and Nepal territories, and  $5\frac{3}{4}$  miles W. N. W. of Meláhi on the road along the frontier boundary, which passes within  $\frac{1}{4}$  of a mile N. of the station. The station is in the lands of the village of Sikta, thána Bettiah, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 22 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A spiral staircase leads to the summit. The directions and distances of the circumjacent villages are:—Parsa W. by S., mile  $\frac{3}{4}$ ; Masaba S., miles  $1\frac{1}{4}$ ; Indarwa E.N.E., mile  $\frac{1}{2}$ ; and Bahua N.N.W., mile  $\frac{3}{4}$ .

LXXV. Biarwa Tower Station, lat.  $26^{\circ} 52'$ , long.  $84^{\circ} 40'$ —observed at in 1846—is situated about  $\frac{3}{4}$  of a mile N. by E. of the hamlet of this name, 1 mile S. of the Sikrichua river and  $8\frac{3}{4}$  miles N. W. by N. of the Cantonment at Segowlie. The station is in the lands of the village of Biarwa, thána Bettiah, pargana Majhauwa; district Champaran.

The station consists of a tower of sun-dried bricks 26 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A spiral staircase leads to the top of the tower. The directions and distances of the circumjacent villages are:—Sirsiwa W.N.W., miles 2; Ratanmála W., miles  $2\frac{1}{2}$ ; Harpur E., miles 2; and Dhankutwa W. by N., mile 1.

LXXVI. Harnáhi Tower Station, lat.  $26^{\circ} 56'$ , long.  $84^{\circ} 49'$ —observed at in 1846—is situated on a mound, the site of an old village and less than  $\frac{1}{4}$  of a mile S. E. by S. of Harnáhi village, about  $1\frac{3}{4}$  miles

N. W. by N. of Amudih on the road from Segowlie to Katmandu, and 3 miles N. N. W., of Champápur. The station is in the lands of the village of Harnáhi, thána Adapur, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 24 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. The pillar was reported as half fallen down in 1872. The directions and distances of the circumjacent villages are:—Kunhan N.W., mile  $\frac{3}{4}$ ; Kharkatwa S.W., mile  $\frac{3}{4}$ ; Gamharia E., miles  $1\frac{1}{4}$ ; and Rámgarwa S.S.W., miles  $1\frac{1}{4}$ .

**LXXVII.** Bigoia Tower Station, lat.  $26^{\circ} 46'$ , long.  $84^{\circ} 48'$ —observed at in 1846—is situated on the north bank of the Sekriha river, about 2 miles E. by S. of the Cantonment at Segowlie, and  $2\frac{1}{4}$  miles N. by E. of Chapra Balias on the main road from Segowlie to Motihari. The station is in the lands of the village of Bigoia, thána Motihari, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 28 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top having mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Máli N.W. by W., miles  $1\frac{1}{4}$ ; Khoura N.E. by E., mile  $2\frac{1}{4}$ ; and Kethaulia W., miles  $1\frac{1}{4}$ .

**LXXVIII.** Batwaia Tower Station, lat.  $26^{\circ} 50'$ , long.  $84^{\circ} 57'$ —observed at in 1846—is situated on the western bank of a tank between a hamlet of Narkatia village and the right bank of the Passa stream, about  $2\frac{1}{3}$  miles E. by S. of Narkatia village on the road from Segowlie to Katmandu. The station is in the lands of the village of Narkatia, thána Dhaka Ramchandra, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 18 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. The pillar does not exist as reported in 1902. The directions and distances of the circumjacent villages are:—Dara N.E. by E., miles  $1\frac{1}{4}$ ; Masaha S.E. by E., miles  $1\frac{1}{4}$ ; Jitpur S.E. by S., miles  $1\frac{1}{4}$ ; and Ghormarwa W.S.W., miles  $3\frac{1}{4}$ .

**LXXIX.** Rúpdi Tower Station, lat.  $26^{\circ} 40'$ , long.  $84^{\circ} 57'$ —observed at in 1846—is situated nearly  $\frac{1}{2}$  a mile S. by W. of the village of the same name,  $2\frac{1}{4}$  miles E. of the town of Motihari on the metalled road to Segowlie, and nearly 2 miles N. E. by N. of the Magistrate's Bungalow at Motihari. The station is in the lands of the village of Rúpdi, thána Motihari, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks and mud cement 25 feet high, 20 feet in diameter at base and 11 feet at top, enclosing an isolated and perforated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top having mark-stones at top and bottom. A spiral staircase  $5\frac{1}{2}$  feet wide leads to the summit. The directions and distances of the circumjacent villages are:—Gorahia N.N.W., mile  $\frac{1}{2}$ ; Jamla (on the road from Motihari to Lakhnaura) W.N.W., mile 1; Pataura Bheh Nezámát S., miles  $1\frac{1}{4}$ ; and Siswa N.W. by N., miles  $3\frac{1}{4}$ .

**LXXX.** Dipáhi Tower Station, lat.  $26^{\circ} 45'$ , long.  $85^{\circ} 5'$ —observed at in 1846—is situated on the south-west corner of a tank bank, about  $\frac{1}{3}$  of a mile E. by S. of Debi Dharhawa village, and the same distance W. S. W. of Nonaura on the road from Mirpur to Kotwa Police Station. The station is in the lands of the village of Dipáhi, thána Dhaka Ramchandra, pargana Majhauwa, district Champaran.

The station consists of a tower of sun-dried bricks 24 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated pillar of masonry  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A spiral staircase leads to the summit of the tower. The directions and distances of the circumjacent villages are:—Murshadabad N. by E., mile 1; Mádhapur S.W., miles 2; Rámpur S., miles  $2\frac{1}{4}$ ; and Nimua W. by N., miles 2.

**LXXXI.** Masaha Tower Station, lat.  $26^{\circ} 37'$ , long.  $85^{\circ} 8'$ —observed at in 1846—is situated a short distance N. of a stream and about  $\frac{1}{3}$  of a mile S. S. E. of the village of Masaha,  $1\frac{3}{4}$  miles S. of Sarauán Masjid on the road from Motihari to Dhaka Ramchandra and a mile W. by S. of Naraina village on the road from Madhuban to Dhaka Ramchandra. The station is in the lands of the village of Masaha, thána Dhaka Ramchandra, pargana Mehsi, district Champaran.

The station consists of a tower of sun-dried bricks 29 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom. A staircase  $5\frac{1}{2}$  feet wide leads to the summit. The directions and distances of the circumjacent villages are:—Harnáhpur S.S.E., mile  $\frac{1}{4}$ ; Dhanauji W.S.W., miles  $1\frac{3}{4}$ ; Barai N.W., miles  $1\frac{1}{4}$ ; and Bara Shankar E., miles 4.

**LXXXII.** Sinaria Tower Station, lat.  $26^{\circ} 45'$ , long.  $85^{\circ} 16'$ —observed at in 1846—is situated on the southern bank of a tank, along the north bank the boundary line between the British and Nepal territories, and about  $1\frac{3}{4}$  miles N. N. E. of Dostia village on the road from Dhaka Ramchandra to Karimabad. The station is in the lands of the village of Karimabad, thána Shiuhar, pargana Babra, district Muzaffarpur.

The station consists of a tower of sun-dried bricks 30 feet high, 20 feet square at base and 14 feet in diameter at top enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A spiral staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. The directions and distances of the circumjacent villages are:—Karímabad S.E. by E., mile  $\frac{1}{2}$ ; Mahadcopati N.E. by E., mile  $\frac{1}{3}$ ; Asogi S.E., mile 1; and Bhawánipur W. by S., miles 2.

LXXXIII. Amwa Tower Station, lat.  $26^{\circ} 36'$ , long.  $85^{\circ} 17'$ —observed at in 1846—is situated on the boundary between the villages of Amwa and Belwa, about  $\frac{3}{4}$  of a mile N. N. W. of a temple which lies the same distance N. of Amwa village,  $\frac{3}{4}$  of a mile E. of the Bagmati river, 1 mile N. W. of a factory, and  $1\frac{1}{2}$  miles N. by W. of the large village of Amwa. The station is in the lands of the village of Belwa, thána Shiuhar, pargana Babra, district Muzaffarpur.

The station consists of a circular tower of sun-dried bricks 35 feet high, 22 feet in diameter at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. A spiral staircase  $5\frac{1}{2}$  feet wide leads to the summit of the tower. The directions and distances of the circumjacent villages are:—Belwa N.W. by N., mile 1; Arázi Indarwa N., mile  $\frac{2}{3}$ ; Singáhi Indarwa E., mile  $\frac{2}{3}$ ; and Bisáhi S. by W., miles  $2\frac{1}{2}$ .

LXXXIV. Bulákipur Tower Station, lat.  $26^{\circ} 41'$ , long.  $85^{\circ} 27'$ —observed at in 1846 and 1849—is situated on the south-eastern corner of a tank bank about  $\frac{1}{3}$  of a mile S. W. of the village of the same name, 3 miles S. by W. of Daini Sugar factory, and 2 miles N. by E. of Riga on the road from Panchaur Indigo factory to Daini Sugar factory. The station is in the lands of the village of Bulákipur, thána Sitamarhi, pargana Babra, district Muzaffarpur.

The station consists of a tower of sun-dried bricks 30 feet high, 20 feet square at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top, having mark-stones embedded therein at top and bottom. When the station was revisited in 1849, it was found that the pillar had deflected 6 inches from the perpendicular and the kacha portion of the tower on the north side washed away. The directions and distances of the circumjacent villages are:—Asoki N. by W., mile  $\frac{1}{3}$ ; Khairwa E.S.E., mile  $\frac{2}{3}$ ; Sonár N.W. by W., mile  $\frac{2}{3}$ ; and Nazarpur W.S.W., miles  $1\frac{1}{2}$ .

LXXXV. Madanpur Tower Station, lat.  $26^{\circ} 31'$ , long.  $85^{\circ} 26'$ —observed at in 1846 and 1849—is situated on a slightly elevated piece of ground about  $\frac{1}{4}$  of a mile N. N. E. of the village of the same name and close E. of the road from Belsund Indigo and Sugar factories to Sitamarhi, and 2 miles E. of Bishunpur. The station is in the lands of the village of Madanpur, thána Biland, pargana Mahila, district Muzaffarpur.

The station consists of a circular tower of sun-dried bricks 25 feet high, 20 feet in diameter at base and 14 feet at top, enclosing a solid isolated masonry pillar  $6\frac{1}{2}$  feet square at base and 4 feet in diameter at top with mark-stones embedded therein at top and bottom and 4 others intermediately. A spiral staircase  $5\frac{1}{2}$  feet wide leads to the summit. The directions and distances of the circumjacent villages are:—Padri N.E. by N., mile  $\frac{2}{3}$ ; Diwán N.W. by N., miles  $1\frac{1}{2}$ ; Rámpur Bakhi E.S.E., miles  $1\frac{1}{2}$ ; and Benipur S.S.W., miles  $1\frac{1}{2}$ .

LXXXVI. Sondahi Tower Station, lat.  $26^{\circ} 38'$ , long.  $85^{\circ} 36'$ —observed at in 1849—is situated about  $\frac{3}{4}$  of a mile S. W. of the village of this name,  $1\frac{1}{4}$  miles S. E. by E. of Jujharpati on the road from Sitamarhi *viâ* Sulihara Ram to Nepal, and  $6\frac{1}{2}$  miles E. N. E. of Sitamarhi. The station is in the lands of the village of Kararbana, thána Pupri, pargana Mahind, district Muzaffarpur.

The station consists of a tower of sun-dried bricks 25 feet high of the usual dimensions, enclosing a solid isolated masonry pillar with mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Sundarpur N., mile 1; Parsa E., miles  $1\frac{1}{2}$ ; Koili S.S.W., miles 2; and Bathana N.W., miles  $1\frac{1}{2}$ .

LXXXVII. Humaunpur Tower Station, lat.  $26^{\circ} 29'$ , long.  $85^{\circ} 38'$ —observed at in 1849—is situated close N. of the village of this name, about  $2\frac{1}{2}$  miles S. W. of Sherpur close S. of the main road from Sitamarhi to Kamtaul, and  $4\frac{1}{2}$  miles N. W. by N. of Nánpur. The station is in the lands of the village of Humaunpur, thána Pupri, pargana Nánpur, district Muzaffarpur.

The station consists of a tower of sun-dried bricks 21 feet high, enclosing a solid isolated pillar of masonry with mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Bhasaipur N.W. by W., miles 2; Mirzapur Gopál N.E. by E., miles  $1\frac{1}{2}$ ; Bhedin S.S.E., miles  $1\frac{1}{2}$ ; and Rataupur W., mile  $\frac{1}{2}$ .

LXXXVIII. Pargáwa Tower Station, lat.  $26^{\circ} 34'$ , long.  $85^{\circ} 46'$ —observed at in 1849—is situated about  $\frac{1}{4}$  of a mile E. of Nargawán and Jogia villages,  $2\frac{1}{4}$  miles N. N. W. of the large village of Chorwat on the main road from Muzaffarpur to Nepal, and  $5\frac{3}{4}$  miles S. E. by S. of the town of Sursand Asli close to the Nepal boundary. The station is in the lands of the village of Pargáwa, thána Pupri, pargana Basotra, district Muzaffarpur.

The station consists of a tower of sun-dried bricks 24½ feet high, enclosing a solid masonry pillar with mark-stones at top and bottom. In 1874 it was reported as partly fallen down; 18¾ feet still remaining. The directions and distances of the circumjacent villages are:—Semari or Jadupati N.E., mile 1; Semahi Asli N., miles 2; Bhataunan N.W. by N., miles 1½ and Chandarsen S.E. by S., miles 1¾.

LXXXIX. Sháhpur Tower Station, lat. 26° 25', long. 85° 47'—observed at in 1849—is situated about ¼ of a mile N. N. W. of the village of this name, 2½ miles E. of Jogiadeh on the road from Darbhanga to Nepal, and 6 miles N. N. W. of the large village of Kamtaul on the same road. The station is in the lands of the village of Sháhpur, thána Banipati, pargana Tájpur, district Darbhanga.

The station consists of a tower of sun-dried bricks 24¾ feet high, enclosing a solid isolated masonry pillar having mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Siluaga N.E. by N., mile ½; Baluandwa E. by N., mile 1; Karwán S.E. by S., mile 1; and Mahiwán E.S.E., miles 2¾.

XC. Jarol Tower Station, lat. 26° 31', long. 85° 56'—observed at in 1849—is situated about ¼ mile S. S. W. of the village of this name, 4¾ miles E. S. E. of Sahar Asli, and 8 miles E. by S. of Chorwat on the road from Muzaffarpur to Nepal. The station is in the lands of the village of Jarol, thána Banipati, pargana Bhala, district Darbhanga.

The station consists of a tower of sun-dried bricks 26¾ feet high, of the usual dimensions, enclosing a solid isolated masonry pillar with mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Bangra W., mile ½; Hasar N.N.E., miles 2½; Sonahi N.W. by W., miles 2; and Tola Bishunpur S.W. by S., mile 1.

XCI. Chandarsanpur Tower Station, lat. 26° 23', long. 85° 59'—observed at in 1849 and 1852—is situated about ⅓ of a mile S. W. of the straggling village of this name, about 1¾ miles N. E. of the villages of Bhoje and Pandaul, and 5¾ miles W. N. W. of the town of Madhubani on the main road from Darbhanga to Nepal. The station is in the lands of the village of Satakha, thána Banipati, pargana Jarol, district Darbhanga.

The station consists of a tower of sun-dried bricks 24¾ feet high, enclosing a solid masonry pillar having mark-stones at top and bottom. When revisited in 1852 in connection with the operations of the North Párasnáth Series it was found in good order. The directions and distances of the circumjacent villages are:—Kakraul E. by S., miles 1¾; Belaunja N.N.E., miles 1½; Jáfarabad N.W. by N., miles 1¼; and Semri W.S.W., mile ¾.

XCII. Narhar (Naradh) Tower Station, lat. 26° 32', long. 86° 6'—observed at in 1849—is situated close N. of the long and straggling village of this name, about 4½ miles S. S. W. of the large village of Jaynagar on the road from Pandaul to Nepal. The station is in the lands of the village of Naradh, thána Khajauli, pargana Bachhaur, district Darbhanga.

The station consists of a tower of sun-dried bricks 25½ feet high, enclosing a solid isolated masonry pillar with mark-stones embedded therein at top and bottom. In 1880 the station was reported to have been damaged and destroyed by floods. The directions and distances of the circumjacent villages are:—Chitáhi W. by N., miles 1¾; Mahua E.S.E., miles 2; and Kaibári Tola N.E. by N., miles 1¾.

XCIII. Bishanpur Tower Station, lat. 26° 23', long. 86° 9'—observed at in 1849 and 1852—is situated about ½ a mile N. W. of the small village of Bishanpur Shám, 2¾ miles N. of Rámpati on the road from Madhubani to Sugaunán Nankar, and 4¾ miles N. E. by E. of the town of Madhubani. The station is in the lands of the village of Bishanpur, thána Madhubani, pargana Háti, district Darbhanga.

The station consists of a tower of sun-dried bricks 25½ feet high, enclosing a solid masonry pillar isolated in its upper portion, and having 2 mark-stones, one at top and the other at base. When revisited in 1852 in connection with the operations of the North Párasnáth Series it was found intact. The directions and distances of the circumjacent villages are:—Sidwári N.E., mile ½; Pariharpur Jabdi N.W. by N., miles 1½; Mirzapur N.E., miles 1½; and Magrauni W. by S., miles ¾.

XCIV. Mirzapur Tower Station, lat. 26° 31', long. 86° 17'—observed at in 1849—is situated about 200 yards S. of the village of this name, about ¼ of a mile W. of the road from Bhaureh to Nepal, and ¾ miles S. E. by S. of the large village of Sidhap on the road from Khajauli to Nepal. The station is in the lands of the village of Mirzapur, thána Khajauli, pargana Bachhaur, district Darbhanga.

The station consists of a tower of sun-dried bricks 26 feet high, enclosing a solid isolated masonry pillar with mark-stones embedded therein at top and bottom. The directions and distances of the circumjacent villages are:—Barwar W. by S., miles 1¼; Ekahri E. by N., miles 2; Hanumánnagar N., mile ½; and Nankar N.W. by N., mile ¾.

XCV. Barsam Tower Station, lat. 26° 21', long. 86° 19'—observed at in 1849—is situated about ¾ of a mile N. E. of the village of this name, 3¾ miles S. E. by E. of Ghoghardiha on the road from Pandaul

to Nepal, and  $6\frac{1}{3}$  miles N. N. E. of the large village of Jhanjharpur. The station is in the lands of the village of Radpur, thána Madhubani, pargana Khajauli, district Darbhanga.

The station consists of a tower of sun-dried bricks  $25\frac{1}{2}$  feet high, enclosing an isolated solid masonry pillar with mark-stones at top and bottom. Only 18 feet of the structure remained standing in 1868, it being not known when the upper portion fell. The directions and distances of the circumjacent villages are:—Dakahi S., mile  $\frac{3}{4}$ ; Dumra N.E., mile 1; Rakhwari W., miles  $1\frac{1}{4}$ ; and Andhara N.N.E., miles 3.

**XCVI.** Janjipati Tower Station, lat.  $26^{\circ} 28'$ , long.  $86^{\circ} 27'$ —observed at in 1849—is situated about  $\frac{1}{2}$  a mile E. of the straggling village of this name, and  $3\frac{1}{2}$  miles in the same direction of Baril village on the road from Ransra *viá* Pandaul to Nepal. The station is in the lands of the village of Janjipati, thána Phulparas, pargana Jabdi, district Darbhanga.

The station consists of a tower of sun-dried bricks  $24\frac{1}{2}$  feet high, enclosing a solid isolated masonry pillar with mark-stones at top and bottom. Only 12 feet of the structure was found standing in 1868, it being not known when the upper portion fell. The directions and distances of the circumjacent villages are:—Bijnaha N., mile 1; Lachampur E.S.E., mile 1; Balanpati N.E., miles  $1\frac{1}{4}$ ; and Bhonharan Siswar S.S.E., miles  $3\frac{1}{4}$ .

**XCVII.** Bhela Tower Station, lat.  $26^{\circ} 19'$ , long.  $86^{\circ} 28'$ —observed at in 1849—is situated about 180 yards E. of the centre of the straggling village of this name, on the road from the large village of Barampur Shiunandanpur to the railway station of Ghongereria, about  $1\frac{1}{4}$  miles S. E. by S. of the former and  $2\frac{1}{4}$  miles N. of the latter. The station is in the lands of the village of Bhela, thána Phulparas, pargana Álápur, district Darbhanga.

The station consists of a tower of sun-dried bricks 25.75 feet high, enclosing a solid pillar of masonry having a mark-stone at top and another at bottom. The directions and distances of the circumjacent villages are:—Pati Bathnaha N.N.E., mile  $\frac{3}{4}$ ; Gurgawán N.N.E., miles 2; Dighwa E.S.E., miles  $1\frac{1}{4}$ ; and Sangi Asli W., miles 2.

**XCVIII.** Ladnia Tower Station, lat.  $26^{\circ} 26'$ , long.  $86^{\circ} 37'$ —observed at in 1849—is situated about 150 yards S. W. of the nearest portion of the straggling village of this name, about  $2\frac{2}{3}$  miles S. of the large village of Kariwat on the boundary road between the district of Darbhanga and Nepal territory, and  $4\frac{1}{2}$  miles E. of Mesapur Madhubani. The station is in the lands of the village of Ladnia, thána Phulparas, pargana Álápur, district Darbhanga.

The station consists of a tower of sun-dried bricks 24.5 feet high, enclosing a solid pillar of masonry with mark-stones at top and bottom. The station was reported in 1868 to have entirely fallen down. The directions and distances of the circumjacent villages are:—Bolehat or Malthi S.S.E., miles  $1\frac{1}{4}$ ; Tanakalpur or Kolua N., mile  $\frac{3}{4}$ ; Jogi and Bamharipati S., miles  $1\frac{1}{4}$ ; and Katahra Khurd W., miles  $2\frac{1}{4}$ .

**XCIX.** Semraha Tower Station, lat.  $26^{\circ} 16'$ , long.  $86^{\circ} 37'$ —observed at in 1849—stands about a mile N. N. W. of the village of that name,  $4\frac{1}{2}$  miles S. E. of the Bhagalpur-Tirhut boundary and  $\frac{3}{4}$  mile S. E. of the high road from Dagmara Piprahi. The station is in the lands of the village of Parsa Madho, thána and sub-division Supaul, district Bhagalpur.

The station consists of a tower of sun-dried bricks, enclosing a solid masonry pillar 24.4 feet high with two mark-stones, one at top and the other at bottom. When visited by No. 4 Party in 1902-03 no mark-stone but a solid mound of earth was found. The directions and distances of the circumjacent villages are:—Parsa or Sonbarsa E. by N., mile  $\frac{3}{4}$ ; Bhavánípur S.W., miles  $1\frac{1}{4}$ ; Parsa Madho N.N.W., mile 1; and Bhagwánpur S.E. by S., miles  $2\frac{1}{4}$ .

**C.** Harpur Tower Station, lat.  $26^{\circ} 22'$ , long.  $86^{\circ} 46'$ —observed at in 1846 and 1849—stands close N. E. of the village of Harpur, about  $1\frac{1}{2}$  miles W. of Simri, and 1 mile S. of Bhaurwa. The station is in the lands of the village of Harpur, thána and sub-division Supaul, district Bhagalpur.

The station consists of a tower of sun-dried bricks 20 feet high, enclosing a solid masonry pillar  $3\frac{1}{2}$  feet in diameter at top and having 2 mark-stones, one at top and the other at bottom. The station was built in connection with the work of the Malincha Meridional Series in 1846. When revisited in 1849 in connection with the N.E. Longitudinal Series the top of the pillar was found to be deflected by about 4.3 inches. The directions and distances of the circumjacent villages are:—Dagmara Piprahi N.W., miles 2; Takia Jarauli N.E. by E., mile  $\frac{3}{4}$ ; Dharampur Arázi S., mile  $\frac{1}{2}$ ; Baisa S.E., mile  $\frac{3}{4}$ .

**CI.** Barhata Tower Station, lat.  $26^{\circ} 13'$ , long.  $86^{\circ} 46'$ —observed at in 1846, 1849 and 1850—stands  $\frac{1}{2}$  a mile W. of the village of Barhata Chakla,  $4\frac{1}{2}$  miles W. N. W. of Basdahi village on the road to Náthpur. The station is in the lands of the village of Barhata Chakla, thána and sub-division Supaul, district Bhagalpur.

The station consists of a tower of sun-dried bricks 22 feet high, enclosing a solid isolated masonry pillar  $3\frac{1}{2}$  feet in diameter at top having 2 mark-stones one at top and the other at bottom. The station was originally built in connection with

the work of the Malúncha Meridional Series. When visited in 1849 the top of the pillar was found dislevelled by 2½ inches. When revisited in 1850 in connection with this series no remark was entered regarding the station. The directions and distances of the circumjacent villages are:—Mahasamar W., mile 1; Sukhasan Harpur N., miles 2½; Parsa S., miles 1½; and Barbat E., miles 1½.

CII. Diwánganj Tower Station, lat. 26° 17', long. 86° 54'—observed at in 1846 and 1850—stands close E. of the southern extremity of the village of that name, about 200 yards N. of the road to Náthpur, and 1½ miles W. by S. of Sukhanagar village on the road above mentioned. The station is in the lands of the village of Diwánganj, thána Pratapgauj, sub-division Supaul, district Bhagalpur.

The station consists of a square tower of sun-dried bricks 20 feet high, enclosing a perforated and isolated masonry pillar with 5 mark-stones embedded as follows:—one at ground level and the others at intervals of 6, 12, 18 and 20 feet respectively above it. The station was originally built in connection with the Malúncha Meridional Series in 1846 and revisited in 1850 in connection with the work of this series. The directions and distances of the circumjacent villages are:—Baijnáthpur W.S.W., miles 1½; Ghausabad N.W., miles 2½; Phulkáli S.W. by S., mile 1; and Raghupur W. by N., miles 2½.

CIII. Latona Tower Station, lat. 26° 7', long. 86° 53'—observed at in 1846 and 1850—stands in a belt of forest, about 2 miles E. of the village of that name, ½ a mile W. of the Chalauni stream and 5¾ miles E. S. E. of the large village of Pipra. The station is in the lands of the village of Latona, thána and sub-division Supaul, district Bhagalpur.

The station consists of a square tower of sun-dried bricks 26 feet high, enclosing a perforated and isolated masonry pillar having 5 mark-stones embedded as follows:—one at ground level and the others at intervals of 6, 14, 20 and 26 feet respectively above it. This station was built in connection with the work of the Malúncha Meridional Series in 1846 and revisited in connection with the work of the N.E. Longitudinal Series in 1850. The directions and distances of the circumjacent villages are:—Pachintola E. by N., mile ¾; Málgarh N.E. by E., mile 1; Mojha S.S.E., miles 2½; and Nágatola N.W., miles 1½.

CIV. Baisi Tower Station, lat. 26° 25', long. 86° 56'—observed at in 1846 and 1850—stands 1 mile N. of the village of that name, about ¾ of a mile W. of the Bir Band, and 2½ miles N. of Parmanandpur village on the road from Dagmara Pipráhi to Sahibganj. The station is in the lands of the village of Baisi, thána and sub-division Supaul, district Bhagalpur.

The station consists of a square tower of sun-dried bricks 20 feet high, enclosing a perforated and isolated masonry pillar having 5 mark-stones as follows:—one at ground level and the others at intervals of 6, 12, 18 and 20 feet respectively above it. The station was built first in connection with the Malúncha Meridional Series and revisited in 1850 in the course of the operations of the N.E. Longitudinal Series. The directions and distances of the circumjacent villages are:—Barmaudarchak N. by E., mile ¾; Sibnagar S.E. by E., miles 2; Dinbaudi E.N.E., miles 1½; and Ratanpur N.W., miles 1½.

CV. Minai Tower Station, lat. 26° 20', long. 87° 4'—observed at in 1846, 1847 and 1850—stands 1 mile N. W. of the town of Náthpur and the same distance W. of that of Rajganj. The station is in the lands of the village of Bhímpur, thána Pratapgauj, sub-division Supaul, district Bhagalpur.

The station consists of a tower of sun-dried bricks 32 feet high and 13½ feet square at top, supported by an embankment of earth on the outside to a height of 24 feet, with a flight of steps 5 feet wide leading to the top. In the tower is a paka isolated masonry pillar having 6 mark-stones, one at ground level and the others at intervals of 6, 14, 20, 26 and 32 feet respectively above it. The entire station was washed away by the river Kosi in 1873. The directions and distances of the circumjacent villages are:—Bhímpur N.N.W., miles 1½; Sahibganj N.E., miles 2; Bardaha S. by W. by S., miles 1½; and Jivachpur W.S.W., miles 2½.

CVI. Chuni Tower Station, lat. 26° 11', long. 87° 3'—observed at in May and December 1846 and in 1850—stands about ½ of a mile S. E. of the hamlet of that name on the road to Náthpur, and 1½ miles W. by S. of Pati Ratansar and 4½ miles W. of the main channel of the Kosi river. The station is in the lands of the village of Chuni, thána Pratapgauj, pargana Dapahar, district Bhagalpur.

The station consists of a tower of sun-dried bricks 19 feet high and 15 feet square at top, protected by outer embankment of earth to a height of 13 feet and having a flight of steps 5 feet wide leading to the top. It encloses an isolated pillar of paka masonry having 5 mark-stones as follows:—one at ground level and the others at intervals of 7, 13, 18 and 19 feet respectively above it. The station was built in 1846 in connection with the Malúncha Meridional Series and revisited in 1850 for the observations of the N.E. Longitudinal Series. The directions and distances of the circumjacent villages are:—Baidyanáthpur N.W., miles 1½; Husainpur W. by S., miles 1½; Katalai S.E., miles 1½; and Sohata N.E., miles 2½.

CVII. Rám Nagar Tower Station, lat. 26° 2', long. 87° 2'—observed at in 1846 and 1850—stands about ¾ mile N. W. by N. of the village of Rám Nagar Mahesh, 2 miles N. W. by W. of Rangpati which is a little W. of the road to Náthpur and 4½ miles W. of the Kosi river. The station is in the lands of the village of Rám Nagar Mahesh, thána Mudlipura, pargana Nisankpur, district Bhagalpur.

The station consists of a square tower of sun-dried bricks 20 feet high, enclosing an isolated pillar of solid masonry having 5 mark-stones, one at the top, another one foot below ground level and the others at intervals of 6, 13 and 19 feet respectively above ground level. The greater portion of the station was reported to have fallen down in 1872 and 1873. The directions and distances of the circumjacent villages are:—Parmanandpur E. by N., miles 2; Bela Sadi S. by E., miles  $1\frac{1}{2}$ ; Purajai Kararia N.N.E., mile 1; and Gadhia S.W. by S., miles  $2\frac{3}{4}$ .

CVIII. Manúla Tower Station, lat.  $26^{\circ} 5'$ , long.  $87^{\circ} 11'$ —observed at in 1846 and 1850—stands on the left bank of one of the channels about a mile N. E. of the Kosi river; the village of Manúlapati which is on the right bank of the river is about 3 miles W. by N. of Raniganj. The station is in the lands of the village of Manúlapati, thána Raniganj, sub-division Araria, district Purnea.

The station consists of a square tower of sun-dried bricks 20 feet high, enclosing an isolated pillar of solid masonry having 5 mark-stones, one, a foot and a half below ground level and the others 7, 13, 19 and 20 feet respectively above it. The directions and distances of the circumjacent villages are:—Bhargania W., miles  $1\frac{1}{2}$ ; Rámporádi S.W. by W., mile 1.

CIX. Ghiba (Ghiva) Tower Station, lat.  $26^{\circ} 14'$ , long.  $87^{\circ} 12'$ —observed at in 1846, 1847 and 1850—stands close W. of the village of that name, about  $1\frac{1}{2}$  miles in the same direction of Parwaha village near the high road from Náthpur to Purnea. The station is in the lands of the village of Ghiba, thána Forbesganj, district Purnea.

The station consists of a tower of sun-dried bricks and mud cement 14 feet square at top, enclosing a solid pillar of masonry 22 feet in height of which the upper portion is circular and isolated: there are six mark-stones, the first  $1\frac{1}{2}$  feet below the ground level, and five others 7, 13, 19, 20 and 22 feet respectively above it, the uppermost being on the summit of the pillar: the tower is surrounded by an embankment of earth to a height of 13 feet. The station was originally built in 1846 in connection with the operations of the North Malúcha Series, it was then only 20 feet in height, it had a mark-stone on its summit and four others below it as mentioned above. When visited in 1847 in connection with the operations of this series, the pillar was raised by 2 feet and another mark-stone inserted in its upper surface. The directions and distances of the circumjacent villages are:—Bariarpur S.W. by W., miles  $1\frac{1}{2}$ ; Sulda N., miles  $1\frac{1}{2}$ ; Araha S.S.E., miles  $1\frac{1}{2}$ ; and Lachmipur S.E. by S., miles 2.

CX. Nirpur (Mirpur) Tower Station, lat.  $26^{\circ} 22'$ , long.  $87^{\circ} 15'$ —observed at in 1847 and 1850—stands on an elevated part of the bank of Gauria stream,  $\frac{1}{2}$  a mile S. of the village of Mirpur, 3 miles N. of Matiari and  $3\frac{1}{2}$  miles S. of the Nepal boundary. The station is in the lands of the village of Nirpur or Mirpur, thána Matiari, sub-division Araria, district Purnea.

The station consists of a tower of sun-dried bricks 28 feet high and 14 feet square at top, protected by an outer embankment of earth to a height of 18 feet with a flight of steps 5 feet wide leading to the top. The tower encloses an isolated pillar of solid masonry, having 5 mark-stones as follows:—one at the bottom and the others at intervals of 9, 18, 27 and 28 feet respectively above it. The directions and distances of the circumjacent villages are:—Bhavánipur N.W., mile 1; Bathnaha S.W., mile 1; Baga S.E., mile 1; and Bhiriari N.E., mile 1.

CXI. Mánikpur Tower Station, lat.  $26^{\circ} 12'$ , long.  $87^{\circ} 21'$ —observed at in 1847—stands on the eastern edge of an extensive undulating tract of elevated land, 1 mile S. E. of the village of that name, 8 miles W. by N. of the Rámpur factory on the Panár river. The station is in the lands of the village of Mánikpur, thána Matiari, sub-division Araria, district Purnea.

The station consists of a tower of sun-dried bricks 29 feet high and 14 feet square at top, supported to a height of 18 feet by an embankment of earth and enclosing an isolated pillar of solid masonry having mark-stones at top and bottom and several intermediate ones. A flight of steps 5 feet wide gives access to the top of the tower. The directions and distances of the circumjacent villages are:—Dúndia Sonapur E.S.E., miles  $2\frac{1}{2}$ ; Haldia S. by E., miles  $1\frac{1}{2}$ ; Halkalia N. by W., mile  $\frac{1}{2}$ ; and Rahikpur N.N.E., miles  $1\frac{1}{2}$ .

CXII. Kamaldaha Tower Station, lat.  $26^{\circ} 21'$ , long.  $87^{\circ} 26'$ —observed at in 1847—stands on a flat piece of ground about  $\frac{1}{4}$  mile N. E. of the village of that name, just S. E. of a temple about midway between the Balia and Bakra rivers which flow about  $1\frac{1}{2}$  miles W. and E. respectively of the station. The station is in the lands of the village of Kamaldaha, thána Matiari, sub-division Araria, district Purnea.

The station consists of a tower of sun-dried bricks 28 feet high and 14 feet square at top, supported to a height of 18 feet by an embankment of earth and enclosing an isolated pillar of solid masonry, and having 5 mark-stones, viz., one at bottom and the others, 9, 18, 27 and 28 feet respectively above it. The directions and distances of the circumjacent villages are:—Sájhna S.W. by S., mile  $\frac{3}{4}$ ; Bhakri Melik, N.E. by E., miles  $1\frac{1}{2}$ ; Shankarpur W. by S., miles  $1\frac{1}{2}$ ; and Sonapur S.S.E., miles  $1\frac{1}{2}$ .

CXIII. Banghora Tower Station, lat.  $26^{\circ} 13'$ , long.  $87^{\circ} 32'$ —observed at in 1847—stands on the north bank of a tank about  $\frac{1}{2}$  a mile S. of the small village of that name,  $1\frac{1}{2}$  miles W. of the main stream of the

Parwán river, 3 miles E. of the Bakra river, and 4 miles N. by E. of the town of Araria. The station is in the lands of the village of Banghóra, thána and sub-division Araria, district Purnea.

The station consists of a tower of sun-dried bricks 25 feet high and 13 feet square at top, supported to a height of 23 feet by an embankment of earth, and enclosing a solid and isolated pillar of masonry having the usual mark-stones at top and bottom and several intermediate ones. A flight of steps 5 feet wide gives access to the top of the tower. The directions and distances of the circumjacent villages are:—Bhikka S.E., miles  $1\frac{1}{2}$ ; Dehati N., miles  $1\frac{1}{2}$ ; Buchi W. by S., miles  $2\frac{1}{2}$ ; and Bahugá S., miles  $1\frac{1}{2}$ .

CXIV. Dipnagar Tower Station, lat.  $26^{\circ} 21'$ , long.  $87^{\circ} 37'$ —observed at in 1847—stands about  $\frac{1}{2}$  a mile to the S. of the small village of Dipnagar,  $\frac{2}{3}$  of a mile N.E. of the junction of the Ratua and Nunán streams and  $2\frac{1}{2}$  miles S. of the Nepal boundary. The station is in the lands of the village of Dipnagar, thána and sub-division Araria, district Purnea.

The station consists of a tower of sun-dried bricks 28 feet high and 14 feet square at top, supported to a height of 18 feet by an embankment of earth, with a flight of steps 5 feet wide leading to the top of the tower: enclosed in it is a solid and isolated pillar of masonry having mark-stones at top and bottom with intermediate ones at 9, 18 and 27 feet respectively above the bottom. The approximate directions and distances of the circumjacent villages are:—Pararia N.W. by W., mile 1; Balua S.S.E., miles  $1\frac{1}{2}$ ; Ránikata N.N.W., miles 2; and Jhala N.E. by E., miles  $1\frac{3}{4}$ .

CXV. Musaldanga Tower Station, lat.  $26^{\circ} 13'$ , long.  $87^{\circ} 43'$ —observed at in 1847—stands about 50 yards to the N.W. of the small village of that name about midway between the Kawal and Ratua streams and  $1\frac{1}{4}$  miles W. of Asurah village. The station is in the lands of the village of Musaldanga, thána Bahadurganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 28 feet high and 13 feet square at top, supported by an embankment of earth to a height of 18 feet and enclosing a solid and isolated pillar of masonry having 5 mark-stones, viz. one at bottom and the others at 9, 18, 27 and 28 feet respectively above it. A flight of steps 5 feet wide gives access to the top of the tower. The directions and distances of the circumjacent villages are:—Látor S.E., mile  $\frac{3}{4}$ ; Khúnti S.W., mile 1; Bhulmá W.N.W., mile 1; Pokharia S.E. by S., miles  $1\frac{1}{2}$ ; and Durgapur N.W. by N., miles 2.

CXVI. Lachmipur Tower Station, lat.  $26^{\circ} 22'$ , long.  $87^{\circ} 48'$ —observed at in 1847—stands about  $1\frac{1}{2}$  miles S. W. by S. of the Rangapani factory close to the left bank of the Dádhar stream,  $1\frac{1}{2}$  miles N. W. of its junction with the Kankai river and 4 miles S. E. of the Nepal boundary. The station is in the lands of the village of Lachmipur, thána Bahadurganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 26 feet high and 13 feet square at top, supported to a height of 16 feet by an embankment of earth and enclosing a solid and isolated pillar of masonry, having mark-stones at top and bottom with 3 intermediate ones, which are 8, 16 and 25 feet respectively above the bottom one. A flight of steps 5 feet wide leads to the top of the tower. The directions and distances of the circumjacent villages are:—Lachmipur N.N.W., miles  $1\frac{1}{2}$ ; Bhághálpur W. by S., miles 2; Gurmura S.S.W., miles  $1\frac{1}{2}$ ; Tulsia S.E. by E., miles  $2\frac{3}{4}$ ; and Dalibáth N.E., miles  $1\frac{1}{4}$ .

CXVII. Tagria Tower Station, lat.  $26^{\circ} 13'$ , long.  $87^{\circ} 53'$ —observed at in 1847—stands  $\frac{1}{4}$  mile W. of the Kankai river, the same distance S. of Tagria village,  $4\frac{3}{4}$  miles S. E. of Bahadurganj, and  $4\frac{3}{4}$  miles W. by N. of Damdama village close to the left bank of the Mahananda river. The station is in the lands of the village of Tagria, thána Bahadurganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 22 feet high and 13 feet square at top, supported to a height of 12 feet by an embankment of earth and enclosing a solid and isolated pillar of masonry having mark-stones at top and bottom with 3 intermediate ones at  $7\frac{1}{2}$ , 12 and 21 feet respectively above the bottom one. A flight of steps 5 feet wide leads to the top of the tower. The station was swept away in 1880. The directions and distances of the circumjacent villages are:—Gorimani S.E., mile  $\frac{1}{2}$ ; Ultabari N. by E., miles  $1\frac{1}{2}$ ; Halgáchi S., mile  $\frac{3}{4}$ ; Jharkachpur N. by W., mile  $\frac{3}{4}$ ; and Natuapara S.W. by W., miles  $1\frac{1}{2}$ .

CXVIII. Bandarjála Tower Station, lat.  $26^{\circ} 22'$ , long.  $87^{\circ} 58'$ —observed at in 1847—stands on the northern of two contiguous mounds 12 or 14 feet high and apparently formed by the debris of a ruined Hindu temple about  $\frac{2}{3}$  mile S.S.W. of the southern of two villages called Bandarjála,  $\frac{1}{3}$  of a mile E. of the Kankai river, and 2 miles W. of the Nepal boundary. The station is in the lands of the village of Bandarjála, thána Kalianganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 18 feet high and 14 feet square at top with a flight of steps 5 feet wide leading to the summit. The tower encloses a solid and isolated masonry pillar having mark-stones at top and bottom and 2 others at 6 and 17 feet respectively from the base. When visited by the Darjeeling Party in 1842-83 no mark-stones were found and the observations were taken from the centre of the top of the mound. The directions and distances of the adjoining villages are:—Deramári N.W. by W., mile 1; Tedári E.S.E., mile  $\frac{3}{4}$ ; Jágir Padampur W., miles  $3\frac{1}{4}$ ; Pawakháli S., miles 1; and Kájagaon E.N.E., mile 1.



**CXIX.** Kharkhari Tower Station, lat.  $26^{\circ} 14'$ , long.  $88^{\circ} 2'$ —observed at in 1848—stands  $\frac{1}{4}$  mile E. of a bend of the Dank stream 1 mile S. of the large village of Kharkhari close N.W. of the high road from Purnea to Kaliaganj. The station is in the lands of Kharkhari village, thána Kaliaganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 30 feet high and 14 feet square at top, supported on the outside by an earth embankment to a height of 22 feet, with a flight of steps 5 feet wide giving access to the top. The tower encloses a solid and isolated pillar of masonry 4 feet in diameter, having mark-stones at top and bottom with intermediate ones at 10, 20 and 29 feet respectively above the base. The directions and distances of the circumjacent villages are:—Purlabári Khás E. by N., miles  $1\frac{1}{2}$ ; Keshnigra N.W. by W., mile  $\frac{3}{4}$ ; Haldágaon S.S.W., mile  $\frac{3}{4}$ ; Dámarbári S., miles  $1\frac{1}{2}$ ; and Phurabári N.E., miles  $1\frac{1}{2}$ .

**CXX.** Thakurganj Tower Station, lat.  $26^{\circ} 25'$ , long.  $88^{\circ} 8'$ —observed at in 1847, 1848 and 1855—stands on the edge of some high land, distant about 200 yards N.E. of the small deserted village of that name,  $3\frac{1}{2}$  miles N.W. by N. of the town of Kaliaganj on the high road to Purnea, and  $3\frac{1}{4}$  miles N. of the Barnai thána which is  $\frac{1}{2}$  a mile N. of the Mahananda River. The station is in the lands of Thakurganj village, factory Kaliaganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 13 feet high and 14 feet square at top, supported externally to a height of  $2\frac{1}{2}$  feet by an embankment of earth, with a flight of steps 5 feet wide leading to the top, and enclosing a solid pillar of masonry 4 feet in diameter with a mark-stone at top and bottom and two intermediate ones. The station was originally built in connection with the operations of the N.E. Longitudinal Series to a height of only 10 feet with upper and lower and intermediate mark-stones but when revisited in 1855 in connection with the operations of the Assam Longitudinal Series it was raised 3 feet and another mark-stone inserted. The directions and distances of the circumjacent villages are:—Chángmári W.S.W., mile 1; Karwámani S.S.E., mile 1; Daligaon S.W. by W., miles  $2\frac{1}{4}$ ; Udragori E. by S., mile 1; and Farabári N.W., mile  $\frac{3}{4}$ .

**CXXI.** Sonakhoda Tower Station, lat.  $26^{\circ} 15'$ , long.  $88^{\circ} 12'$ —observed at in 1847, 1848 and 1855—stands close to a cart road leading to Kishanganj, about  $\frac{3}{4}$  mile N.N.W. of the village of Sonakhoda,  $2\frac{1}{2}$  miles E. of Gobindpur on the high road from Kishanganj to Rámganj. The station is in the lands of Sonakhoda village, thána Kaliaganj, sub-division Kishanganj, district Purnea.

The station being the S.W. end of a base line, the entire tower is of paka masonry 24 feet high and 14 feet square at top with a vaulted passage running through it at ground level in the direction of the base-line. The central pillar is perforated and isolated throughout and is built on the roof of the vault, through an aperture in which access is obtained to the lowest mark which is engraved on a small piece of brass let into the floor of the vault. This mark was transferred by means of a plummet to the top of the pillar where a mark-stone was embedded. The height of this above that on the floor of the vault was 21.6 feet. After the completion of the observations the entrances to the vault were closed with masonry and a cone of masonry 3 feet high was built on top over the pillar. A flight of steps is built along one side of the tower with a landing place at top; the portion adjoining the tower was of masonry but the extension was of mud and was removed on completion of the observations so as to prevent easy access to the top. When revisited in 1855 in connection with the operations of the Assam Longitudinal Series the upper mark-stone was found destroyed and another was inserted by plumbing over the floor mark, after which the passage of the vault was again closed up by masonry. The directions and distances of the circumjacent villages are:—Hákalhári W., miles  $1\frac{1}{4}$ ; Baraitola S.W. by S., mile 1; Balaunja E. by N., miles  $1\frac{1}{4}$ ; Ghoramara S., miles  $1\frac{1}{4}$ ; and Katalbári S.E. by E., mile 1.

**CXXII.** Rámganj Tower Station, lat.  $26^{\circ} 19'$ , long.  $88^{\circ} 18'$ —observed at in 1848 and 1855—stands close to the S.W. side of the village of Rámganj and on the high road to Kishanganj, 3 miles S. of the Dank stream,  $4\frac{1}{2}$  miles N.W. of the Dinájpur boundary and 4 miles S.S.W. of the junction of the roads from Kaliaganj, Rámganj and Dinájpur. The station is in the lands of Rámganj village, thána Kaliaganj, sub-division Kishanganj, district Purnea.

As this station forms the N.E. End of the base-line it was built exactly like the Sonakhoda Tower except that its height is 20 feet and the distance between the upper mark and that in the vault is 18 feet. When revisited in 1855 both marks were found to have remained undisturbed. Similar precautions were taken for the preservation of the tower as at Sonakhoda. The directions and distances of the circumjacent villages are:—Baldia Gach W., mile 1; Audal Gach N.N.W., mile 1; Kojágaon N.E. by E., miles  $1\frac{1}{4}$ ; Setar Gach S.E., mile 1; and Masid Gach E., mile  $\frac{1}{2}$ .

**CXXIII.** Dumdángi Tower Station, lat.  $26^{\circ} 29'$ , long.  $88^{\circ} 18'$ —observed at in 1848 and 1855—stands on the western extremity of some high land which extends to the eastward of the station, and has a command of about 60 feet over the country to the south and 30 feet over that to the west. It is close east of the high road from Purnea to Darjeeling, 4 miles S.W. by W. of Tentulia. The station is in the lands of Dumdángi village, thána Kaliaganj, sub-division Kishanganj, district Purnea.

The station consists of a tower of sun-dried bricks 10 feet high and 14 feet square at top supported to a height of 8 feet by an embankment of earth, enclosing an isolated and solid pillar of masonry 4 feet in diameter, and having mark-stones at top and bottom and one intermediate. A flight of steps 5 feet wide leads to the top of the tower. When revisited in 1855

in connection with the Assam Longitudinal Series the upper mark was found destroyed—the pillar was then pulled down a distance of 5 feet, when a mark-stone being found the pillar was rebuilt to its original height of 10 feet and a new mark-stone embedded. The directions and distances of the circumjacent villages are:—Chitalghatta W.S.W., mile  $\frac{1}{2}$ ; Jhánjri N.E. by E. mile  $\frac{1}{2}$ ; Pawákháli S., miles  $1\frac{1}{2}$ ; Barbilla E.N.E., mile 1; and Koimári S.W., mile  $\frac{1}{4}$ .

CXXIV. Kanchabári Tower Station, lat.  $26^{\circ} 28'$ , long.  $88^{\circ} 25'$ —observed at in 1848, 1854 and 1855—stands near the S.E. extremity of the same high land on which Dumdángi T.S. is built, about  $\frac{3}{4}$  mile W. of the Dank stream; and  $5\frac{1}{2}$  miles S.E. by E. of Tentulia town on the high road from Purnea to Darjeeling. The station is in the lands of the village of Kanchabári, thána Kaliaganj, sub-division Kishanganj, district Purnea.

The station, as originally constructed in 1848, consisted of a mound of earth 60 feet square at base, 14 feet at top and 20 feet high, thrown up against an annular wall of masonry, 1 foot thick, enclosing a solid masonry pillar isolated by a space of 3 inches, and having mark-stones at top, bottom and intermediately—a ramp 7 feet wide with an easy slope leads to the top of the tower. When revisited in 1855 the upper mark-stone was found intact and no change was made in the construction of the pillar. The directions and distances of the circumjacent villages are:—Khojabári S.E. by S., mile  $\frac{1}{2}$ ; Athárákai N.N.E., mile  $\frac{1}{2}$ ; Dholdúnga S.W. by S., mile  $\frac{3}{4}$ ; Bhajanpur Dengápára N.N.E., mile  $\frac{1}{4}$ ; and Rati Gach W., mile 1.

CXXV. Chotáki Tower Station, lat.  $26^{\circ} 11'$ , long.  $88^{\circ} 20'$ —observed at in 1848 and 1855—stands on the north bank of a tank distant about  $\frac{1}{4}$  mile to N.W. of the hamlet of Dhojpára of the village of Chotáki,  $2\frac{1}{4}$  miles S.E. by S. of the Puranhát on the left bank of the Nágar stream,  $4\frac{3}{4}$  miles W. of the Maheshpur hát on the high road Dinajpur to Darjeeling and  $\frac{3}{4}$  of a mile N.N.W. of Kochabári hát. The station is in the lands of Chotáki village, thána and sub-division Thakurgaon, district Dinajpur, Rajshahi division.

The station consists of a tower of sun-dried bricks 23 feet high and 14 feet square at top, with a ramp six feet wide leading to the top. The tower encloses an isolated and solid pillar of masonry, and having mark-stones at top, bottom and intermediately. When revisited in 1855 the pillar was found in good preservation but the outer wall of sun-dried bricks had to be repaired. The directions and distances of the circumjacent villages are:—Mahajanpára N.W. by N., mile  $\frac{1}{2}$ ; Goratpára W., mile 1; Bámankurnár N.E. by E., miles  $1\frac{1}{2}$ ; Chotáki N.E., mile  $\frac{3}{4}$ .

CXXVI. Newáni Tower Station, lat.  $26^{\circ} 16'$ , long.  $88^{\circ} 29'$ —observed at in 1848, 1853, 1854 and 1855—stands at the N.W. corner of a tank, close to the road from Narani hát to Jholai hát, about  $\frac{1}{2}$  a mile N.N.W. of the former and 1 mile S. by E. of the latter, about  $\frac{1}{3}$  of a mile N.W. of the principal portion of the straggling village of Jholai; 1 mile E. of the Tangon river;  $5\frac{3}{4}$  miles S.W. of the hát and ferry of Pochagar on the Karto river, and 5 miles W. of the high road from Pochagar to Boda Chakla hát. Newáni is the name of the locality in which the station is situated. The station is in the lands of Charakuti village, thána Boda Chakla, sub-division and district Jalpaiguri.

The station consists of a tower of sun-dried bricks 29.2 feet high and 14 feet square at top, supported to a height of 1 foot with an embankment of earth, enclosing a solid and isolated pillar of masonry having mark-stones at top and bottom and at least two intermediately—a ramp of earth 6 feet wide leads to the summit. When originally constructed in 1848 the station was only 24 feet high but when revisited in 1855 it was raised 5.2 feet and a new mark-stone was embedded at the top. The directions and distances of the circumjacent villages are:—Tatipára W., mile  $\frac{1}{4}$ ; Magura hát N. by E., miles  $2\frac{1}{2}$ ; Bairágipára E.N.E. miles  $1\frac{3}{4}$ ; Fakirpára S., mile  $\frac{3}{4}$ .

August 1907.

J. ECCLES.

In charge of Computing Office.

## NORTH-EAST LONGITUDINAL SERIES.

## PRINCIPAL TRIANGULATION. TRIANGLES.

| No. of Triangle | Station          | Spherical Excess | Corrected Plane Angle |    |       | Distance  |          |        |
|-----------------|------------------|------------------|-----------------------|----|-------|-----------|----------|--------|
|                 |                  |                  |                       |    |       | Log. feet | Feet     | Miles  |
| 1               | Chándipahár, LIV | 0.84             | 66                    | 35 | 5.24  | 5.1012760 | 126263.0 | 23.913 |
|                 | Ghandiál, LVI    | .83              | 39                    | 29 | 26.64 | 4.9420246 | 87503.4  | 16.573 |
|                 | Mábegarh, I      | .84              | 73                    | 55 | 28.12 | 5.1212764 | 132213.7 | 25.040 |
| 2               | Ghandiál, LVI    | 0.86             | 53                    | 43 | 37.16 | 5.0297619 | 107093.2 | 20.283 |
|                 | Mábegarh, I      | .87              | 54                    | 22 | 20.88 | 5.0333102 | 107971.8 | 20.449 |
|                 | Ránigarh, II     | .87              | 71                    | 54 | 1.96  | 5.1012760 | 126263.0 | 23.913 |
| 3               | Mábegarh, I      | 1.08             | 56                    | 21 | 22.32 | 5.1132768 | 120800.6 | 24.583 |
|                 | Ránigarh, II     | 1.09             | 80                    | 15 | 42.26 | 5.1865903 | 153670.4 | 29.104 |
|                 | Ghungti, IV      | 1.08             | 43                    | 22 | 55.42 | 5.0297619 | 107093.2 | 20.283 |
| 4               | Mábegarh, I      | 1.12             | 40                    | 44 | 13.04 | 5.0151178 | 103542.3 | 19.610 |
|                 | Ghungti, IV      | 1.13             | 63                    | 40 | 34.83 | 5.1529342 | 142211.3 | 26.934 |
|                 | Girijwala, III   | 1.13             | 75                    | 35 | 12.13 | 5.1865903 | 153670.4 | 29.104 |
| 5               | Chándipahár, LIV | 1.05             | 83                    | 18 | 46.60 | 5.2235428 | 167318.0 | 31.689 |
|                 | Mábegarh, I      | 1.05             | 65                    | 23 | 37.74 | 5.1851627 | 153166.1 | 29.009 |
|                 | Mahesari, LII    | 1.05             | 31                    | 17 | 35.66 | 4.9420246 | 87503.4  | 16.573 |

NOTE.—1. The value of the side is given in the same line with the opposite angle.

2. Stations Mahesari, LII, Chándipahár, LIV and Ghandiál, LVI appertain to the Great Arc Meridional Series, Section 24° to 30° of the North-West Quadrilateral.

| No. of Triangle | Station         | Spherical Excess | Corrected Plane Angle |      |         |            | Distance  |         |  |
|-----------------|-----------------|------------------|-----------------------|------|---------|------------|-----------|---------|--|
|                 |                 |                  | Log. feet             | Feet | Miles   |            |           |         |  |
| 6               | Mahesari, LII   | 1° 75'           | 48                    | 41   | 19' 12" | 5° 1529342 | 142211' 3 | 26° 034 |  |
|                 | Mábegarh, I     | 1° 76'           | 69                    | 12   | 51' 18" | 5° 2479887 | 177006' 3 | 33° 521 |  |
|                 | Girijwála, III  | 1° 75'           | 62                    | 5    | 49' 70" | 5° 2235428 | 167318' 0 | 31° 689 |  |
| 7               | Ghungti, IV     | 0° 77'           | 53                    | 15   | 35' 58" | 4° 9996613 | 99922' 1  | 18° 925 |  |
|                 | Girijwála, III  | ° 77'            | 70                    | 36   | 4' 43"  | 5° 0704528 | 117612' 3 | 22° 275 |  |
|                 | Dhela, V        | ° 77'            | 56                    | 8    | 19' 99" | 5° 0151178 | 103542' 3 | 19° 610 |  |
| 8               | Ghungti, IV     | 0° 99'           | 43                    | 13   | 22' 85" | 5° 0292610 | 106969' 8 | 20° 259 |  |
|                 | Dhela, V        | 1° 00'           | 87                    | 55   | 41' 51" | 5° 1933879 | 156094' 6 | 29° 563 |  |
|                 | Saonchália, VI  | 0° 99'           | 48                    | 50   | 55' 64" | 5° 0704528 | 117612' 3 | 22° 275 |  |
| 9               | Girijwála, III  | 0° 50'           | 18                    | 35   | 56' 95" | 5° 0292610 | 106969' 8 | 20° 259 |  |
|                 | Dhela, V        | ° 50'            | 144                   | 4    | 2' 77"  | 5° 2940591 | 196815' 4 | 37° 276 |  |
|                 | Saonchália, VI  | ° 49'            | 17                    | 20   | 0' 28"  | 4° 9996613 | 99922' 1  | 18° 925 |  |
| 10              | Dhela, V        | 1° 57'           | 70                    | 4    | 57' 39" | 5° 2795939 | 190368' 0 | 36° 055 |  |
|                 | Saonchália, VI  | 1° 57'           | 78                    | 1    | 36' 30" | 5° 2968281 | 198074' 3 | 37° 514 |  |
|                 | Bagwára, VII    | 1° 56'           | 31                    | 53   | 26' 31" | 5° 0292610 | 106969' 8 | 20° 259 |  |
| 11              | Saonchália, VI  | 1° 89'           | 53                    | 33   | 34' 82" | 5° 2017095 | 159114' 4 | 30° 135 |  |
|                 | Bagwára, VII    | 1° 89'           | 52                    | 10   | 56' 85" | 5° 1938056 | 156244' 8 | 29° 592 |  |
|                 | Birond, VIII    | 1° 89'           | 74                    | 15   | 28' 33" | 5° 2795939 | 190368' 0 | 36° 055 |  |
| 12              | Dhela, V        | 2° 47'           | 41                    | 3    | 54' 15" | 5° 2017095 | 159114' 4 | 30° 135 |  |
|                 | Bagwára, VII    | 2° 47'           | 84                    | 4    | 24' 14" | 5° 3818726 | 240919' 8 | 45° 629 |  |
|                 | Birond, VIII    | 2° 47'           | 54                    | 51   | 41' 71" | 5° 2968281 | 198074' 3 | 37° 514 |  |
| 13              | Bagwára, VII    | 1° 10'           | 64                    | 29   | 35' 31" | 5° 1657314 | 146464' 2 | 27° 739 |  |
|                 | Birond, VIII    | 1° 10'           | 36                    | 50   | 39' 80" | 4° 9881614 | 97310' 9  | 18° 430 |  |
|                 | Baheri, IX      | 1° 11'           | 78                    | 39   | 44' 89" | 5° 2017095 | 159114' 4 | 30° 135 |  |
| 14              | Bagwára, VII    | 0° 66'           | 66                    | 1    | 18' 71" | 5° 0159651 | 103744' 5 | 19° 649 |  |
|                 | Baheri, IX      | ° 65'            | 54                    | 59   | 32' 98" | 4° 9684858 | 93000' 6  | 17° 614 |  |
|                 | Sisgarh, X      | ° 65'            | 58                    | 59   | 8' 31"  | 4° 9881614 | 97310' 9  | 18° 430 |  |
| 15              | Baheri, IX      | 0° 58'           | 59                    | 1    | 58' 59" | 4° 9723579 | 93833' 5  | 17° 771 |  |
|                 | Sisgarh, X      | ° 58'            | 49                    | 31   | 11' 07" | 4° 9203156 | 83236' 8  | 15° 765 |  |
|                 | Atária, XI      | ° 59'            | 71                    | 26   | 50' 34" | 5° 0159651 | 103744' 5 | 19° 649 |  |
| 16              | Baheri, IX      | 0° 35'           | 52                    | 13   | 53' 62" | 4° 8321558 | 67944' 7  | 12° 868 |  |
|                 | Atária, XI      | ° 35'            | 52                    | 12   | 32' 97" | 4° 8320242 | 67924' 1  | 12° 864 |  |
|                 | Donao, XII      | ° 36'            | 75                    | 33   | 33' 41" | 4° 9203156 | 83236' 8  | 15° 765 |  |
| 17              | Birond, VIII    | 0° 71'           | 19                    | 20   | 33' 63" | 4° 8320241 | 67924' 1  | 12° 864 |  |
|                 | Baheri, IX      | ° 71'            | 115                   | 4    | 46' 52" | 5° 2689050 | 185739' 8 | 35° 178 |  |
|                 | Donao, XII      | ° 71'            | 45                    | 34   | 39' 85" | 5° 1657314 | 146464' 2 | 27° 739 |  |
| 18              | Atária, XI      | 0° 23'           | 55                    | 25   | 44' 12" | 4° 7616979 | 57769' 4  | 10° 941 |  |
|                 | Donno, XII      | ° 23'            | 48                    | 59   | 59' 49" | 4° 7238539 | 52948' 5  | 10° 028 |  |
|                 | Kaliánpur, XIII | ° 24'            | 75                    | 34   | 16' 39" | 4° 8321558 | 67944' 7  | 12° 868 |  |
| 19              | Donao, XII      | 0° 19'           | 47                    | 16   | 15' 78" | 4° 6699684 | 46770' 1  | 8° 858  |  |
|                 | Kaliánpur, XIII | ° 20'            | 67                    | 35   | 25' 50" | 4° 7698327 | 58861' 7  | 11° 148 |  |
|                 | Kaimkhera, XIV  | ° 20'            | 65                    | 8    | 18' 72" | 4° 7616979 | 57769' 4  | 10° 941 |  |
| 20              | Kaliánpur, XIII | 0° 19'           | 59                    | 0    | 38' 28" | 4° 7254172 | 53139' 5  | 10° 064 |  |
|                 | Kaimkhera, XIV  | ° 19'            | 72                    | 0    | 24' 33" | 4° 7705261 | 58955' 7  | 11° 166 |  |
|                 | Umra, XV        | ° 18'            | 48                    | 58   | 57' 39" | 4° 6699684 | 46770' 1  | 8° 858  |  |

NOTE.—Station Mahesari, LII appertains to the Great Arc Meridional Series, Section 24°-30', of the North-West Quadrilateral.

| No. of Triangle | Station          | Spherical Excess | Corrected Plane Angle | Distance  |         |        |
|-----------------|------------------|------------------|-----------------------|-----------|---------|--------|
|                 |                  |                  |                       | Log. feet | Feet    | Miles  |
| 21              | Knimkhora, XIV   | 0° 20            | 62 17 32.56           | 4.7367757 | 54547.6 | 10.331 |
|                 | Umra, XV         | 19               | 58 6 42.45            | 4.7186185 | 52314.1 | 9.908  |
|                 | Sháhgarh, XVI    | 19               | 59 35 44.99           | 4.7254172 | 53139.5 | 10.064 |
| 22              | Umra, XV         | 0° 24            | 66 32 52.39           | 4.8012117 | 63272.0 | 11.983 |
|                 | Sháhgarh, XVI    | 24               | 61 10 57.99           | 4.7812405 | 60428.3 | 11.445 |
|                 | Semrao, XVII     | 23               | 52 16 9.62            | 4.7307757 | 54547.6 | 10.331 |
| 23              | Sháhgarh, XVI    | 0° 24            | 58 39 24.04           | 4.7725411 | 59229.9 | 11.218 |
|                 | Semrao, XVII     | 24               | 55 30 39.66           | 4.7571008 | 57161.1 | 10.826 |
|                 | Udepur, XVIII    | 25               | 65 49 56.30           | 4.8012117 | 63272.0 | 11.983 |
| 24              | Semrao, XVII     | 0° 20            | 58 11 27.33           | 4.7326090 | 54026.8 | 10.232 |
|                 | Udepur, XVIII    | 20               | 53 6 55.22            | 4.7062936 | 50850.3 | 9.631  |
|                 | Piparia, XIX     | 20               | 68 41 37.45           | 4.7725411 | 59229.9 | 11.218 |
| 25              | Udepur, XVIII    | 0° 18            | 64 23 18.13           | 4.7352992 | 54362.5 | 10.296 |
|                 | Piparia, XIX     | 18               | 51 57 6.08            | 4.6764614 | 47474.6 | 8.991  |
|                 | Sultánpur, XX    | 18               | 63 39 35.79           | 4.7326090 | 54026.8 | 10.232 |
| 26              | Piparia, XIX     | 0° 19            | 65 36 3.47            | 4.7445341 | 55530.8 | 10.517 |
|                 | Sultánpur, XX    | 18               | 51 19 58.49           | 4.6776972 | 47609.9 | 9.017  |
|                 | Karái, XXI       | 18               | 63 3 58.04            | 4.7352992 | 54362.5 | 10.296 |
| 27              | Sultánpur, XX    | 0° 24            | 72 41 15.60           | 4.8198683 | 66049.3 | 12.509 |
|                 | Karái, XXI       | 23               | 53 55 39.09           | 4.7475607 | 55919.2 | 10.591 |
|                 | Ramuapur, XXII   | 23               | 53 23 5.31            | 4.7445341 | 55530.8 | 10.517 |
| 28              | Karái, XXI       | 0° 25            | 59 0 49.31            | 4.7854942 | 61023.1 | 11.557 |
|                 | Ramuapur, XXII   | 25               | 52 52 34.36           | 4.7540062 | 56755.3 | 10.749 |
|                 | Kokra, XXIII     | 26               | 68 6 36.33            | 4.8198683 | 66049.3 | 12.509 |
| 29              | Ramuapur, XXII   | 0° 28            | 61 34 1.76            | 4.8129254 | 65001.8 | 12.311 |
|                 | Kokra, XXIII     | 28               | 62 47 18.84           | 4.8178114 | 65737.2 | 12.450 |
|                 | Rámungar, XXIV   | 27               | 55 38 39.40           | 4.7854942 | 61023.1 | 11.557 |
| 30              | Kokra, XXIII     | 0° 35            | 64 42 58.78           | 4.8738518 | 74791.4 | 14.165 |
|                 | Rámungar, XXIV   | 34               | 63 29 3.27            | 4.8603169 | 74014.5 | 14.018 |
|                 | Dahlelnagar, XXV | 34               | 51 47 57.95           | 4.8129254 | 65001.8 | 12.311 |
| 31              | Rámungar, XXIV   | 0° 28            | 44 55 44.34           | 4.7387183 | 54792.1 | 10.377 |
|                 | Dahlelnagar, XXV | 28               | 60 29 25.49           | 4.8204280 | 67519.3 | 12.788 |
|                 | Hilgi, XXVI      | 28               | 74 34 50.17           | 4.8738518 | 74791.4 | 14.165 |
| 32              | Dahlelnagar, XXV | 0° 23            | 68 17 48.61           | 4.7985945 | 62891.9 | 11.911 |
|                 | Hilgi, XXVI      | 23               | 57 39 38.08           | 4.7573286 | 57191.1 | 10.832 |
|                 | Saidhari, XXVII  | 23               | 54 2 33.31            | 4.7387183 | 54792.1 | 10.377 |
| 33              | Hilgi, XXVI      | 0° 22            | 55 25 44.56           | 4.7431121 | 55349.3 | 10.483 |
|                 | Saidhari, XXVII  | 22               | 55 14 24.47           | 4.7421219 | 55223.2 | 10.459 |
|                 | Kuthia, XXVIII   | 23               | 69 19 50.97           | 4.7985945 | 62891.9 | 11.911 |
| 34              | Saidhari, XXVII  | 0° 22            | 59 43 1.29            | 4.7492423 | 56136.1 | 10.632 |
|                 | Kuthia, XXVIII   | 22               | 63 51 48.86           | 4.7706270 | 58969.4 | 11.168 |
|                 | Asogapur, XXIX   | 22               | 57 25 9.85            | 4.7431121 | 55349.3 | 10.483 |
| 35              | Kuthia, XXVIII   | 0° 23            | 68 22 39.28           | 4.7963926 | 62573.8 | 11.851 |
|                 | Asogapur, XXIX   | 22               | 55 6 41.67            | 4.7420369 | 55212.4 | 10.457 |
|                 | Dhaurahra, XXX   | 23               | 56 30 39.05           | 4.7492423 | 56136.1 | 10.632 |

| No. of Triangle | Station           | Spherical Excess | Corrected Plane Angle | Distance  |         |        |
|-----------------|-------------------|------------------|-----------------------|-----------|---------|--------|
|                 |                   |                  |                       | Log. feet | Feet    | Miles  |
| 36              | Asogapur, XXIX    | "                | ° ' "                 |           |         |        |
|                 | Dhaurahra, XXX    | 0'28             | 65 3 2'87             | 4'8263206 | 67037'9 | 12'697 |
|                 | Lákun, XXXI       | 27               | 57 8 13'74            | 4'7931303 | 62105'5 | 11'762 |
| 37              | Dhaurahra, XXX    | 28               | 57 48 43'39           | 4'7963926 | 62573'8 | 11'851 |
|                 | Lákun, XXXI       | 0'25             | 57 33 6'95            | 4'7787298 | 60080'0 | 11'379 |
|                 | Chalua, XXXII     | 25               | 52 7 28'30            | 4'7497180 | 56197'6 | 10'643 |
| 38              | Lákun, XXXI       | 25               | 70 19 24'75           | 4'8263206 | 67037'9 | 12'697 |
|                 | Chalua, XXXII     | 0'23             | 52 34 45'48           | 4'7329738 | 54072'2 | 10'241 |
|                 | Bela, XXXIII      | 24               | 65 28 59'05           | 4'7920110 | 61945'7 | 11'732 |
| 39              | Lákun, XXXI       | 23               | 61 56 15'47           | 4'7787298 | 60080'0 | 11'379 |
|                 | Bela, XXXIII      | 0'28             | 67 31 55'61           | 4'8368874 | 68680'0 | 13'009 |
|                 | Khánpur, XXXIV    | 27               | 56 1 15'68            | 4'7898529 | 61638'6 | 11'674 |
| 40              | Bela, XXXIII      | 28               | 56 26 48'71           | 4'7920110 | 61945'7 | 11'732 |
|                 | Khánpur, XXXIV    | 0'31             | 69 55 44'68           | 4'8709065 | 74285'9 | 14'069 |
|                 | Masi, XXXV        | 30               | 49 47 9'33            | 4'7810039 | 60395'4 | 11'439 |
| 41              | Bela, XXXIII      | 31               | 60 17 5'99            | 4'8368874 | 68689'0 | 13'009 |
|                 | Masi, XXXV        | 0'25             | 56 28 16'03           | 4'7717848 | 59126'9 | 11'198 |
|                 | Atkonawa, XXXVI   | 26               | 65 9 16'32            | 4'8068432 | 64364'0 | 12'190 |
| 42              | Masi, XXXV        | 26               | 58 22 27'65           | 4'7810039 | 60395'4 | 11'439 |
|                 | Atkonawa, XXXVI   | 0'30             | 61 13 2'48            | 4'8370420 | 68713'5 | 13'014 |
|                 | Anárikali, XXXVII | 30               | 69 49 46'04           | 4'8668267 | 73591'4 | 13'938 |
| 43              | Atkonawa, XXXVI   | 30               | 48 57 11'48           | 4'7717848 | 59126'9 | 11'198 |
|                 | Anárikali, XXXVII | 0'27             | 44 49 44'05           | 4'7268298 | 53312'6 | 10'097 |
|                 | Dadaura, XXXVIII  | 27               | 69 51 6'14            | 4'8512206 | 70993'8 | 13'446 |
| 44              | Anárikali, XXXVII | 27               | 65 19 9'81            | 4'8370420 | 68713'5 | 13'014 |
|                 | Dadaura, XXXVIII  | 0'23             | 71 20 52'90           | 4'8125950 | 64952'4 | 12'302 |
|                 | Tilakpur, XXXIX   | 23               | 57 36 10'02           | 4'7625501 | 57882'9 | 10'903 |
| 45              | Dadaura, XXXVIII  | 23               | 51 2 57'08            | 4'7268298 | 53312'6 | 10'097 |
|                 | Tilakpur, XXXIX   | 0'26             | 52 49 40'31           | 4'7642574 | 58110'9 | 11'006 |
|                 | Newáda, XL        | 27               | 64 13 8'20            | 4'8173608 | 65669'1 | 12'437 |
| 46              | Tilakpur, XXXIX   | 27               | 62 57 11'49           | 4'8225950 | 64952'4 | 12'302 |
|                 | Newáda, XL        | 0'26             | 70 35 17'39           | 4'8339216 | 68221'6 | 12'921 |
|                 | Isrápur, XLI      | 26               | 55 57 29'57           | 4'7776994 | 59937'6 | 11'352 |
| 47              | Isrápur, XLI      | 25               | 53 27 13'04           | 4'7642574 | 58110'9 | 11'006 |
|                 | Newáda, XL        | 0'29             | 61 0 1'32             | 4'8187082 | 65873'1 | 12'476 |
|                 | Manichauk, XLII   | 28               | 54 4 4'26             | 4'7852182 | 60084'3 | 11'550 |
| 48              | Isrápur, XLI      | 29               | 64 55 54'42           | 4'8339216 | 68221'6 | 12'921 |
|                 | Manichauk, XLII   | 0'22             | 60 15 42'46           | 4'7749408 | 59558'1 | 11'280 |
|                 | Saibara, XLIII    | 22               | 45 55 22'55           | 4'6926397 | 49276'5 | 9'333  |
| 49              | Manichauk, XLII   | 22               | 73 48 54'99           | 4'8187082 | 65873'1 | 12'476 |
|                 | Saibara, XLIII    | 0'25             | 66 13 53'47           | 4'8064686 | 64042'6 | 12'129 |
|                 | Lobápania, XLIV   | 24               | 55 26 14'02           | 4'7606277 | 57627'2 | 10'914 |
| 50              | Saibara, XLIII    | 25               | 58 19 52'51           | 4'7749408 | 59558'1 | 11'280 |
|                 | Lobápania, XLIV   | 0'25             | 53 19 23'29           | 4'7578242 | 57256'4 | 10'844 |
|                 | Básadola, XLV     | 26               | 62 54 3'07            | 4'8031378 | 63553'3 | 12'037 |
|                 |                   | 26               | 63 46 33'64           | 4'8064686 | 64042'6 | 12'129 |

| No. of Triangle | Station           | Spherical Excess | Corrected Plane Angle |    |       | Distance  |         |        |
|-----------------|-------------------|------------------|-----------------------|----|-------|-----------|---------|--------|
|                 |                   |                  |                       |    |       | Log. feet | Feet    | Miles  |
| 51              | Lohápania, XLIV   | 0.24             | 65                    | 14 | 15.33 | 4.7904477 | 61723.1 | 11.690 |
|                 | Básadela, XLV     | .23              | 57                    | 22 | 27.76 | 4.7577579 | 57247.7 | 10.842 |
|                 | Tulsipur, XLVI    | .23              | 57                    | 23 | 16.91 | 4.7578242 | 57256.4 | 10.844 |
| 52              | Básadela, XLV     | 0.28             | 56                    | 50 | 29.36 | 4.7945589 | 62310.2 | 11.801 |
|                 | Tulsipur, XLVI    | .28              | 67                    | 8  | 3.71  | 4.8362071 | 68581.5 | 12.089 |
|                 | Majhawa, XLVII    | .27              | 56                    | 1  | 26.93 | 4.7904477 | 61723.1 | 11.690 |
| 53              | Tulsipur, XLVI    | 0.24             | 54                    | 33 | 4.50  | 4.7532171 | 56652.3 | 10.730 |
|                 | Majhawa, XLVII    | .24              | 61                    | 48 | 44.90 | 4.7874304 | 61295.8 | 11.609 |
|                 | Ganespur, XLVIII  | .25              | 63                    | 38 | 10.60 | 4.7945589 | 62310.2 | 11.801 |
| 54              | Majhawa, XLVII    | 0.24             | 65                    | 3  | 14.24 | 4.7928805 | 62069.8 | 11.756 |
|                 | Ganespur, XLVIII  | .24              | 59                    | 5  | 47.38 | 4.7689185 | 58737.9 | 11.125 |
|                 | Pipari, XLIX      | .23              | 55                    | 50 | 58.38 | 4.7532171 | 56652.3 | 10.730 |
| 55              | Ganespur, XLVIII  | 0.21             | 59                    | 24 | 36.96 | 4.7507357 | 56329.5 | 10.668 |
|                 | Pipari, XLIX      | .20              | 49                    | 2  | 50.59 | 4.6939085 | 49420.7 | 9.360  |
|                 | Pathárdi, L       | .21              | 71                    | 32 | 32.45 | 4.7928805 | 62069.8 | 11.756 |
| 56              | Pipari, XLIX      | 0.25             | 74                    | 44 | 10.31 | 4.8430114 | 69664.5 | 13.194 |
|                 | Pathárdi, L       | .25              | 53                    | 59 | 40.14 | 4.7665304 | 58415.8 | 11.064 |
|                 | Baukata, LI       | .25              | 51                    | 16 | 0.55  | 4.7507357 | 56329.5 | 10.668 |
| 57              | Pathárdi, L       | 0.26             | 53                    | 7  | 40.59 | 4.7702144 | 58913.5 | 11.158 |
|                 | Baukata, LI       | .27              | 55                    | 47 | 36.58 | 4.7840510 | 60904.7 | 11.535 |
|                 | Paragawa, LII     | .27              | 71                    | 4  | 42.83 | 4.8430114 | 69664.5 | 13.194 |
| 58              | Baukata, LI       | 0.27             | 70                    | 9  | 55.48 | 4.8435499 | 69750.9 | 13.210 |
|                 | Paragawa, LII     | .27              | 57                    | 13 | 28.80 | 4.7948025 | 62345.1 | 11.808 |
|                 | Bangra, LIII      | .27              | 52                    | 36 | 35.63 | 4.7702144 | 58913.5 | 11.158 |
| 59              | Paragawa, LII     | 0.23             | 50                    | 41 | 23.13 | 4.7403549 | 54999.0 | 10.416 |
|                 | Bangra, LIII      | .23              | 50                    | 25 | 15.00 | 4.7380779 | 51787.1 | 10.376 |
|                 | Ghaus, LIV        | .24              | 78                    | 53 | 21.87 | 4.8435499 | 69750.9 | 13.210 |
| 60              | Bangra, LIII      | 0.23             | 74                    | 39 | 44.84 | 4.8248979 | 66818.7 | 12.655 |
|                 | Ghaus, LIV        | .23              | 52                    | 47 | 46.21 | 4.7418278 | 55185.9 | 10.452 |
|                 | Purena, LV        | .23              | 52                    | 32 | 28.95 | 4.7403549 | 54999.0 | 10.416 |
| 61              | Ghaus, LIV        | 0.24             | 59                    | 5  | 17.77 | 4.7788466 | 60096.1 | 11.382 |
|                 | Purena, LV        | .23              | 48                    | 22 | 13.43 | 4.7189647 | 52355.8 | 9.916  |
|                 | Bharmi, LVII      | .24              | 72                    | 32 | 28.80 | 4.8248979 | 66818.7 | 12.655 |
| 62              | Purena, LV        | 0.24             | 64                    | 58 | 24.15 | 4.7962973 | 62560.1 | 11.848 |
|                 | Bharmi, LVII      | .24              | 54                    | 31 | 7.18  | 4.7499026 | 56221.5 | 10.648 |
|                 | Saubarsa, LIX     | .24              | 60                    | 30 | 28.67 | 4.7788466 | 60096.1 | 11.382 |
| 63              | Bangra, LIII      | 0.19             | 59                    | 6  | 33.10 | 4.7253463 | 53130.8 | 10.063 |
|                 | Purena, LV        | .19              | 57                    | 50 | 55.34 | 4.7194863 | 52418.7 | 9.928  |
|                 | Dharamsingua, LVI | .20              | 63                    | 2  | 31.56 | 4.7418278 | 55185.9 | 10.452 |
| 64              | Purena, LV        | 0.22             | 68                    | 33 | 27.02 | 4.7837907 | 60784.2 | 11.512 |
|                 | Dharamsingua, LVI | .21              | 56                    | 59 | 39.96 | 4.7385054 | 54765.3 | 10.372 |
|                 | Gharbaria, LVIII  | .21              | 54                    | 26 | 53.02 | 4.7253463 | 53130.8 | 10.063 |
| 65              | Purena, LV        | 0.23             | 67                    | 42 | 29.77 | 4.7912724 | 61840.4 | 11.712 |
|                 | Gharbaria, LVIII  | .22              | 57                    | 15 | 59.04 | 4.7499026 | 56221.5 | 10.648 |
|                 | Saubarsa, LIX     | .22              | 55                    | 1  | 31.19 | 4.7385054 | 54765.3 | 10.372 |

| No. of Triangle | Station           | Spherical Excess | Corrected Plane Angle | Distance  |         |        |
|-----------------|-------------------|------------------|-----------------------|-----------|---------|--------|
|                 |                   |                  |                       | Log. feet | Feet    | Miles  |
| 66              | Bharmi, LVII      | 0°23             | 49 7 58.47            | 4°7221596 | 52742.4 | 9°989  |
|                 | Saunbarsa, LIX    | .23              | 67 6 3.38             | 4°8078561 | 64247.5 | 12°168 |
|                 | Banarsia, LX      | .23              | 63 45 58.15           | 4°7962973 | 62560.1 | 11°848 |
| 67              | Saunbarsa, LIX    | 0°19             | 57 35 2.01            | 4°7112576 | 51434.9 | 9°741  |
|                 | Banarsia, LX      | .19              | 62 27 38.23           | 4°7325974 | 54025.3 | 10°232 |
|                 | Bágápár, LXI      | .19              | 59 57 19.76           | 4°7221596 | 52742.4 | 9°989  |
| 68              | Banarsia, LX      | 0°22             | 61 27 46.87           | 4°7672768 | 58516.3 | 11°083 |
|                 | Bágápár, LXI      | .22              | 67 59 8.13            | 4°7906524 | 61752.2 | 11°695 |
|                 | Supur, LXII       | .22              | 50 33 5.00            | 4°7112576 | 51434.9 | 9°741  |
| 69              | Bágápár, LXI      | 0°21             | 54 1 33.94            | 4°7175258 | 52182.6 | 9°883  |
|                 | Supur, LXII       | .21              | 60 48 36.59           | 4°7504431 | 56291.5 | 10°661 |
|                 | Morairi, LXIII    | .21              | 65 9 49.47            | 4°7672768 | 58516.3 | 11°083 |
| 70              | Supur, LXII       | 0°19             | 59 40 26.75           | 4°7271962 | 53357.6 | 10°106 |
|                 | Morairi, LXIII    | .20              | 62 44 38.02           | 4°7399876 | 54922.5 | 10°408 |
|                 | Chanda, LXIV      | .19              | 57 34 55.23           | 4°7175258 | 52182.6 | 9°883  |
| 71              | Morairi, LXIII    | 0°20             | 59 17 0.36            | 4°7298072 | 53679.4 | 10°167 |
|                 | Chanda, LXIV      | .20              | 62 0 22.79            | 4°7414184 | 55133.9 | 10°442 |
|                 | Mathia, LXV       | .20              | 58 42 36.85           | 4°7271962 | 53357.6 | 10°106 |
| 72              | Chanda, LXIV      | 0°25             | 60 21 43.15           | 4°7914900 | 61871.4 | 11°718 |
|                 | Mathia, LXV       | .25              | 70 41 33.02           | 4°8272472 | 67181.1 | 12°724 |
|                 | Balua, LXVI       | .24              | 48 56 43.83           | 4°7298072 | 53679.4 | 10°167 |
| 73              | Mathia, LXV       | 0°23             | 57 20 29.06           | 4°7578149 | 57255.2 | 10°844 |
|                 | Balua, LXVI       | .23              | 57 11 1.35            | 4°7570464 | 57154.0 | 10°825 |
|                 | Upasai, LXVII     | .24              | 65 28 29.59           | 4°7914900 | 61871.4 | 11°718 |
| 74              | Balua, LXVI       | 0°20             | 70 40 48.22           | 4°7841448 | 60833.8 | 11°522 |
|                 | Upasai, LXVII     | .20              | 46 40 31.42           | 4°6711373 | 46896.2 | 8°882  |
|                 | Bájra, LXVIII     | .20              | 62 38 40.36           | 4°7578149 | 57255.2 | 10°844 |
| 75              | Upasai, LXVII     | 0°23             | 62 11 29.42           | 4°7779175 | 59967.7 | 11°358 |
|                 | Bájra, LXVIII     | .23              | 54 0 17.59            | 4°7391984 | 54852.8 | 10°389 |
|                 | Bakwa, LXIX       | .23              | 63 48 12.99           | 4°7841448 | 60833.8 | 11°522 |
| 76              | Bájra, LXVIII     | 0°24             | 58 14 33.71           | 4°7708141 | 58094.9 | 11°173 |
|                 | Bakwa, LXIX       | .25              | 61 57 13.13           | 4°7869975 | 61234.7 | 11°597 |
|                 | Rámnagar, LXX     | .24              | 59 48 13.16           | 4°7779175 | 59967.7 | 11°358 |
| 77              | Bakwa, LXIX       | 0°28             | 58 8 29.38            | 4°8070266 | 64124.9 | 12°145 |
|                 | Rámnagar, LXX     | .28              | 70 28 8.74            | 4°8522014 | 71154.3 | 13°476 |
|                 | Naonangarhi, LXXI | .28              | 51 23 21.88           | 4°7708141 | 58994.9 | 11°173 |
| 78              | Rámnagar, LXX     | 0°24             | 52 25 29.18           | 4°7459407 | 55711.0 | 10°551 |
|                 | Naonangarhi, LXXI | .25              | 61 45 24.90           | 4°7918624 | 61924.5 | 11°728 |
|                 | Tarharwa, LXXII   | .25              | 65 49 5.92            | 4°8070266 | 64124.9 | 12°145 |
| 79              | Naonangarhi, LXXI | 0°17             | 60 19 29.57           | 4°7135290 | 51704.6 | 9°793  |
|                 | Tarharwa, LXXII   | .17              | 50 15 25.54           | 4°6604676 | 45758.1 | 8°666  |
|                 | Sathwaria, LXXIII | .18              | 69 25 4.89            | 4°7459407 | 55711.0 | 10°551 |
| 80              | Tarharwa, LXXII   | 0°21             | 55 40 40.02           | 4°7324920 | 54012.2 | 10°230 |
|                 | Sathwaria, LXXIII | .21              | 72 4 51.95            | 4°7936807 | 62227.3 | 11°785 |
|                 | Sikta, LXXIV      | .21              | 52 14 28.03           | 4°7135290 | 51704.6 | 9°793  |



| No. of Triangle | Station            | Spherical Excess | Corrected Plane Angle | Distance   |          |         |
|-----------------|--------------------|------------------|-----------------------|------------|----------|---------|
|                 |                    |                  |                       | Log. feet  | Feet     | Miles   |
| 81              | Sathwaria, LXXIII  | 0° 23'           | 67 25 14' 51"         | 4° 7852383 | 60987' 1 | 11° 551 |
|                 | Sikta, LXXIV       | 22               | 57 43 9' 46"          | 4° 7409561 | 55841' 4 | 10° 576 |
|                 | Biarwa, LXXV       | 22               | 54 51 36' 03"         | 4° 7324920 | 54012' 2 | 10° 230 |
| 82              | Sikta, LXXIV       | 0° 22'           | 56 5 10' 46"          | 4° 7409065 | 55068' 9 | 10° 430 |
|                 | Biarwa, LXXV       | 22               | 57 7 26' 40"          | 4° 7460924 | 55730' 4 | 10° 555 |
|                 | Harnáhi, LXXVI     | 22               | 66 47 23' 14"         | 4° 7852383 | 60987' 1 | 11° 551 |
| 83              | Biarwa, LXXV       | 0° 22'           | 66 37 57' 68"         | 4° 7836275 | 60761' 4 | 11° 508 |
|                 | Harnáhi, LXXVI     | 22               | 57 3 52' 85"          | 4° 7447032 | 55552' 5 | 10° 521 |
|                 | Bigoia, LXXVII     | 22               | 56 18 9' 47"          | 4° 7409065 | 55068' 9 | 10° 430 |
| 84              | Harnáhi, LXXVI     | 0° 21'           | 54 6 11' 85"          | 4° 7256599 | 53169' 2 | 10° 070 |
|                 | Bigoia, LXXVII     | 22               | 58 6 54' 84"          | 4° 7460996 | 55731' 4 | 10° 555 |
|                 | Batwain, LXXVIII   | 22               | 67 46 53' 31"         | 4° 7836275 | 60761' 4 | 11° 508 |
| 85              | Bigoia, LXXVII     | 0° 23'           | 61 2 26' 33"          | 4° 7742987 | 59470' 1 | 11° 263 |
|                 | Batwain, LXXVIII   | 23               | 67 29 28' 99"         | 4° 7978971 | 62791' 0 | 11° 892 |
|                 | Rúpdí, LXXIX       | 23               | 51 28 4' 68"          | 4° 7256599 | 53169' 2 | 10° 070 |
| 86              | Batwain, LXXVIII   | 0° 22'           | 55 52 17' 43"         | 4° 7344682 | 54258' 6 | 10° 276 |
|                 | Rúpdí, LXXIX       | 22               | 58 59 41' 96"         | 4° 7495953 | 56181' 8 | 10° 640 |
|                 | Dipáhi, LXXX       | 23               | 65 8 0' 61"           | 4° 7742987 | 59470' 1 | 11° 263 |
| 87              | Rúpdí, LXXIX       | 0° 20'           | 51 56 57' 79"         | 4° 7079484 | 51044' 4 | 9° 668  |
|                 | Dipáhi, LXXX       | 21               | 71 13 14' 19"         | 4° 7879585 | 61370' 3 | 11° 623 |
|                 | Masaha, LXXXI      | 21               | 56 49 48' 02"         | 4° 7344682 | 54258' 6 | 10° 276 |
| 88              | Dipáhi, LXXX       | 0° 22'           | 74 7 52' 58"          | 4° 8130031 | 65013' 4 | 12° 313 |
|                 | Masaha, LXXXI      | 22               | 56 49 28' 22"         | 4° 7526020 | 56572' 1 | 10° 714 |
|                 | Sinaria, LXXXII    | 21               | 49 2 39' 20"          | 4° 7079484 | 51044' 4 | 9° 668  |
| 89              | Masaha, LXXXI      | 0° 21'           | 58 59 6' 29"          | 4° 7595886 | 57489' 5 | 10° 888 |
|                 | Sinaria, LXXXII    | 20               | 45 16 21' 97"         | 4° 6781337 | 47657' 8 | 9° 026  |
|                 | Amwa, LXXXIII      | 21               | 75 44 31' 74"         | 4° 8130031 | 65013' 4 | 12° 313 |
| 90              | Sinaria, LXXXII    | 0° 25'           | 61 23 8' 91"          | 4° 7913477 | 61851' 2 | 11° 714 |
|                 | Amwa, LXXXIII      | 25               | 63 55 54' 83"         | 4° 8013284 | 63289' 0 | 11° 987 |
|                 | Bulákipur, LXXXIV  | 25               | 54 40 56' 26"         | 4° 7595886 | 57489' 5 | 10° 888 |
| 91              | Amwa, LXXXIII      | 0° 25'           | 58 46 43' 15"         | 4° 7752788 | 59604' 5 | 11° 289 |
|                 | Bulákipur, LXXXIV  | 24               | 58 40 20' 51"         | 4° 7747895 | 59537' 4 | 11° 276 |
|                 | Madanpur, LXXXV    | 25               | 62 32 56' 34"         | 4° 7913477 | 61851' 2 | 11° 714 |
| 92              | Bulákipur, LXXXIV  | 0° 24'           | 70 0 14' 49"          | 4° 8166730 | 65565' 1 | 12° 418 |
|                 | Madanpur, LXXXV    | 24               | 51 18 54' 55"         | 4° 7361022 | 54463' 1 | 10° 315 |
|                 | Sondahi, LXXXVI    | 24               | 58 40 50' 96"         | 4° 7752788 | 59604' 5 | 11° 289 |
| 93              | Madanpur, LXXXV    | 0° 24'           | 48 1 39' 45"          | 4° 7199086 | 52469' 7 | 9° 937  |
|                 | Sondahi, LXXXVI    | 24               | 63 41 21' 88"         | 4° 8011508 | 63263' 1 | 11° 982 |
|                 | Humaunpur, LXXXVII | 25               | 68 16 58' 67"         | 4° 8166730 | 65565' 1 | 12° 418 |
| 94              | Sondahi, LXXXVI    | 0° 22'           | 57 52 49' 92"         | 4° 7469897 | 55845' 7 | 10° 577 |
|                 | Humaunpur, LXXXVII | 22               | 69 23 38' 69"         | 4° 7904230 | 61719' 6 | 11° 689 |
|                 | Pargáwa, LXXXVIII  | 21               | 52 43 31' 39"         | 4° 7199086 | 52469' 7 | 9° 937  |
| 95              | Humaunpur, LXXXVII | 0° 22'           | 59 30 16' 81"         | 4° 7576912 | 57238' 9 | 10° 841 |
|                 | Pargáwa, LXXXVIII  | 23               | 63 16 53' 36"         | 4° 7733114 | 59335' 1 | 11° 238 |
|                 | Sháhpur, LXXXIX    | 22               | 57 12 49' 83"         | 4° 7469897 | 55845' 7 | 10° 577 |

| No. of Triangle | Station            | Spherical Excess | Corrected Plane Angle | Distance   |          |         |
|-----------------|--------------------|------------------|-----------------------|------------|----------|---------|
|                 |                    |                  |                       | Log. feet  | Feet     | Miles   |
| 96              | Pargáwa, LXXXVIII  | "                | ° 0' 0"               |            |          |         |
|                 | Sháhpur, LXXXIX    | 0' 22            | 63 22 59' 61          | 4' 7639232 | 58066' 2 | 10' 997 |
|                 | Jarol, XC          | 21               | 54 49 8' 10           | 4' 7249746 | 53085' 3 | 10' 054 |
| 97              | Sháhpur, LXXXIX    | 0' 23            | 52 18 30' 06          | 4' 7337823 | 54172' 9 | 10' 260 |
|                 | Jarol, XC          | 23               | 69 40 37' 87          | 4' 8075216 | 64198' 0 | 12' 159 |
|                 | Chandarsanpur, XCI | 23               | 58 0 52' 07           | 4' 7639232 | 58066' 2 | 10' 997 |
| 98              | Jarol, XC          | 0' 24            | 75 2 42' 89           | 4' 8358918 | 68531' 7 | 12' 979 |
|                 | Chandarsanpur, XCI | 24               | 55 9 45' 96           | 4' 7650821 | 58221' 3 | 11' 027 |
|                 | Narhar, XCII       | 24               | 49 47 31' 15          | 4' 7337823 | 54172' 9 | 10' 260 |
| 99              | Chandarsanpur, XCI | 0' 23            | 52 55 14' 52          | 4' 7486814 | 56063' 7 | 10' 618 |
|                 | Narhar, XCII       | 23               | 49 51 33' 92          | 4' 7301440 | 53721' 0 | 10' 174 |
|                 | Bishanpur, XCIII   | 23               | 77 13 11' 56          | 4' 8358918 | 68531' 7 | 12' 979 |
| 100             | Narhar, XCII       | 0' 24            | 70 59 1' 51           | 4' 8178079 | 65736' 7 | 12' 450 |
|                 | Bishanpur, XCIII   | 24               | 55 16 46' 04          | 4' 7570203 | 57150' 5 | 10' 824 |
|                 | Mirzapur, XCIV     | 23               | 53 44 12' 45          | 4' 7486814 | 56063' 7 | 10' 618 |
| 101             | Bishanpur, XCIII   | 0' 25            | 58 6 29' 10           | 4' 7772194 | 59871' 4 | 11' 339 |
|                 | Mirzapur, XCIV     | 24               | 53 6 28' 35           | 4' 7512517 | 56396' 4 | 10' 681 |
|                 | Barsam, XCV        | 25               | 68 47 2' 55           | 4' 8178079 | 65736' 7 | 12' 450 |
| 102             | Mirzapur, XCIV     | 0' 24            | 61 43 50' 97          | 4' 7794179 | 60175' 3 | 11' 397 |
|                 | Barsam, XCV        | 23               | 57 4 18' 22           | 4' 7585180 | 57348' 0 | 10' 861 |
|                 | Janjipati, XCVI    | 24               | 61 11 50' 81          | 4' 7772194 | 59871' 4 | 11' 339 |
| 103             | Barsam, XCV        | 0' 22            | 60 57 16' 58          | 4' 7626734 | 57899' 3 | 10' 966 |
|                 | Janjipati XCVI     | 22               | 53 43 57' 94          | 4' 7275237 | 53397' 8 | 10' 113 |
|                 | Bhela, XCVII       | 22               | 65 18 45' 48          | 4' 7794179 | 60175' 3 | 11' 397 |
| 104             | Janjipati, XCVI    | 0' 25            | 65 39 7' 21           | 4' 8033378 | 63582' 5 | 12' 042 |
|                 | Bhela, XCVII       | 25               | 58 17 16' 00          | 4' 7735676 | 59370' 1 | 11' 244 |
|                 | Ladnia, XCVIII     | 24               | 56 3 36' 79           | 4' 7626734 | 57899' 3 | 10' 966 |
| 105             | Bhela, XCVII       | 0' 23            | 62 13 23' 17          | 4' 7834937 | 60742' 6 | 11' 504 |
|                 | Ladnia, XCVIII     | 23               | 49 56 12' 72          | 4' 7205158 | 52543' 1 | 9' 951  |
|                 | Semraha, XCIX      | 24               | 67 50 24' 11          | 4' 8033378 | 63582' 5 | 12' 042 |
| 106             | Ladnia, XCVIII     | 0' 24            | 67 13 59' 47          | 4' 8069315 | 64110' 8 | 12' 142 |
|                 | Semraha, XCIX      | 24               | 51 52 55' 09          | 4' 7379910 | 54700' 5 | 10' 360 |
|                 | Harpur, C          | 24               | 60 53 5' 44           | 4' 7834937 | 60742' 6 | 11' 504 |
| 107             | Semraha, XCIX      | 0' 20            | 58 10 25' 35          | 4' 7500230 | 56237' 1 | 10' 651 |
|                 | Harpur, C          | 20               | 46 13 12' 22          | 4' 6793212 | 47788' 3 | 9' 051  |
|                 | Barhata, CI        | 21               | 75 36 22' 43          | 4' 8069315 | 64110' 8 | 12' 142 |
| 108             | Harpur, C          | 0' 20            | 56 48 51' 93          | 4' 7218688 | 52707' 1 | 9' 982  |
|                 | Barhata, CI        | 20               | 59 56 19' 74          | 4' 7364567 | 54507' 6 | 10' 323 |
|                 | Diwanganj, CII     | 20               | 63 14 48' 33          | 4' 7500230 | 56237' 1 | 10' 651 |
| 109             | Barhata, CI        | 0' 21            | 64 34 43' 99          | 4' 7595672 | 57486' 7 | 10' 888 |
|                 | Diwanganj, CII     | 20               | 59 31 7' 11           | 4' 7391978 | 54852' 7 | 10' 389 |
|                 | Latona, CIII       | 20               | 55 54 8' 90           | 4' 7218688 | 52707' 1 | 9' 982  |
| 110             | Diwanganj, CII     | 0' 22            | 58 51 18' 24          | 4' 7544947 | 56819' 1 | 10' 761 |
|                 | Latona, CIII       | 22               | 61 9 26' 60           | 4' 7645695 | 58152' 7 | 11' 014 |
|                 | Chuni, CVI         | 22               | 59 59 15' 16          | 4' 7595672 | 57486' 7 | 10' 888 |

| No. of Triangle | Station         | Spherical Excess | Corrected Plane Angle | Distance  |         |        |
|-----------------|-----------------|------------------|-----------------------|-----------|---------|--------|
|                 |                 |                  |                       | Log. feet | Feet    | Miles  |
| 111             | Diwanganj, CII  | 0°22'            | 59 20 53.72           | 4.7545729 | 56829.4 | 10.763 |
|                 | Chuni, CVI      | 22               | 58 58 17.49           | 4.7528679 | 56606.7 | 10.721 |
|                 | Minai, CV       | 23               | 61 40 48.79           | 4.7645695 | 58152.7 | 11.014 |
| 112             | Chuni, CVI      | 0°22'            | 64 36 35.55           | 4.7703613 | 58933.4 | 11.162 |
|                 | Minai, CV       | 21               | 54 47 48.63           | 4.7267589 | 53303.9 | 10.095 |
|                 | Ghiba, CIX      | 21               | 60 35 35.82           | 4.7545729 | 56829.4 | 10.763 |
| 113             | Latona, CIII    | 0°21'            | 58 8 10.88            | 4.7365481 | 54519.0 | 10.326 |
|                 | Chuni, CVI      | 21               | 59 35 42.30           | 4.7432276 | 55364.0 | 10.486 |
|                 | Ramnagar, CVII  | 21               | 62 16 6.82            | 4.7544947 | 56819.1 | 10.761 |
| 114             | Chuni, CVI      | 0°20'            | 55 57 33.68           | 4.7226342 | 52800.0 | 10.000 |
|                 | Ramnagar, CVII  | 21               | 65 12 45.01           | 4.7622911 | 57848.4 | 10.956 |
|                 | Manula, CVIII   | 20               | 58 49 41.31           | 4.7365481 | 54519.0 | 10.326 |
| 115             | Harpur, C       | 0°20'            | 57 39 18.94           | 4.7223771 | 52768.8 | 9.994  |
|                 | Diwanganj, CII  | 20               | 61 34 22.32           | 4.7397983 | 54928.6 | 10.403 |
|                 | Baisi, CIV      | 20               | 60 46 18.74           | 4.7364567 | 54507.6 | 10.323 |
| 116             | Diwanganj, CII  | 0°19'            | 57 27 29.05           | 4.7216532 | 52680.9 | 9.977  |
|                 | Baisi, CIV      | 20               | 64 56 1.52            | 4.7528679 | 56606.7 | 10.721 |
|                 | Minai, CV       | 20               | 57 36 29.43           | 4.7223771 | 52768.8 | 9.994  |
| 117             | Chuni, CVI      | 0°21'            | 60 52 34.54           | 4.7516389 | 56446.7 | 10.691 |
|                 | Manula, CVIII   | 21               | 55 34 53.74           | 4.7267589 | 53303.9 | 10.095 |
|                 | Ghiba, CIX      | 21               | 63 32 31.72           | 4.7622911 | 57848.4 | 10.956 |
| 118             | Minai, CV       | 0°22'            | 49 52 7.90            | 4.7115068 | 51464.4 | 9.747  |
|                 | Ghiba, CIX      | 23               | 69 1 22.42            | 4.7983076 | 62850.3 | 11.903 |
|                 | Nirpur, CX      | 22               | 61 6 29.18            | 4.7703613 | 58933.4 | 11.162 |
| 119             | Ghiba, CIX      | 0°21'            | 81 46 53.68           | 4.8269627 | 67137.1 | 12.715 |
|                 | Nirpur, CX      | 20               | 48 52 12.35           | 4.7083678 | 51093.8 | 9.677  |
|                 | Manikpur, CXI   | 20               | 49 20 53.97           | 4.7115068 | 51464.9 | 9.747  |
| 120             | Nirpur, CX      | 0°25'            | 56 16 35.08           | 4.7731717 | 59316.0 | 11.234 |
|                 | Manikpur, CXI   | 25               | 53 26 12.15           | 4.7580149 | 57281.6 | 10.849 |
|                 | Kamaldaha, CXII | 25               | 70 17 12.77           | 4.8269627 | 67137.1 | 12.715 |
| 121             | Manikpur, CXI   | 0°24'            | 59 19 41.73           | 4.7703642 | 58933.8 | 11.162 |
|                 | Kamaldaha, CXII | 24               | 60 42 39.77           | 4.7764112 | 59760.1 | 11.318 |
|                 | Banghora, CXIII | 24               | 59 57 38.50           | 4.7731717 | 59316.0 | 11.234 |
| 122             | Kamaldaha, CXII | 0°22'            | 54 31 54.56           | 4.7368265 | 54554.0 | 10.332 |
|                 | Banghora, CXIII | 23               | 63 50 49.53           | 4.7790615 | 60125.9 | 11.387 |
|                 | Dipnagar, CXIV  | 23               | 61 37 15.91           | 4.7703642 | 58933.8 | 11.162 |
| 123             | Banghora, CXIII | 0°22'            | 63 31 52.78           | 4.7698035 | 58857.7 | 11.147 |
|                 | Dipnagar, CXIV  | 22               | 60 23 54.59           | 4.7571546 | 57168.2 | 10.827 |
|                 | Musaldanga, CXV | 22               | 56 4 12.63            | 4.7368265 | 54554.0 | 10.332 |
| 124             | Dipnagar, CXIV  | 0°25'            | 60 19 37.63           | 4.7860441 | 61100.4 | 11.572 |
|                 | Musaldanga, CXV | 25               | 62 51 3.21            | 4.7963944 | 62574.1 | 11.851 |
|                 | Lachampur, CXVI | 25               | 56 49 19.16           | 4.7698035 | 58857.7 | 11.147 |
| 125             | Musaldanga, CXV | 0°24'            | 58 35 10.73           | 4.7705995 | 58965.7 | 11.168 |
|                 | Lachampur, CXVI | 24               | 59 14 43.56           | 4.7736114 | 59376.1 | 11.245 |
|                 | Tagria, CXVII   | 25               | 62 10 5.71            | 4.7860441 | 61100.4 | 11.572 |

| No. of Triangle | Station            | Spherical Excess | Corrected Plane Angle | Distance   |         |         |
|-----------------|--------------------|------------------|-----------------------|------------|---------|---------|
|                 |                    |                  |                       | Log. feet  | Feet    | Miles   |
| 126             | Lachmipur, CXVI    | 0° 22'           | 63 43 43' 91"         | 4° 7734984 | 59360·6 | 11° 243 |
|                 | Tagria, CXVII      | 22               | 53 18 15' 35"         | 4° 7249236 | 53079·1 | 10° 053 |
|                 | Bandarjûla, CXVIII | 22               | 62 58 0' 74"          | 4° 7705995 | 58965·7 | 11° 168 |
| 127             | Tagria, CXVII      | 0° 19'           | 58 33 3' 01"          | 4° 7272117 | 53359·5 | 10° 106 |
|                 | Bandarjûla, CXVIII | 19               | 49 49 4' 11"          | 4° 6793014 | 47786·1 | 9° 050  |
|                 | Kharkhari, CXIX    | 19               | 71 37 52' 88"         | 4° 7734984 | 59360·6 | 11° 243 |
| 128             | Bandarjûla, CXVIII | 0° 24'           | 83 26 7' 96"          | 4° 8634128 | 73015·1 | 13° 829 |
|                 | Kharkhari, CXIX    | 23               | 50 0 41' 69"          | 4° 7505971 | 56311·5 | 10° 665 |
|                 | Thakurganj, CXX    | 23               | 46 33 10' 35"         | 4° 7272117 | 53359·5 | 10° 106 |
| 129             | Kharkhari, CXIX    | 0° 27'           | 57 6 43' 96"          | 4° 8006326 | 63187·7 | 11° 967 |
|                 | Thakurganj, CXX    | 26               | 46 52 40' 50"         | 4° 7397527 | 54922·8 | 10° 402 |
|                 | Sonakhoda, CXXI    | 27               | 76 0 35' 54"          | 4° 8634128 | 73015·1 | 13° 829 |
| 130             | Thakurganj, CXX    | 0° 17'           | 33 16 1' 93"          | 4° 5644980 | 36685·8 | 6° 948  |
|                 | Sonakhoda, CXXI    | 18               | 75 51 23' 09"         | 4° 8119176 | 64851·1 | 12° 282 |
|                 | Rámganj, CXXII     | 18               | 70 52 34' 98"         | 4° 8006326 | 63187·7 | 11° 967 |
| 131             | Sonakhoda, CXXI    | 0° 15'           | 69 0 57' 36"          | 4° 7249504 | 53082·4 | 10° 053 |
|                 | Rámganj, CXXII     | 15               | 70 47 51' 64"         | 4° 7298912 | 53689·7 | 10° 169 |
|                 | Chotáki, CXXV      | 14               | 40 11 11' 00"         | 4° 5644980 | 36685·8 | 6° 948  |
| 132             | Rámganj, CXXII     | 0° 23'           | 57 48 21' 26"         | 4° 7693858 | 58801·2 | 11° 137 |
|                 | Chotáki, CXXV      | 24               | 72 22 51' 01"         | 4° 8210218 | 66225·0 | 12° 543 |
|                 | Newáni, CXXVI      | 23               | 49 48 47' 73"         | 4° 7249504 | 53082·4 | 10° 053 |
| 133             | Rámganj, CXXII     | 0° 33'           | 66 31 16' 41"         | 4° 8705497 | 74224·9 | 14° 058 |
|                 | Newáni, CXXVI      | 33               | 58 33 31' 30"         | 4° 8391201 | 69043·1 | 13° 076 |
|                 | Kanchabári, CXXIV  | 33               | 54 55 12' 29"         | 4° 8210218 | 66225·0 | 12° 543 |
| 134             | Thakurganj, CXX    | 0° 24'           | 56 14 47' 90"         | 4° 7640124 | 58078·1 | 11° 000 |
|                 | Rámganj, CXXII     | 24               | 55 34 0' 39"          | 4° 7605242 | 57613·5 | 10° 912 |
|                 | Dumdáangi, CXXIII  | 25               | 68 11 11' 71"         | 4° 8119176 | 64851·1 | 12° 282 |
| 135             | Rámganj, CXXII     | 0° 19'           | 38 25 54' 00"         | 4° 6344897 | 43101·2 | 8° 163  |
|                 | Dumdáangi, CXXIII  | 20               | 84 41 2' 72"          | 4° 8391201 | 69043·1 | 13° 076 |
|                 | Kanchabári, CXXIV  | 20               | 56 53 3' 28"          | 4° 7640124 | 58078·1 | 11° 000 |

J. ECCLES,

October, 1907.

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NORTH-EAST LONGITUDINAL SERIES.

SECONDARY TRIANGULATION. TRIANGLES.

Differences between the common sides of two triangles are shown by the small figures in the 5th and 12th columns between the data of the triangles, the first in order having supplied the greater value.

| No. of Triangle | Station                             | Corrected Plane Angle | Distance      |       | No. of Triangle | Station   | Corrected Plane Angle | Distance      |       | Theodolite used |
|-----------------|-------------------------------------|-----------------------|---------------|-------|-----------------|-----------|-----------------------|---------------|-------|-----------------|
|                 |                                     |                       | Log. feet     | Feet  |                 |           |                       | Log. feet     | Feet  |                 |
| 136             | Dehra Dún Base-line E. End, (IX)*   | 48 11 38              | 4° 6' 47.613  | 44424 | 139             | Súrna     | h.s.                  | 3° 8' 92.980  | 7816  | Inch            |
|                 | Dehra Dún Base-line W. End, (VII)*  | 41 6 31               | 4° 7' 75.189  | 59592 |                 | Ambári    | "                     | 3° 9' 05.613  | 8047  | 12              |
|                 | Kotra                               | h.s.                  | 4° 5' 93.109  | 39184 |                 | Rádarpur  | "                     | 3° 8' 45.122  | 7000  | "               |
| 137             | Dehra Dún Base-line W. End, (VIII)* | 18 24 13              | 4° 20' 35.777 | 15980 | 140             | Rádarpur  | s.                    | 4° 4' 70.289  | 29532 | "               |
|                 | Kotra                               | h.s.                  | 4° 6' 92.333  | 49811 |                 | Ambári    | h.s.                  | 4° 5' 04.293  | 31937 | "               |
|                 | Ambári                              | "                     | 4° 6' 47.613  | 44424 |                 | Sidh Tibá | "                     | 3° 8' 92.980  | 7816  | "               |
| 138             | Kotra                               | 14 32 48              | 3° 8' 45.122  | 7000  | 141             | Ambári    | h.s.                  | 4° 1' 39.425  | 13786 | "               |
|                 | Ambári                              | 20 26 15              | 3° 9' 88.213  | 9732  |                 | Sidh Tibá | "                     | 4° 3' 6' 8.91 | 23329 | "               |
|                 | Súrna                               | 145 0 57              | 4° 20' 35.777 | 15980 |                 | Mihúnwála | "                     | 4° 4' 70.289  | 29532 | "               |
| 139             | Dehra Dún Base-line E. End, (IX)*   | 48 11 38              | 4° 6' 47.613  | 44424 | 142             | Mihúnwála | s.                    | 4° 26' 13.35  | 18380 | "               |
|                 | Dehra Dún Base-line W. End, (VII)*  | 41 6 31               | 4° 7' 75.189  | 59592 |                 | Sidh Tibá | h.s.                  | 3° 8' 53.799  | 7142  | "               |
|                 | Kotra                               | h.s.                  | 4° 5' 93.109  | 39184 |                 | Chuarpur  | No. 1 s.              | 4° 1' 39.425  | 13786 | "               |
| 140             | Dehra Dún Base-line E. End, (IX)*   | 48 11 38              | 4° 6' 47.613  | 44424 | 143             | Sidh Tibá | h.s.                  | 4° 18' 56.22  | 15333 | "               |
|                 | Dehra Dún Base-line W. End, (VII)*  | 41 6 31               | 4° 7' 75.189  | 59592 |                 | Chuarpur  | No. 1 s.              | 4° 3' 70.326  | 23460 | "               |
|                 | Kotra                               | h.s.                  | 4° 5' 93.109  | 39184 |                 | Bhūngani  | "                     | 5° 1' 31.10   | 18380 | "               |

NOTE.—1. Names followed by Roman numerals are those of Principal Stations.  
 2. The value of the side is given in the same line with the opposite angle.  
 \* Of the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series, Section 24-30°.

| No. of Triangle | Station                           | Corrected Plane Angle |            | Distance    |             |         | Theodolite used | No. of Triangle | Station                             | Corrected Plane Angle               |             | Distance    |             |         | Theodolite used |
|-----------------|-----------------------------------|-----------------------|------------|-------------|-------------|---------|-----------------|-----------------|-------------------------------------|-------------------------------------|-------------|-------------|-------------|---------|-----------------|
|                 |                                   | °                     | '          | Log. feet   | Feet        | Miles   |                 |                 |                                     | Log. feet                           | Feet        | Miles       |             |         |                 |
| 144             | Chúarpur                          | No. 1                 | ° 44 57 6  | 4° 05 50 8  | 11 351      | 2° 150  | Inch 12         | 156             | Chaulti                             | h.s.                                | ° 45 18 13  | 4° 59 31 09 | 39184       | 7° 421  | Theodolite used |
|                 | Bhūngani                          | "                     | " 107 23 7 | 3° 87 27 01 | 7 159       | 1° 413  | "               |                 | Dehra Dún Base-line E. End, (IX)*   | "                                   | ° 76 44 22  | 4° 79 59 8  | 53654       | 10° 162 |                 |
|                 | Chúarpur                          | No. 2                 | "          | " 66 25 9   | 4° 18 56 22 | 15 333  | 2° 904          |                 | "                                   | Dehra Dún Base-line W. End, (VIII)* | "           | ° 57 57 95  | 4° 66 95 51 | 46725   |                 |
| 145             | Chúarpur                          | No. 2                 | ° 66 25 9  | 4° 05 43 21 | 11 332      | 2° 146  | "               | 157             | Bhūngani                            | °                                   | ° 67 14 31  | 3° 87 47 33 | 7494        | 1° 419  | Theodolite used |
|                 | Bhūngani                          | "                     | " 66 38 24 | 3° 95 89 9  | 9 934       | 1° 711  | "               |                 | Rámpur                              | "                                   | ° 67 14 31  | 4° 34 52 90 | 22146       | 4° 194  |                 |
|                 | Dhākrañi                          | "                     | "          | "           | 4° 05 50 48 | 11 351  | 2° 150          |                 | "                                   | Dhálipur                            | "           | ° 94 34 28  | 4° 37 91 04 | 23939   |                 |
| 146             | Bhūngani                          | °                     | ° 97 59 28 | 4° 29 15 92 | 19 570      | 3° 706  | "               | 158             | Amsoot, (XI)*                       | °                                   | ° 30 41 16  | 3° 87 47 33 | 7494        | 1° 419  | Theodolite used |
|                 | Dhākrañi                          | "                     | " 27 57 21 | 4° 37 91 04 | 23 939      | 4° 534  | "               |                 | Rámpur                              | °                                   | ° 40 36 10  | 4° 35 01 88 | 22 708      | 4° 301  |                 |
|                 | Rámpur                            | "                     | "          | "           | 4° 05 43 21 | 11 332  | 2° 146          |                 | "                                   | Dhálipur                            | "           | ° 126 59 40 | 4° 44 51 14 | 27 869  |                 |
| 147             | Dhākrañi                          | °                     | ° 61 51 15 | 4° 44 51 14 | 27 869      | 5° 278  | "               | 159             | Rámpur                              | °                                   | ° 30 41 16  | 3° 65 36 89 | 4505        | 0° 853  | Theodolite used |
|                 | Rámpur                            | "                     | " 79 53 20 | 4° 40 50 70 | 31 115      | 5° 893  | "               |                 | Dhálipur                            | "                                   | ° 26 23 49  | 3° 60 17 44 | 3997        | 0° 757  |                 |
|                 | Amsoot, (XI)*                     | "                     | "          | "           | 4° 29 15 92 | 19 570  | 3° 706          |                 | "                                   | Rámpur Mandi                        | "           | ° 123 31 55 | 3° 87 47 33 | 7494    |                 |
| 148             | Jámankháta†                       | h.s.                  | ° 72 43 28 | 4° 79 28 13 | 62 060      | 11° 754 | "               | 160             | Amsoot, (XI)*                       | °                                   | ° 100 35 51 | 3° 65 36 89 | 4505        | 0° 853  | Theodolite used |
|                 | Doiwála, LV†                      | °                     | " 55 45 0  | 4° 73 01 51 | 53 222      | 10° 175 | "               |                 | Rámpur                              | °                                   | ° 68 44 52  | 4° 37 93 04 | 23 950      | 4° 536  |                 |
|                 | Rámpokhri                         | °                     | " 51 31 32 | 4° 70 56 60 | 50 881      | 9° 637  | 3° 706          |                 | "                                   | Rámpur Mandi                        | "           | ° 68 44 52  | 4° 35 61 88 | 22 708  |                 |
| 149             | Doiwála, LV†                      | °                     | ° 39 23 12 | 4° 59 65 79 | 39 498      | 7° 481  | "               | 161             | Kotra                               | h.s.                                | ° 97 18 25  | 4° 44 15 20 | 27 639      | 5° 235  | Theodolite used |
|                 | Rámpokhri                         | °                     | " 46 11 0  | 4° 65 23 85 | 44 014      | 8° 507  | "               |                 | Ambari                              | "                                   | ° 47 42 0   | 4° 31 40 76 | 20 610      | 3° 903  |                 |
|                 | Nágsidh                           | h.s.                  | " 94 25 48 | 4° 79 28 13 | 62 060      | 11° 754 | "               |                 | Rájawála                            | "                                   | ° 83 19 24  | 4° 20 35 77 | 15 980      | 3° 027  |                 |
| 150             | Rámpokhri                         | °                     | ° 45 36 58 | 4° 46 34 39 | 29 070      | 5° 506  | "               | 162             | Dehra Dún Base-line W. End, (VIII)* | °                                   | ° 52 46 49  | 4° 74 91 07 | 56 130      | 10° 631 | Theodolite used |
|                 | Nágsidh                           | h.s.                  | " 58 12 8  | 4° 53 70 9  | 34 571      | 6° 548  | "               |                 | Dehra Dún Base-line E. End, (IX)*   | "                                   | ° 52 46 49  | 4° 63 32 41 | 45 003      | 8° 523  |                 |
|                 | Kálimatti                         | "                     | " 76 10 54 | 4° 59 65 79 | 39 498      | 7° 481  | "               |                 | Birsani                             | h.s.                                | ° 43 53 47  | 4° 59 31 09 | 39 184      | 7° 421  |                 |
| 151             | Kálimatti                         | h.s.                  | ° 73 55 36 | 4° 54 59 50 | 35 152      | 6° 658  | "               | 163             | Kotra                               | h.s.                                | ° 35 15 13  | 4° 40 92 84 | 25 662      | 4° 860  | Theodolite used |
|                 | Nágsidh                           | "                     | " 53 27 7  | 4° 46 81 77 | 29 388      | 5° 566  | "               |                 | Dehra Dún Base-line W. End, (VIII)* | "                                   | ° 87 42 29  | 4° 57 17 41 | 37 303      | 7° 065  |                 |
|                 | Nálapáni                          | "                     | " 52 37 17 | 4° 46 34 39 | 29 070      | 5° 506  | "               |                 | Sahaspur                            | °                                   | ° 87 42 29  | 4° 64 76 13 | 44 424      | 8° 414  |                 |
| 152             | Nágsidh                           | h.s.                  | ° 26 54 57 | 4° 22 42 36 | 16 759      | 3° 174  | "               | 164             | Birsani                             | h.s.                                | ° 34 18 26  | 4° 40 92 84 | 25 662      | 4° 860  | Theodolite used |
|                 | Nálapáni                          | "                     | " 81 21 58 | 4° 56 34 94 | 36 601      | 6° 932  | "               |                 | Dehra Dún Base-line W. End, (VIII)* | "                                   | ° 81 16 49  | 4° 61 34 61 | 41 064      | 7° 777  |                 |
|                 | Dehra Dún                         | °                     | " 71 43 5  | 4° 54 59 50 | 35 152      | 6° 658  | "               |                 | Sahaspur                            | °                                   | ° 81 16 49  | 4° 65 32 41 | 45 003      | 8° 523  |                 |
| 153             | Nálapáni                          | h.s.                  | ° 90 18 32 | 4° 42 55 25 | 26 335      | 4° 988  | "               | 165             | Rájpur                              | h.s.                                | ° 32 37 6   | 4° 56 17 92 | 36 458      | 6° 905  | Theodolite used |
|                 | Dehra Dún                         | °                     | " 50 10 12 | 4° 30 38 64 | 20 224      | 3° 850  | "               |                 | Dehra Dún Base-line E. End, (IX)*   | "                                   | ° 14 35 51  | 4° 21 57 91 | 164 36      | 3° 113  |                 |
|                 | Rájpur                            | h.s.                  | " 39 31 16 | 4° 22 42 36 | 16 759      | 3° 174  | "               |                 | Angalla                             | h.s.                                | ° 133 19 3  | 4° 69 20 41 | 49 209      | 9° 320  |                 |
| 154             | Dehra Dún                         | °                     | ° 50 31 19 | 4° 43 88 71 | 27 471      | 5° 203  | "               | 166             | Dehra Dún Base-line W. End, (VIII)* | °                                   | ° 40 13 22  | 4° 56 17 92 | 36 458      | 6° 905  | Theodolite used |
|                 | Rájpur                            | h.s.                  | " 81 45 6  | 4° 54 68 12 | 35 222      | 6° 671  | "               |                 | Dehra Dún Base-line E. End, (IX)*   | "                                   | ° 95 49 33  | 4° 74 94 71 | 58 126      | 10° 637 |                 |
|                 | Chauki                            | h.s.                  | " 47 43 35 | 4° 42 05 25 | 26 335      | 4° 988  | "               |                 | Angalla                             | h.s.                                | ° 43 57 5   | 4° 59 31 09 | 39 184      | 7° 421  |                 |
| 155             | Rájpur                            | h.s.                  | ° 68 27 15 | 4° 66 95 51 | 46 725      | 8° 849  | "               | 167             | Dehra Dún Base-line W. End, (VIII)* | °                                   | ° 14 21 59  | 4° 44 24 16 | 28 928      | 5° 646  | Theodolite used |
|                 | Chauki                            | h.s.                  | " 78 23 43 | 4° 60 26 41 | 49 271      | 9° 320  | "               |                 | Chauki                              | h.s.                                | ° 72 45 52  | 4° 72 95 98 | 53 624      | 10° 162 |                 |
|                 | Dehra Dún Base-line W. End, (IX)* | °                     | " 33 9 2   | 4° 38 87 1  | 42 471      | 5° 203  | "               |                 | Ambari                              | h.s.                                | ° 72 45 52  | 4° 72 95 98 | 53 624      | 10° 162 |                 |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                           | Corrected Plane Angle | Distance  |       |                | No. of Triangle | Station                             | Corrected Plane Angle | Distance  |       |        | Theodolite |
|-----------------|-----------------------------------|-----------------------|-----------|-------|----------------|-----------------|-------------------------------------|-----------------------|-----------|-------|--------|------------|
|                 |                                   |                       | Log. feet | Feet  | Miles          |                 |                                     |                       | Log. feet | Feet  | Miles  |            |
| 168             | Dehra Dún Base-line E. End, (IX)* | 17 24 39              | 4.144216  | 13939 | 2.640          | 180             | Dehra Dún Base-line W. End, (VIII)* | 50 4 20               | 4.662551  | 45978 | 8.708  | Inch       |
|                 | Chauki                            | 47 33 56              | 4.587947  | 38712 | 7.332          |                 | Dehra Dún Base-line E. End, (IX)*   | 89 7 8                | 4.777787  | 59950 | 11.354 | "          |
|                 | Angaria                           | 117 1 25              | 4.669551  | 46725 | 8.849          |                 | Santaur Devi Temple                 | 4 593109              | 4.593109  | 39184 | 7.421  | "          |
| 169             | Chauki                            | 92 7 38               | 4.465273  | 29193 | 5.529          | 181             | Rájpur                              | 65 19 4               | 4.291382  | 19561 | 3.705  | "          |
|                 | Angaria                           | 59 22 27              | 4.400330  | 25138 | 4.761          |                 | Nalápáni                            | 4 43 24               | 4.180369  | 15148 | 2.869  | "          |
|                 | Sidhowála                         | 28 29 55              | 4.144216  | 13939 | 2.640          |                 | Timli                               | 69 57 32              | 4.305864  | 20224 | 3.830  | "          |
| 170             | Angaria                           | 78 41 42              | 4.555305  | 35917 | 6.803          | 182             | Rájpur                              | 54 41 6               | 4.151106  | 14161 | 2.682  | "          |
|                 | Chauki                            | 22 22 2               | 4.144216  | 13939 | 2.640          |                 | Timli                               | 64 31 19              | 4.104901  | 15667 | 2.967  | "          |
|                 | Jhájra                            | 22 22 2               | 4.144216  | 13939 | 2.640          |                 | Kalanga                             | 60 47 35              | 4.180369  | 15148 | 2.869  | "          |
| 171             | Chauki                            | 4.338993              | 21827     | 4.134 | 183            | Rájpur          | 39 47 29                            | 4.251099              | 17828     | 3.376 | "      |            |
|                 | Angaria                           | 96 9 36               | 4.461523  | 29142 |                | 5.519           | Timli                               | 107 15 35             | 4.424899  | 26601 | 5.038  | "          |
|                 | Sháhpur                           | 35 42 38              | 4.233221  | 17109 |                | 3.240           | Dwara                               | 32 56 36              | 4.180369  | 15148 | 2.869  | "          |
| 172             | Angaria                           | 16 33 29              | 4.064853  | 11611 | 2.199          | 184             | Kalanga                             | 84 57 11              | 4.251099  | 17828 | 3.376  | "          |
|                 | Nalápáni                          | 21 20 22              | 4.171002  | 14825 | 2.808          |                 | Timli                               | 42 44 36              | 4.084473  | 12147 | 2.301  | "          |
|                 | Dehra Dún Church                  | 35 42 38              | 4.233221  | 17109 | 3.240          |                 | Dwara                               | 52 18 13              | 4.151106  | 14161 | 2.682  | "          |
| 173             | Angaria                           | 37 12 5               | 4.227353  | 16870 | 3.197          | 185             | Kalanga                             | 80 38 19              | 4.122686  | 13264 | 2.512  | "          |
|                 | Nalápáni                          | 51 22 9               | 4.338625  | 21808 | 4.130          |                 | Rájpur                              | 89 4 24               | 4.358857  | 29504 | 3.857  | "          |
|                 | Dehra Dún Mission School          | 4.445736              | 27808     | 5.286 | Belkadánda     |                 | 50 17 17                            | 4.194991              | 15067     | 2.907 | "      |            |
| 174             | Angaria                           | 42 24 51              | 4.227353  | 16879 | 3.197          | 186             | Timli                               | 60 42 37              | 4.122686  | 13264 | 2.512  | "          |
|                 | Nalápáni                          | 47 53 25              | 4.268704  | 18365 | 3.516          |                 | Rájpur                              | 34 23 18              | 3.933935  | 8590  | 1.627  | "          |
|                 | Dehra Dún Mission School          | 4.398375              | 25025     | 4.740 | Belkadánda     |                 | 84 54 5                             | 4.180369              | 15148     | 2.869 | "      |            |
| 175             | Angaria                           | 41 0 14               | 4.284285  | 19244 | 3.645          | 187             | Timli                               | 55 6 23               | 4.155817  | 14316 | 2.711  | "          |
|                 | Nalápáni                          | 17 33 39              | 3.946010  | 8849  | 1.676          |                 | Rájpur                              | 64 40 32              | 4.180009  | 13776 | 2.088  | "          |
|                 | Dehra Dún Magazine House          | 4.398375              | 25025     | 4.740 | Satikadánda    |                 | 60 13 5                             | 4.180369              | 15148     | 2.869 | "      |            |
| 176             | Dehra Dún                         | 87 40 21              | 4.284285  | 19244 | 3.645          | 188             | Belkadánda                          | 82 52 30              | 4.155817  | 14316 | 2.711  | "          |
|                 | Nalápáni                          | 31 51 6               | 4.007048  | 10164 | 1.925          |                 | Rájpur                              | 30 17 14              | 3.861903  | 7276  | 1.378  | "          |
|                 | Dehra Dún Magazine House          | 4.224236              | 16759     | 3.174 | Satikadánda    |                 | 66 50 16                            | 4.122686              | 13264     | 2.512 | "      |            |
| 177             | Angaria                           | 41 23 26              | 4.036155  | 10868 | 2.058          | 189             | Kalanga                             | 79 8 52               | 4.367337  | 23299 | 4.413  | "          |
|                 | Rájpur                            | 47 50 46              | 4.085850  | 12186 | 2.308          |                 | Dwara                               | 70 3 10               | 4.378305  | 22300 | 4.223  | "          |
|                 | Dehra Dún, Body-guard Temple      | 4.215791              | 16436     | 3.113 | Jogiwála House |                 | 4 084473                            | 12147                 | 2.301     | "     |        |            |
| 178             | Nalápáni                          | 29 43 25              | 4.036155  | 10868 | 2.058          | 190             | Rájpur                              | 41 28 7               | 4.367337  | 23299 | 4.413  | "          |
|                 | Rájpur                            | 37 35 27              | 4.126177  | 13371 | 2.532          |                 | Dwara                               | 89 24 47              | 4.540318  | 35182 | 6.063  | "          |
|                 | Dehra Dún, Body-guard Temple      | 4.305864              | 20224     | 3.830 | Jogiwála House |                 | 4 424899                            | 26601                 | 5.038     | "     |        |            |
| 179             | Chauki                            | 79 33 38              | 4.662551  | 45978 | 8.708          | 191             | Nágsidh                             | 27 35 35              | 4.314157  | 20614 | 3.904  | "          |
|                 | Dehra Dún Base-line E. End, (IX)* | 12 22 46              | 4.009995  | 10023 | 1.898          |                 | Ránpokhri                           | 89 50 36              | 4.648398  | 44504 | 8.420  | "          |
|                 | Santaur Devi Temple               | 4.669551              | 46725     | 8.849 | Máikot         |                 | 62 33 49                            | 4.596579              | 39498     | 7.481 | "      |            |

\* Of the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°. † Deduced base.

| No. of Triangle | Station           | Corrected Plane Angle |     |    | Distance  |           |       | No. of Triangle used | Station        | Corrected Plane Angle |     |           | Distance  |           |           | No. of Triangle used |        |
|-----------------|-------------------|-----------------------|-----|----|-----------|-----------|-------|----------------------|----------------|-----------------------|-----|-----------|-----------|-----------|-----------|----------------------|--------|
|                 |                   | o                     | '   | "  | Log. feet | Feet      | Miles |                      |                | o                     | '   | "         | Log. feet | Feet      | Miles     |                      |        |
| 192             | Ranipokhri        | s.                    | 22  | 48 | 14        | 3' 958981 | 9099  | 204                  | Ambári         | h.s.                  | 49  | 17        | 9         | 4' 358184 | 22813     | 12                   |        |
|                 | Máikot            | h.s.                  | 95  | 47 | 3         | 4' 368405 | 23356 |                      | Sidhi Tibá     | "                     | "   | 4' 172035 | 14861     | 2' 815    |           |                      |        |
|                 | Maidan            | "                     | 61  | 44 | 43        | 4' 314157 | 20614 |                      | Sherpur        | "                     | 101 | 7         | 37        | 4' 470289 | 29532     |                      | 5' 593 |
| 193             | Máikot            | h.s.                  | 61  | 25 | 14        | 4' 271639 | 18691 | 205                  | Sidhi Tibá     | h.s.                  | 28  | 7         | 15        | 4' 051236 | 11252     | "                    |        |
|                 | Ranipokhri        | s.                    | 43  | 0  | 13        | 4' 161880 | 14517 |                      | Sherpur        | "                     | 79  | 1         | 1         | 4' 369880 | 23437     |                      | 4' 439 |
| 194             | Matarakhani       | h.s.                  | 75  | 34 | 33        | 4' 314157 | 20614 | 206                  | Rantumma       | "                     | "   | "         | "         | 4' 358184 | 22813     | "                    |        |
|                 | Maidan            | h.s.                  | 47  | 21 | 58        | 4' 271639 | 18691 |                      | Sherpur        | h.s.                  | 76  | 22        | 51        | 4' 134996 | 13646     |                      | 2' 584 |
| 195             | Ranipokhri        | s.                    | 65  | 48 | 27        | 4' 365018 | 23175 | 207                  | Rantumma       | "                     | "   | "         | "         | 4' 033877 | 10811     | "                    |        |
|                 | Matarakhani       | h.s.                  | 66  | 49 | 35        | 4' 368405 | 23356 |                      | Gúlarghat      | s.                    | 53  | 15        | 53        | 4' 051236 | 11252     |                      | 2' 131 |
| 196             | Maidan            | h.s.                  | 98  | 58 | 47        | 4' 643012 | 44047 | 208                  | Sherpur        | h.s.                  | "   | "         | "         | "         | 4' 134996 | 13646                | "      |
|                 | Núgsidh           | "                     | 24  | 25 | 22        | 4' 265709 | 18438 |                      | Rantumma       | h.s.                  | 57  | 45        | 15        | 4' 126010 | 13366     | 2' 531               |        |
| 197             | Bhogpur Mark      | h.s.                  | 79  | 37 | 28        | 4' 643912 | 44047 | 209                  | Jám            | "                     | 59  | 42        | 22        | 4' 134996 | 13646     | "                    |        |
|                 | Núgsidh           | "                     | 16  | 43 | 39        | 4' 110194 | 12888 |                      | Sherpur        | h.s.                  | 62  | 32        | 23        | 4' 146845 | 14023     |                      | 2' 656 |
| 198             | Bhogpur Mark      | h.s.                  | 51  | 42 | 42        | 4' 307252 | 20289 | 210                  | Jám            | h.s.                  | 99  | 2         | 51        | 4' 530933 | 33957     | "                    |        |
|                 | Máikot            | "                     | 19  | 29 | 12        | 4' 393617 | 8623  |                      | Rantumma       | "                     | 22  | 52        | 30        | 4' 126010 | 13366     |                      | 2' 531 |
| 199             | Kálimatti         | h.s.                  | 50  | 11 | 34        | 4' 356501 | 22725 | 211                  | Jám            | "                     | "   | "         | "         | 4' 465158 | 29185     | "                    |        |
|                 | Káluwála          | s.                    | 55  | 48 | 34        | 4' 388622 | 24469 |                      | Sherpur        | h.s.                  | 51  | 58        | 4         | 4' 387981 | 24433     |                      | 4' 628 |
| 200             | Máikot            | h.s.                  | 19  | 54 | 50        | 4' 302772 | 8507  | 212                  | Sherpur        | "                     | 57  | 50        | 18        | 4' 419202 | 26260     | "                    |        |
|                 | Kálimatti         | "                     | 58  | 31 | 42        | 4' 328115 | 21302 |                      | Núga           | "                     | 70  | 11        | 38        | 4' 465158 | 29185     |                      | 5' 527 |
| 201             | Birasi House      | h.s.                  | 33  | 31 | 0         | 4' 329772 | 8507  | 213                  | Sherpur        | h.s.                  | 85  | 52        | 15        | 4' 416610 | 26098     | "                    |        |
|                 | Maidan            | "                     | 56  | 9  | 59        | 4' 107114 | 12797 |                      | Sherpur        | "                     | 37  | 78        | 7         | 4' 198559 | 15766     |                      | 2' 992 |
| 202             | Chándipahár, LIV* | h.s.                  | 43  | 11 | 24        | 4' 459935 | 28836 | 213                  | Sherpur        | "                     | 56  | 59        | 38        | 4' 341300 | 21943     | "                    |        |
|                 | Sonarkoti         | "                     | 109 | 34 | 45        | 4' 598746 | 39696 |                      | Sherpur        | "                     | 44  | 0         | 43        | 4' 546011 | 35157     |                      | 6' 659 |
| 203             | Partitnaagar      | "                     | 27  | 13 | 51        | 4' 285076 | 19279 | 213                  | Deoban         | "                     | 45  | 8         | 20        | 4' 554681 | 33866     | "                    |        |
|                 | Chándipahár, LIV* | h.s.                  | 11  | 57 | 18        | 4' 432019 | 27043 |                      | Núga           | h.s.                  | 64  | 2         | 34        | 4' 428632 | 26831     |                      | 5' 082 |
| 203             | Partitnaagar      | h.s.                  | 145 | 6  | 43        | 4' 598746 | 39696 | 213                  | Chilmeri (new) | "                     | 54  | 57        | 46        | 4' 387981 | 24433     | "                    |        |
|                 | Birasi House      | s.                    | 4   | 1  | 60        | 4' 156040 | 14370 |                      | Chilmeri (new) | h.s.                  | 85  | 52        | 15        | 4' 416610 | 26098     |                      | 4' 943 |

\* On the Great Arc Meridional Series—Section 24—200. † Identical with Meridian of the Great Arc Meridional Series—Section 24—200. ‡ Identical with Meridian.



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                 | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station                    | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station         | Corrected Plane Angle | Distance  |      |       | Theodolite used |
|-----------------|-------------------------|-----------------------|-----------|----------|-------|-----------------|----------------------------|-----------------------|-----------|----------|-------|-----------------|-----------------|-----------------------|-----------|------|-------|-----------------|
|                 |                         |                       | Log. feet | Feet     | Miles |                 |                            |                       | Log. feet | Feet     | Miles |                 |                 |                       | Log. feet | Feet | Miles |                 |
| 214             | Silgur                  | h.s.                  | 70 2 24   | 4 371242 | 23509 | 4 453           | Kanbhua                    | h.s.                  | 16 49 37  | 3 754454 | 5681  | 1 076           | Theodolite used |                       |           |      |       |                 |
|                 | Nāga                    | "                     | 32 48 29  | 4 126070 | 13368 | 2 532           | Tharona                    | "                     | 91 11 41  | 4 292739 | 19622 | 3 716           |                 | 12                    |           |      |       |                 |
|                 | Tharona                 | "                     | 77 39 7   | 4 387981 | 24433 | 4 628           | Makhāta Bungalow           | "                     | 4 270986  | 18663    | 3 535 | "               |                 | "                     |           |      |       |                 |
| 215             | Chilmeri (new)          | h.s.                  | 61 11 19  | 4 371242 | 23509 | 4 453           | Nāga                       | h.s.                  | 20 35 25  | 4 014288 | 10334 | 1 957           | Theodolite used |                       |           |      |       |                 |
|                 | Nāga                    | "                     | 28 41 11  | 4 109888 | 12879 | 2 439           | Chilmeri (new)             | "                     | 45 20 25  | 4 320186 | 20902 | 3 959           |                 | "                     |           |      |       |                 |
|                 | Tharona                 | "                     | 90 7 30   | 4 428632 | 26831 | 5 082           | Kotuwa Bungalow            | "                     | 4 428632  | 26831    | 5 082 | "               |                 | "                     |           |      |       |                 |
| 216             | Silgur                  | h.s.                  | 65 47 49  | 4 254233 | 17957 | 3 401           | Deoban                     | h.s.                  | 39 13 39  | 4 257764 | 18104 | 3 429           | Theodolite used |                       |           |      |       |                 |
|                 | Tharona                 | "                     | 42 46 0   | 4 126070 | 13368 | 2 532           | Chilmeri (new)             | "                     | 70 25 13  | 4 430903 | 26971 | 5 108           |                 | "                     |           |      |       |                 |
|                 | Kanbhua                 | "                     | 42 46 0   | 4 126070 | 13368 | 2 532           | Lisani                     | "                     | 70 21 8   | 4 430719 | 26960 | 5 106           |                 | "                     |           |      |       |                 |
| 217             | Tharona                 | h.s.                  | 73 2 15   | 4 363357 | 23086 | 4 372           | Nāga                       | h.s.                  | 39 31 32  | 4 257764 | 18104 | 3 429           | Theodolite used |                       |           |      |       |                 |
|                 | Hain                    | "                     | 75 34 17  | 4 308755 | 23375 | 4 437           | Chilmeri (new)             | "                     | 69 52 29  | 4 426658 | 26709 | 5 059           |                 | "                     |           |      |       |                 |
|                 | Jaundau                 | "                     | 31 23 28  | 4 099409 | 12572 | 2 381           | Lisani                     | "                     | 70 35 59  | 4 428632 | 26831 | 5 082           |                 | "                     |           |      |       |                 |
| 218             | Silgur                  | h.s.                  | 72 39 19  | 4 363357 | 23086 | 4 372           | Deoban                     | h.s.                  | 58 51 48  | 4 369653 | 23424 | 4 436           | Theodolite used |                       |           |      |       |                 |
|                 | Hain                    | "                     | 42 12 55  | 4 210584 | 16231 | 3 078           | Chilmeri (new)             | "                     | 41 1 9    | 4 254322 | 17961 | 3 402           |                 | "                     |           |      |       |                 |
|                 | Jaundau                 | "                     | 65 7 46   | 4 341300 | 21943 | 4 156           | Chaudeshwar                | "                     | 80 7 3    | 4 430719 | 26960 | 5 106           |                 | "                     |           |      |       |                 |
| 219             | Chilmeri (new)          | h.s.                  | 27 31 11  | 4 289136 | 19460 | 3 686           | Nāga                       | h.s.                  | 37 3 51   | 4 369653 | 23424 | 4 436           | Theodolite used |                       |           |      |       |                 |
|                 | Nāga                    | "                     | 112 34 23 | 4 588770 | 38794 | 7 347           | Chilmeri (new)             | "                     | 99 16 33  | 4 583829 | 38356 | 7 264           |                 | "                     |           |      |       |                 |
|                 | Badrāj Devi Hill Temple | "                     | 112 34 23 | 4 588770 | 38794 | 7 347           | Chaudeshwar                | "                     | 43 39 30  | 4 428632 | 26831 | 5 082           |                 | "                     |           |      |       |                 |
| 220             | Hain                    | h.s.                  | 28 45 13  | 4 289136 | 19460 | 3 686           | Hain                       | h.s.                  | 85 47 39  | 4 370258 | 23947 | 4 535           | Theodolite used |                       |           |      |       |                 |
|                 | Nāga                    | "                     | 88 47 48  | 4 606855 | 40444 | 7 660           | Chilmeri (new)             | "                     | 53 4 10   | 4 283175 | 19194 | 3 035           |                 | "                     |           |      |       |                 |
|                 | Badrāj Devi Hill Temple | "                     | 4 554681  | 35866    | 6 793 | 6 793           | Samogi                     | "                     | 41 8 11   | 4 198559 | 15796 | 2 992           |                 | "                     |           |      |       |                 |
| 221             | Hain                    | h.s.                  | 11 6 16   | 4 147629 | 14048 | 2 661           | Deoban                     | h.s.                  | 56 7 51   | 4 379258 | 23947 | 4 535           | Theodolite used |                       |           |      |       |                 |
|                 | Jaundau                 | "                     | 150 26 38 | 4 556067 | 35980 | 6 815           | Chilmeri (new)             | "                     | 54 40 44  | 4 371667 | 23532 | 4 457           |                 | "                     |           |      |       |                 |
|                 | Nagthat Bungalow        | "                     | 4 363357  | 23086    | 4 372 | 4 372           | Samogi                     | "                     | 69 11 25  | 4 430719 | 26960 | 5 106           |                 | "                     |           |      |       |                 |
| 222             | Tharona                 | h.s.                  | 63 26 40  | 4 331059 | 21432 | 4 059           | Lisani                     | h.s.                  | 33 20 38  | 4 348295 | 22300 | 4 223           | Theodolite used |                       |           |      |       |                 |
|                 | Nāga                    | "                     | 37 40 45  | 4 105690 | 14645 | 2 774           | Hain                       | "                     | 23 19 26  | 4 205810 | 16663 | 3 042           |                 | "                     |           |      |       |                 |
|                 | Fir Deota Hill Temple   | "                     | 4 371242  | 23509    | 4 453 | 4 453           | Chakrāta Post Office       | "                     | 4 530145  | 33896    | 6 420 | "               |                 |                       |           |      |       |                 |
| 223             | Nāga                    | h.s.                  | 38 47 52  | 4 168366 | 14736 | 2 701           | Samogi                     | h.s.                  | 66 25 27  | 4 348295 | 22300 | 4 223           | Theodolite used |                       |           |      |       |                 |
|                 | Tharona                 | "                     | 49 41 7   | 4 253035 | 17932 | 3 306           | Hain                       | "                     | 61 29 32  | 4 330015 | 21380 | 4 049           |                 | "                     |           |      |       |                 |
|                 | Kailu Deota Hill Temple | "                     | 4 371242  | 23509    | 4 453 | 4 453           | Chakrāta Post Office       | "                     | 4 283175  | 19194    | 3 035 | "               |                 |                       |           |      |       |                 |
| 224             | Silgur                  | h.s.                  | 87 4 21   | 4 168366 | 14736 | 2 701           | Hain                       | h.s.                  | 24 7 57   | 4 194331 | 15643 | 2 963           | Theodolite used |                       |           |      |       |                 |
|                 | Tharona                 | "                     | 27 58 0   | 4 340067 | 6910  | 1 310           | Chilmeri (new)             | "                     | 13 1 29   | 4 457335 | 28664 | 5 429           |                 | "                     |           |      |       |                 |
|                 | Kailu Deota Hill Temple | "                     | 4 126070  | 13368    | 2 532 | 2 532           | Chakrāta Military Hospital | "                     | 4 193559  | 15796    | 2 992 | "               |                 |                       |           |      |       |                 |
| 225             | Nāga                    | h.s.                  | 12 35 41  | 3 754454 | 5681  | 1 076           | Chaudeshwar                | h.s.                  | 28 42 28  | 4 194331 | 15643 | 2 963           | Theodolite used |                       |           |      |       |                 |
|                 | Tharona                 | "                     | 103 2 59  | 4 404877 | 25403 | 4 811           | Chilmeri (new)             | "                     | 17 17 2   | 3 985692 | 9676  | 1 833           |                 | "                     |           |      |       |                 |
|                 | Makhāta Bungalow        | "                     | 4 371242  | 23509    | 4 453 | 4 453           | Chakrāta Military Hospital | "                     | 4 369653  | 23424    | 4 436 | "               |                 |                       |           |      |       |                 |

• Deduced base.

| No. of Triangle | Station                         | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station                                    | Corrected Plane Angle | Distance  |       |                   | Theodolite used   |
|-----------------|---------------------------------|-----------------------|-----------|----------|-------|-----------------|--------------------------------------------|-----------------------|-----------|-------|-------------------|-------------------|
|                 |                                 |                       | Log. feet | Feet     | Miles |                 |                                            |                       | Log. feet | Feet  | Miles             |                   |
| 238             | Chilmeri (new)<br>Hain<br>Sapar | h.s.<br>" "<br>" "    | 44 48 14  | 38533    | 7.208 | 250             | Kandú<br>Dungri<br>Koti                    | 26 17 23              | 4 254396  | 17964 | 3.402             | Inch<br>12<br>"   |
|                 |                                 |                       | 118 24 18 | 4 682125 | 9.109 |                 |                                            | 96 27 40              | 4 605314  | 40301 | 7.633             |                   |
|                 |                                 |                       | 16 47 28  | 4 198359 | 15796 |                 |                                            | 4 532893              | 34111     | 6.400 |                   |                   |
| 239             | Samogi<br>Hain<br>Sapar         | h.s.<br>" "<br>" "    | 122 34 0  | 38533    | 7.298 | 251             | Bhandrauli<br>Dungri<br>Koti               | 91 49 22              | 4 254396  | 17964 | 3.402             | " "<br>" "<br>" " |
|                 |                                 |                       | 32 36 39  | 4 391656 | 4.667 |                 |                                            | 48 16 40              | 4 127570  | 13415 | 2.541             |                   |
|                 |                                 |                       | 24 49 21  | 4 283175 | 19194 |                 |                                            | 39 53 58              | 4 061773  | 11529 | 2.183             |                   |
| 240             | Nága<br>Deoban<br>Moila         | h.s.<br>" "<br>" "    | 25 15 2   | 28948    | 5.483 | 252             | Dungri<br>Koti<br>Mashak Hill Temple       | 14 19 56              | 4 105507  | 12750 | 2.415             | " "<br>" "<br>" " |
|                 |                                 |                       | 107 16 49 | 4 815103 | 65329 |                 |                                            | 145 15 20             | 4 467667  | 29354 | 5.560             |                   |
|                 |                                 |                       | 47 41 19  | 4 704098 | 50594 |                 |                                            | 60 05 7               | 4 177950  | 15064 | 2.853             |                   |
| 241             | Kanú<br>Deoban<br>Moila         | h.s.<br>" "<br>" "    | 23 2 2    | 28948    | 5.483 | 253             | Banawa<br>Koti<br>Konain Hill Temple       | 111 6 34              | 4 210182  | 16225 | 3.073             | " "<br>" "<br>" " |
|                 |                                 |                       | 32 19 30  | 4 597260 | 39500 |                 |                                            | 58 25 10              | 4 058571  | 11444 | 2.167             |                   |
|                 |                                 |                       | 124 38 28 | 4 784390 | 60868 |                 |                                            | 34 36 12              | 3 882446  | 7629  | 1.445             |                   |
| 242             | Kanú<br>Moila<br>Dungri         | h.s.<br>" "<br>" "    | 51 21 32  | 32300    | 6.117 | 254             | Koti<br>Bhandrauli<br>Hartar Hill Temple   | 44 27 1               | 4 058571  | 11444 | 2.167             | " "<br>" "<br>" " |
|                 |                                 |                       | 55 34 29  | 4 532893 | 34111 |                 |                                            | 28 38 35              | 3 893947  | 7833  | 1.484             |                   |
|                 |                                 |                       | 73 3 59   | 4 597260 | 39500 |                 |                                            | 69 30 18              | 4 532893  | 34111 | 6.460             |                   |
| 243             | Kanú<br>Moila<br>Chilar         | h.s.<br>" "<br>" "    | 60 20 30  | 34576    | 6.540 | 255             | Banawa<br>Bhandrauli<br>Hartar Hill Temple | 44 27 1               | 4 058571  | 11444 | 2.167             | " "<br>" "<br>" " |
|                 |                                 |                       | 35 48 9   | 4 306913 | 23276 |                 |                                            | 48 31 16              | 4 435889  | 27283 | 5.167             |                   |
|                 |                                 |                       | 83 51 21  | 4 597260 | 39500 |                 |                                            | 61 40 2               | 4 451923  | 28309 | 5.362             |                   |
| 244             | Deoban<br>Moila<br>Sainj        | h.s.<br>" "<br>" "    | 4 421113  | 26370    | 4.994 | 256             | Kanú<br>Dungri<br>Kandoi                   | 4 507121              | 32146     | 6.088 | " "<br>" "<br>" " |                   |
|                 |                                 |                       | 125 41 7  | 4 692261 | 49234 |                 |                                            | 84 10 18              | 4 236879  | 17254 |                   | 3.268             |
|                 |                                 |                       | 28 31 36  | 4 461616 | 28948 |                 |                                            | 91 48 52              | 4 507121  | 32146 |                   | 6.088             |
| 245             | Dungri<br>Moila<br>Sainj        | h.s.<br>" "<br>" "    | 51 3 49   | 26370    | 4.994 | 257             | Sainj<br>Dungri<br>Kandoi                  | 26 31 6               | 4 157145  | 14360 | 2.720             | " "<br>" "<br>" " |
|                 |                                 |                       | 56 37 8   | 4 451923 | 28309 |                 |                                            | 61 40 2               | 4 451923  | 28309 | 5.362             |                   |
|                 |                                 |                       | 72 19 3   | 4 509202 | 32300 |                 |                                            | 39 56 15              | 4 046632  | 11134 | 2.109             |                   |
| 246             | Chilar<br>Kanú<br>Bhandrauli    | h.s.<br>" "<br>" "    | 96 42 13  | 27786    | 5.263 | 258             | Sainj<br>Kandoi<br>Suban Hill Temple       | 84 10 18              | 4 236879  | 17254 | 3.268             | " "<br>" "<br>" " |
|                 |                                 |                       | 26 59 42  | 4 103779 | 12699 |                 |                                            | 10 14 18              | 4 031369  | 10749 | 2.036             |                   |
|                 |                                 |                       | 4 366913  | 23276    | 4.468 |                 |                                            | 143 54 34             | 4 551738  | 35624 | 6.747             |                   |
| 247             | Dungri<br>Kanú<br>Bhandrauli    | h.s.<br>" "<br>" "    | 48 11 0   | 27786    | 5.263 | 259             | Moila<br>Sainj<br>Kandul Hill Temple       | 23 27 33              | 4 031369  | 10749 | 2.036             | " "<br>" "<br>" " |
|                 |                                 |                       | 18 0 44   | 4 061773 | 11529 |                 |                                            | 124 24 45             | 4 347831  | 22276 | 4.219             |                   |
|                 |                                 |                       | 4 532893  | 34111    | 6.460 |                 |                                            | 51 12 20              | 4 157145  | 14360 | 2.720             |                   |
| 248             | Bhandrauli<br>Dungri<br>Banawa  | h.s.<br>" "<br>" "    | 97 46 59  | 20644    | 3.910 | 260             | Kandoi<br>Sainj<br>Kandul Hill Temple      | 23 27 33              | 4 031369  | 10749 | 2.036             | " "<br>" "<br>" " |
|                 |                                 |                       | 48 37 26  | 4 104105 | 15635 |                 |                                            | 124 24 45             | 4 347831  | 22276 | 4.219             |                   |
|                 |                                 |                       | 33 35 35  | 4 061773 | 11529 |                 |                                            | 51 12 20              | 4 157145  | 14360 | 2.720             |                   |
| 249             | Kanú<br>Dungri<br>Banawa        | h.s.<br>" "<br>" "    | 29 16 49  | 20644    | 3.910 | 261             | Koti<br>Dungri<br>Tikori Hill Temple       | 85 35 51              | 4 310777  | 20454 | 3.874             | " "<br>" "<br>" " |
|                 |                                 |                       | 96 48 26  | 4 622346 | 4.913 |                 |                                            | 85 35 51              | 4 310777  | 20454 | 3.874             |                   |
|                 |                                 |                       | 4 532893  | 34111    | 6.460 |                 |                                            | 4 254396              | 17964     | 3.402 |                   |                   |

| No. of Triangle | Station            | Corrected Plane Angle |          | Distance  |       |        | Theodolite used | No. of Triangle                                      | Station           | Spherical Excess | Corrected Plane Angle | Distance  |        |        | Theodolite used |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|-----------------|--------------------|-----------------------|----------|-----------|-------|--------|-----------------|------------------------------------------------------|-------------------|------------------|-----------------------|-----------|--------|--------|-----------------|------------------------------------------------------|----------------------|------------|------------|------------|-----------|--------|--------|------------------------------------------------------|-------------|------|------------|------------|-----------|--------|--------|-----|-------------|-----|------------|-----------|--------|--------|
|                 |                    | °                     | '        | Log. feet | Feet  | Miles  |                 |                                                      |                   |                  |                       | Log. feet | Feet   | Miles  |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 262             | Banawa             | h.s.                  | 46 44 36 | 4 310777  | 20454 | 3 874  | Inch            | 274                                                  | Birga             | h.s.             | 18 13 13              | 3 947055  | 8852   | 9      | Inch            |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Dungri             | "                     | 85 56 37 | 4 447283  | 28014 | 5 306  | 12              |                                                      | Kuna              | "                | 109 18 12             | 4 426839  | 26720  | 5 061  | 12              |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Tikeri Hill Temple | "                     |          | 4 314800  | 20644 | 3 910  | "               |                                                      | Maidrath Bungalow | "                |                       | 4 351296  | 22454  | 4 253  | "               |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 263             | Chilár             | h.s.                  | 43 46 58 | 4 549524  | 35442 | 6 713  | "               | <b>KIDARKANTA</b><br><b>SECONDARY SERIES.</b>        |                   |                  |                       |           |        |        |                 | 275                                                  | Sirkanda H.S. (new)† | 0.3        | 40 24 24.1 | 4 7688450  | 58728     | 11 123 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Dungri             | "                     | 123 0 53 | 4 032983  | 42952 | 8 135  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      | Banog (X)†           | h.s.       | 4          | 58 2 5 6   | 4 8857154 | 76863  | 14 557 |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Lokar Bungalow     | "                     | 4 068148 | 11099     | 2 216 | 57     | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      | Nag Tibá             | h.s.       | 4          | 81 33 30.3 | 4 9523991 | 89619  | 16 973 |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 264             | Kanúí              | h.s.                  | 19 49 50 | 4 549524  | 35442 | 6 713  | "               |                                                      |                   |                  |                       |           |        |        |                 | Banog (X)†                                           | 0.5                  | 66 18 25.0 | 5 0114926  | 102682     | 19 447    |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Dungri             | "                     | 141 6 48 | 4 816827  | 65588 | 12 422 | "               |                                                      |                   |                  |                       |           |        |        |                 | Nag Tibá                                             | h.s.                 | 5          | 82 6 36.0  | 5 0450032  | 111072    | 21 030 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Lokar Bungalow     | "                     | 4 532893 | 34111     | 6 460 | "      | Bajamara        |                                                      |                   |                  |                       |           |        |        |                 | "                                                    | 4                    | 31 34 59.0 | 4 7688450  | 58728      | 11 123    |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 265             | Chilár             | h.s.                  | 129 33 0 | 4 612808  | 41002 | 7 766  | "               |                                                      |                   |                  |                       |           |        |        |                 | Banog (X)†                                           | 0.5                  | 66 18 25.0 | 5 0114926  | 102682     | 19 447    |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 24 29 29 | 4 343299  | 22044 | 4 175  | "               |                                                      |                   |                  |                       |           |        |        |                 | Nag Tibá                                             | h.s.                 | 5          | 82 6 36.0  | 5 0450032  | 111072    | 21 030 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Bin Pohr           | "                     | 25 57 31 | 4 360913  | 23776 | 4 408  | "               |                                                      |                   |                  |                       |           |        |        |                 | Bajamara                                             | "                    | 4          | 31 34 59.0 | 4 7688450  | 58728     | 11 123 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 266             | Dungri             | h.s.                  | 90 13 46 | 4 612808  | 41002 | 7 766  | "               |                                                      |                   |                  |                       |           |        |        |                 | Banog (X)†                                           | 0.5                  | 66 18 25.0 | 5 0114926  | 102682     | 19 447    |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 33 28 27 | 4 354405  | 22615 | 4 283  | "               | Nag Tibá                                             | h.s.              | 5                | 82 6 36.0             | 5 0450032 | 111072 | 21 030 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Bin Pohr           | "                     | 56 17 47 | 4 532893  | 34111 | 6 460  | "               | Bajamara                                             | "                 | 4                | 31 34 59.0            | 4 7688450 | 58728  | 11 123 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 267             | Chilár             | h.s.                  | 66 38 44 | 4 486191  | 30633 | 5 802  | "               | Nag Tibá                                             | h.s.              | 0.5              | 71 47 2 7             | 5 0117760 | 102749 | 19 460 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 69 7 15  | 4 493818  | 31176 | 5 905  | "               | Bajamara                                             | "                 | 5                | 36 32 42.3            | 4 8089540 | 64410  | 12 109 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Gusana             | "                     | 44 14 1  | 4 360913  | 23776 | 4 408  | "               | Bahak                                                | "                 | 5                | 71 40 15 0            | 5 0114926 | 102682 | 19 447 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 268             | Bin Pohr           | h.s.                  | 48 15 31 | 4 486191  | 30633 | 5 802  | "               | Bajamara                                             | h.s.              | 0.8              | 50 23 18 9            | 5 0005117 | 100118 | 18 962 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 44 37 46 | 4 460018  | 28942 | 5 402  | "               | Bahak                                                | "                 | 8                | 77 22 1 5             | 5 1031602 | 120812 | 24 017 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Gusana             | "                     | 87 6 43  | 4 612808  | 41002 | 7 766  | "               | Kidarkanta                                           | "                 | 8                | 52 14 39 6            | 5 0117760 | 102749 | 19 460 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 269             | Chilár             | h.s.                  | 87 46 7  | 4 498153  | 31489 | 5 964  | "               | Bahak                                                | h.s.              | 0.6              | 36 41 4 5             | 4 9310352 | 85317  | 16 159 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 37 15 14 | 4 360913  | 23776 | 4 408  | "               | Kidarkanta                                           | "                 | 7                | 98 48 15 1            | 5 1496157 | 141129 | 26 729 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Birga              | "                     | 70 23 10 | 4 612808  | 41002 | 7 766  | "               | Lambatach                                            | "                 | 7                | 44 30 40 4            | 5 0005117 | 100118 | 18 962 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 270             | Bin Pohr           | h.s.                  | 46 20 12 | 4 498153  | 31489 | 5 964  | "               | Bahak                                                | h.s.              | 0.7              | 40 40 56 5            | 4 9642415 | 92096  | 17 442 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 03 16 38 | 4 589714  | 38979 | 7 303  | "               | Bajamara                                             | "                 | 8                | 92 39 36 5            | 5 1496157 | 141129 | 26 729 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Birga              | "                     | 70 23 10 | 4 612808  | 41002 | 7 766  | "               | Lambatach                                            | "                 | 7                | 40 39 27 0            | 5 0117760 | 102749 | 19 460 |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 271             | Gusana             | h.s.                  | 104 16 7 | 4 553736  | 35788 | 6 778  | "               | <b>KUMAON AND GAHWAL</b><br><b>SECONDARY SERIES.</b> |                   |                  |                       |           |        |        |                 | 281                                                  | Mábagarh, I          | 0.9        | 54 23 5 4  | 5 0333467  | 107081    | 20 451 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 19 40 41 | 4 004632  | 12435 | 2 355  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      | Rámgarh, II          | 0.0        | 71 52 57 6 | 5 1010210  | 126241    | 23 929 |        |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
|                 | Kuna               | "                     | 56 3 12  | 4 486191  | 30633 | 5 802  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      | Ghandiál             | H.s.       | 0.8        | 53 43 57 0 | 5 0297019 | 107093 | 20 283 |                                                      |             |      |            |            |           |        |        |     |             |     |            |           |        |        |
| 272             | Birga              | h.s.                  | 81 15 25 | 4 553736  | 35788 | 6 778  | "               |                                                      |                   |                  |                       |           |        |        |                 | <b>KUMAON AND GAHWAL</b><br><b>SECONDARY SERIES.</b> |                      |            |            |            |           |        |        | 281                                                  | Mábagarh, I | 0.9  | 54 23 5 4  | 5 0333467  | 107081    | 20 451 |        |     |             |     |            |           |        |        |
|                 | Kanúí              | "                     | 38 19 33 | 4 351296  | 22454 | 4 253  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      |                      |            |            |            |           |        |        |                                                      | Rámgarh, II | 0.0  | 71 52 57 6 | 5 1010210  | 126241    | 23 929 |        |     |             |     |            |           |        |        |
|                 | Kuna               | "                     | 60 25 2  | 4 498153  | 31489 | 5 964  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      |                      |            |            |            |           |        |        |                                                      | Ghandiál    | H.s. | 0.8        | 53 43 57 0 | 5 0297019 | 107093 | 20 283 |     |             |     |            |           |        |        |
| 278             | Gusana             | h.s.                  | 26 53 24 | 3 947055  | 8852  | 1 677  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      |                      |            |            |            |           |        |        | <b>KUMAON AND GAHWAL</b><br><b>SECONDARY SERIES.</b> |             |      |            |            |           |        |        | 281 | Mábagarh, I | 0.9 | 54 23 5 4  | 5 0333467 | 107081 | 20 451 |
|                 | Kuna               | "                     | 113 40 2 | 4 253493  | 17926 | 3 395  | "               |                                                      |                   |                  |                       |           |        |        |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     | Rámgarh, II | 0.0 | 71 52 57 6 | 5 1010210 | 126241 | 23 929 |
|                 | Maidrath Bungalow  | "                     | 4 094032 | 12435     | 2 355 | "      | Ghandiál        |                                                      |                   |                  |                       |           |        |        |                 |                                                      |                      |            |            |            |           |        |        |                                                      |             |      |            |            |           |        |        |     | H.s.        | 0.8 | 53 43 57 0 | 5 0297019 | 107093 | 20 283 |

\* Deduced base. † Of the Great Arc Meridional Series—Section 29°-30°. ‡ Of the Base-line figures, vide Synoptical Volume of the Great Arc Meridional Series—Section 24°-30°.

| No. of Triangle | Station      | Ephemerical Azimuth | Corrected Plane Angle |           |        | Distance  |      |       | Theodolite |
|-----------------|--------------|---------------------|-----------------------|-----------|--------|-----------|------|-------|------------|
|                 |              |                     | °                     | '         | "      | Log. feet | Feet | Miles |            |
| 292             | Rānigarh, II | 0.7                 | 49 57 23.3            | 4.9652387 | 92308  | 17.483    |      |       | Inch       |
|                 | Ghandiāl     | 0.8                 | 60 27 50.3            | 5.0435402 | 110547 | 20.937    |      |       | 14         |
|                 | Māniknāth    | 0.7                 | 63 34 40.4            | 5.0333407 | 107981 | 20.451    |      |       | "          |
| 293             | Mānigarh, I  | 0.8                 | 24 47 55.3            | 4.9652387 | 92308  | 17.483    |      |       | "          |
|                 | Ghandiāl     | 0.8                 | 120 11 54.1           | 5.2792369 | 100212 | 30.025    |      |       | "          |
|                 | Māniknāth    | 0.8                 | 35 01 06.5            | 10.12010  | 120241 | 23.909    |      |       | "          |
| 294             | Rānigarh, II | 1.1                 | 73 57 18.9            | 5.1624001 | 145348 | 27.528    |      |       | "          |
|                 | Māniknāth    | 1.1                 | 59 44 46.4            | 5.1130923 | 129745 | 24.573    |      |       | "          |
|                 | Gwanagarh    | 1.1                 | 40 57 54.7            | 5.0435402 | 110547 | 20.937    |      |       | "          |
| 295             | Rānigarh, II | 0.7                 | 51 14 3.2             | 5.0080600 | 101876 | 19.295    |      |       | "          |
|                 | Gwanagarh    | 0.7                 | 45 32 27.5            | 4.9096828 | 93257  | 17.602    |      |       | "          |
|                 | Devitōnk     | 0.8                 | 83 13 29.3            | 5.1130923 | 129745 | 24.573    |      |       | "          |
| 296             | Gwanagarh    | 0.9                 | 78 35 18.5            | 5.1370819 | 137114 | 25.969    |      |       | "          |
|                 | Devitōnk     | 0.9                 | 54 39 59.7            | 5.0573373 | 114114 | 21.612    |      |       | "          |
|                 | Kānkra No. 1 | 0.9                 | 40 44 41.5            | 5.0080600 | 101876 | 19.295    |      |       | "          |
| 297             | Māniknāth    | 1.0                 | 32 40 25.4            | 4.9438005 | 87862  | 16.641    |      |       | "          |
|                 | Gwanagarh    | 1.0                 | 83 20 49.6            | 5.2089096 | 101031 | 30.498    |      |       | "          |
|                 | Rāgshi       | 1.0                 | 63 43 45.0            | 5.1024091 | 145348 | 27.528    |      |       | "          |
| 298             | Rāgshi       | 1.0                 | 71 21 48.5            | 5.1722274 | 150393 | 28.483    |      |       | "          |
|                 | Gwanagarh    | 1.0                 | 75 12 43.5            | 5.1856008 | 153324 | 29.039    |      |       | "          |
|                 | Jatropāni    | 1.0                 | 33 36 47.2            | 4.9438005 | 87862  | 16.641    |      |       | "          |
| 299             | Kānkra No. 1 | 0.7                 | 101 32 33.8           | 5.1722274 | 150393 | 28.483    |      |       | "          |
|                 | Gwanagarh    | 0.7                 | 30 26 0.0             | 4.8907104 | 77752  | 14.726    |      |       | "          |
|                 | Jatropāni    | 0.7                 | 48 12 26.2            | 5.0573373 | 141414 | 21.612    |      |       | "          |
| 300             | Kānkra No. 1 | 0.8                 | 90 25 6.7             | 5.1577201 | 143787 | 27.232    |      |       | "          |
|                 | Jatropāni    | 0.7                 | 56 50 53.8            | 5.0803741 | 120385 | 22.800    |      |       | "          |
|                 | Sungarkōt    | 0.7                 | 32 43 59.5            | 4.8907104 | 77752  | 14.726    |      |       | "          |
| 301             | Kānkra No. 1 | 0.6                 | 50 50 49.7            | 5.0123994 | 102896 | 19.488    |      |       | "          |
|                 | Jatropāni    | 0.7                 | 93 16 53.6            | 5.1221249 | 132472 | 25.039    |      |       | "          |
|                 | Shikāni      | 0.6                 | 35 52 16.7            | 4.8907104 | 77752  | 14.726    |      |       | "          |
| 302             | Sungarkōt    | 0.7                 | 45 25 59.8            | 5.0123994 | 102896 | 19.488    |      |       | "          |
|                 | Jatropāni    | 0.7                 | 36 25 59.1            | 4.9362374 | 86345  | 16.333    |      |       | "          |
|                 | Shikāni      | 0.7                 | 98 31 1.1             | 5.1577201 | 143787 | 27.232    |      |       | "          |
| 303             | Sungarkōt    | 0.6                 | 102 27 0.2            | 5.1333311 | 135935 | 25.745    |      |       | "          |
|                 | Jatropāni    | 0.6                 | 30 14 46.2            | 4.9362374 | 86345  | 16.668    |      |       | "          |
|                 | Shikāni      | 0.6                 | 38 20 4.0             | 4.9262374 | 86345  | 16.353    |      |       | "          |
| 304             | Rānigarh, II | 0.7                 | 49 57 23.3            | 4.9652387 | 92308  | 17.483    |      |       | "          |
|                 | Ghandiāl     | 0.8                 | 60 27 50.3            | 5.0435402 | 110547 | 20.937    |      |       | "          |
|                 | Māniknāth    | 0.7                 | 63 34 40.4            | 5.0333407 | 107981 | 20.451    |      |       | "          |
| 305             | Mānigarh, I  | 0.8                 | 24 47 55.3            | 4.9652387 | 92308  | 17.483    |      |       | "          |
|                 | Ghandiāl     | 0.8                 | 120 11 54.1           | 5.2792369 | 100212 | 30.025    |      |       | "          |
|                 | Māniknāth    | 0.8                 | 35 01 06.5            | 10.12010  | 120241 | 23.909    |      |       | "          |

\* Of the Great Arc Measurement Series - Station 34-39.  
 † Of the North-West Measurement Series.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station           | Corrected Plane Angle | Distance  |        |        | No. of Triangle | Station           | Corrected Plane Angle | Distance  |       |        | Theodolite used |
|-----------------|-------------------|-----------------------|-----------|--------|--------|-----------------|-------------------|-----------------------|-----------|-------|--------|-----------------|
|                 |                   |                       | Log. feet | Feet   | Miles  |                 |                   |                       | Log. feet | Feet  | Miles  |                 |
| 306             | Adalákanta        | h.s.*                 | 4.966144  | 92501  | 17.519 | 318             | Kalagarhi         | h.s.                  | 4.658270  | 45527 | 8.623  | Inch            |
|                 | Pireh             | "                     | 5.013856  | 103242 | 19.553 |                 | Kalajhuni         | "                     | 4.742105  | 55229 | 10.460 |                 |
|                 | Birone            | "                     | 4.957406  | 90658  | 17.170 |                 | Chandkot          | "                     | 4.523352  | 33370 | 6.320  |                 |
| 307             | Ránigarh, II      | h.s.                  | 4.958454  | 90877  | 17.211 | 319             | Kalajhuni         | h.s.                  | 4.509198  | 32300 | 6.117  | "               |
|                 | Ráj Bonga         | h.s.                  | 5.104395  | 127173 | 24.086 |                 | Chandkot          | "                     | 4.020040  | 41091 | 7.896  |                 |
|                 | Dhuan             | "                     | 5.049271  | 112014 | 21.215 |                 | Chatargarhi       | "                     | 4.658270  | 45527 | 8.623  |                 |
| 308             | Bisone            | h.s.                  | 4.958454  | 90877  | 17.211 | 320             | Chándkot          | h.s.                  | 4.587339  | 38667 | 7.323  | "               |
|                 | Ráj Bonga         | "                     | 5.097284  | 125108 | 23.695 |                 | Chatargarhi       | h.s.                  | 4.702585  | 50418 | 9.549  |                 |
|                 | Dhuan             | "                     | 4.666478  | 46396  | 8.787  |                 | Devitank          | h.s.                  | 4.509198  | 32300 | 6.117  |                 |
| 309             | Dhuan             | h.s.                  | 4.955460  | 90255  | 17.094 | 321             | Chándkot          | h.s.                  | 4.969682  | 93257 | 17.662 | "               |
|                 | Ráj Bonga         | "                     | 4.946683  | 88447  | 16.751 |                 | Devitank          | h.s.                  | 4.757419  | 57293 | 10.834 |                 |
|                 | Lamkhál Hill Mark | "                     | 4.958454  | 90877  | 17.211 |                 | Ránigarh, II      | "                     | 4.702585  | 50418 | 9.549  |                 |
| 310             | Ránigarh, II      | h.s.                  | 4.955469  | 90255  | 17.094 | 322             | Naugnon           | No. 1                 | 4.667396  | 46494 | 8.806  | "               |
|                 | Ráj Bonga         | h.s.                  | 4.588919  | 38808  | 7.350  |                 | Mábegarh, I       | "                     | 4.294981  | 19753 | 3.735  |                 |
|                 | Lamkhál Hill Mark | "                     | 5.049271  | 112014 | 21.215 |                 | Ghugtigarh        | "                     | 4.668034  | 46562 | 8.819  |                 |
| 311             | Chándipahár, LIV† | h.s.                  | 4.668034  | 46562  | 8.819  | 323             | Chándipahár, LIV† | h.s.                  | 4.667396  | 46494 | 8.806  | "               |
|                 | Mábegarh, I       | No. 1                 | 4.824003  | 66681  | 12.629 |                 | Mábegarh, I       | "                     | 4.680941  | 48971 | 9.275  |                 |
|                 | Naugnon           | "                     | 4.942025  | 87593  | 16.573 |                 | Ghugtigarh        | "                     | 4.942025  | 87593 | 16.573 |                 |
| 312             | Mábegarh, I       | No. 1                 | 4.499005  | 31616  | 5.988  | 324             | Naugnon           | No. 1                 | 4.564869  | 36717 | 6.954  | "               |
|                 | Naugnon           | h.s.                  | 4.464288  | 29126  | 5.516  |                 | Ghugtigarh        | "                     | 4.327231  | 21244 | 4.023  |                 |
|                 | Dhunga            | "                     | 4.668034  | 46562  | 8.819  |                 | Phaldakot         | "                     | 4.294981  | 19723 | 3.735  |                 |
| 313             | Mábegarh, I       | h.s.                  | 4.551044  | 35567  | 6.736  | 325             | Naugnon           | No. 1                 | 4.773303  | 59334 | 11.237 | "               |
|                 | Dhunga            | "                     | 4.668865  | 46651  | 8.836  |                 | Phaldakot         | "                     | 4.762991  | 57942 | 10.974 |                 |
|                 | Dameri            | "                     | 4.464288  | 29126  | 5.516  |                 | Naugarh           | "                     | 4.327231  | 21244 | 4.023  |                 |
| 314             | Mábegarh, I       | h.s.                  | 4.603909  | 40171  | 7.608  | 326             | Naugnon           | No. 1                 | 4.559141  | 36236 | 6.863  | "               |
|                 | Dameri            | h.s.                  | 4.55540   | 35937  | 6.866  |                 | Naugarh           | "                     | 4.499905  | 31616 | 5.988  |                 |
|                 | Charekh           | "                     | 4.668865  | 46651  | 8.836  |                 | Dhuuga            | "                     | 4.762991  | 57942 | 10.974 |                 |
| 315             | Dameri            | h.s.                  | 4.592025  | 39086  | 7.403  | 327             | Ghugtigarh        | h.s.                  | 4.149673  | 14115 | 2.673  | "               |
|                 | Charekh           | "                     | 4.636031  | 43254  | 8.192  |                 | Phaldakot         | "                     | 4.597741  | 39604 | 7.501  |                 |
|                 | Kalagarhi         | "                     | 4.603909  | 40171  | 7.608  |                 | Jalibai           | "                     | 4.564869  | 36717 | 6.954  |                 |
| 316             | Charekh           | h.s.                  | 4.452937  | 28375  | 5.374  | 328             | Phaldakot         | h.s.                  | 4.175019  | 14963 | 2.834  | "               |
|                 | Kalagarhi         | "                     | 4.607282  | 40484  | 7.667  |                 | Jalibai           | "                     | 4.356079  | 22793 | 4.300  |                 |
|                 | Gajbara           | No. 1                 | 4.592025  | 39086  | 7.403  |                 | Marhal            | "                     | 4.149673  | 14115 | 2.673  |                 |
| 317             | Kalagarhi         | h.s.                  | 4.594084  | 39272  | 7.438  | 329             | Phaldakot         | h.s.                  | 4.326908  | 21228 | 4.020  | "               |
|                 | Gajbara           | No. 1                 | 4.523352  | 33370  | 6.320  |                 | Marhal            | "                     | 4.327359  | 21250 | 4.025  |                 |
|                 | Kalajhuni         | "                     | 4.452937  | 28375  | 5.374  |                 | Kuthal            | "                     | 4.566079  | 22793 | 4.300  |                 |

\* Of the North-West Himalaya Series. † Of the Great Arc Meridional Series—Section 24°-30°.

† Deduced base.

| No. of Triangle | Station            | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station           | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station           | Corrected Plane Angle | Distance  |          |       | Theodolite used |                 |
|-----------------|--------------------|-----------------------|-----------|----------|-------|-----------------|-------------------|-----------------------|-----------|----------|-------|-----------------|-------------------|-----------------------|-----------|----------|-------|-----------------|-----------------|
|                 |                    |                       | Log. feet | Feet     | Miles |                 |                   |                       | Log. feet | Feet     | Miles |                 |                   |                       | Log. feet | Feet     | Miles |                 |                 |
| 330             | Phaldkot           | h.s.                  | 70 8 50   | 4 558050 | 36145 | 342             | Chandipahar, LIV† | h.s.                  | 10 22 21  | 3 803168 | 6356  | 342             | Chandipahar, LIV† | h.s.                  | 20 11 28  | 4 25069  | 17950 | Theodolite used |                 |
|                 | Kuthal             | "                     | 76 16 55  | 4 572091 | 37333 |                 | Kalaphar          | "                     | 149 26 11 | 4 25069  | 17950 |                 | Kalaphar          | "                     | 39 11 33  | 4 209284 | 16191 |                 | 3 067           |
|                 | Dhari              | "                     | 33 34 15  | 4 327359 | 21250 |                 | Ambwala           | "                     | 20 11 28  | 4 25069  | 17950 |                 | Ambwala           | "                     | 39 11 33  | 4 209284 | 16191 |                 | 3 067           |
| 331             | Phaldkot           | h.s.                  | 37 25 30  | 4 441396 | 27631 | 343             | Chandipahar, LIV† | h.s.                  | 109 20 14 | 4 464223 | 29122 | 343             | Chandipahar, LIV† | h.s.                  | 31 38 33  | 4 209284 | 16191 | 3 067           | Theodolite used |
|                 | Dhari              | "                     | 87 22 45  | 4 857236 | 45419 |                 | Kanra             | "                     | 109 20 14 | 4 464223 | 29122 |                 | Kanra             | "                     | 31 38 33  | 4 209284 | 16191 | 3 067           |                 |
|                 | Dhanga             | "                     | 55 11 45  | 4 572091 | 37333 |                 | Khara             | "                     | 31 38 33  | 4 209284 | 16191 |                 | Khara             | "                     | 31 38 33  | 4 209284 | 16191 | 3 067           |                 |
| 332             | Dhari              | h.s.                  | 93 5 16   | 4 559141 | 36236 | 344             | Kanra             | h.s.                  | 63 6 44   | 4 246678 | 17647 | 344             | Kanra             | h.s.                  | 63 6 44   | 4 246678 | 17647 | 3 342           | Theodolite used |
|                 | Dhanga             | "                     | 37 19 22  | 4 342463 | 22002 |                 | Khara             | "                     | 37 45 25  | 4 083338 | 12115 |                 | Khara             | "                     | 37 45 25  | 4 083338 | 12115 | 2 495           |                 |
|                 | Neogarh            | "                     | 49 35 22  | 4 441396 | 27631 |                 | Godahwali         | "                     | 79 7 51   | 4 288503 | 19431 |                 | Godahwali         | "                     | 79 7 51   | 4 288503 | 19431 | 3 080           |                 |
| 333             | Charekh            | h.s.                  | 58 53 40  | 4 722304 | 52760 | 345             | Kanra             | h.s.                  | 73 29 20  | 4 271245 | 18674 | 345             | Kanra             | h.s.                  | 73 29 20  | 4 271245 | 18674 | 3 537           | Theodolite used |
|                 | Gajbara            | "                     | 80 2 4    | 4 783117 | 60690 |                 | Khara             | "                     | 12 34 1   | 3 627152 | 4238  |                 | Khara             | "                     | 12 34 1   | 3 627152 | 4238  | 0 803           |                 |
|                 | Harpalsid, XLVIII* | "                     | 41 4 16   | 4 607282 | 40484 |                 | Ganar             | "                     | 93 56 39  | 4 288503 | 19431 |                 | Ganar             | "                     | 93 56 39  | 4 288503 | 19431 | 3 680           |                 |
| 334             | Gajbara            | h.s.                  | 98 43 45  | 4 028859 | 84891 | 346             | Godahwali         | h.s.                  | 84 37 3   | 4 271245 | 18674 | 346             | Godahwali         | h.s.                  | 84 37 3   | 4 271245 | 18674 | 3 537           | Theodolite used |
|                 | Harpalsid, XLVIII* | "                     | 43 13 22  | 4 769702 | 58844 |                 | Khara             | "                     | 25 11 24  | 3 902187 | 7983  |                 | Khara             | "                     | 25 11 24  | 3 902187 | 7983  | 1 512           |                 |
|                 | Dhangaon           | "                     | 37 52 53  | 4 722304 | 52760 |                 | Ganar             | "                     | 70 11 33  | 4 246678 | 17647 |                 | Ganar             | "                     | 70 11 33  | 4 246678 | 17647 | 3 342           |                 |
| 335             | Harpalsid, XLVIII* | h.s.                  | 47 4 32   | 4 794610 | 62317 | 347             | Mabegarh, I       | h.s.                  | 41 48 38  | 4 503775 | 31899 | 347             | Mabegarh, I       | h.s.                  | 41 48 38  | 4 503775 | 31899 | 6 041           | Theodolite used |
|                 | Dhangaon           | "                     | 46 58 52  | 4 793943 | 62222 |                 | Ghugtigarh        | "                     | 61 51 10  | 4 625203 | 42189 |                 | Ghugtigarh        | "                     | 61 51 10  | 4 625203 | 42189 | 7 990           |                 |
|                 | Girjwala, III      | "                     | 85 56 36  | 4 928359 | 84891 |                 | Bijauagar         | "                     | 76 20 12  | 4 667396 | 46494 |                 | Bijauagar         | "                     | 76 20 12  | 4 667396 | 46494 | 8 806           |                 |
| 336             | Naugaon            | h.s.                  | 13 58 40  | 4 209284 | 16191 | 348             | Kanra             | h.s.                  | 46 21 32  | 4 503775 | 31899 | 348             | Kanra             | h.s.                  | 46 21 32  | 4 503775 | 31899 | 6 041           | Theodolite used |
|                 | Chandipahar, LIV†  | "                     | 70 9 12   | 4 799692 | 63051 |                 | Ghugtigarh        | "                     | 51 58 4   | 4 540571 | 34719 |                 | Ghugtigarh        | "                     | 51 58 4   | 4 540571 | 34719 | 6 576           |                 |
|                 | Kanra              | "                     | 99 31 47  | 4 689941 | 48971 |                 | Bijauagar         | "                     | 81 40 24  | 4 639628 | 43614 |                 | Bijauagar         | "                     | 81 40 24  | 4 639628 | 43614 | 8 260           |                 |
| 337             | Ghugtigarh         | h.s.                  | 19 1 49   | 4 209284 | 16191 | 349             | Chandipahar, LIV† | h.s.                  | 51 39 9   | 4 363572 | 23098 | 349             | Chandipahar, LIV† | h.s.                  | 51 39 9   | 4 363572 | 23098 | 4 375           | Theodolite used |
|                 | Chandipahar, LIV†  | "                     | 61 26 24  | 4 639628 | 43614 |                 | Sonarkoti         | h.s.                  | 87 27 34  | 4 486864 | 29423 |                 | Sonarkoti         | h.s.                  | 87 27 34  | 4 486864 | 29423 | 5 572           |                 |
|                 | Kanra              | "                     | 99 31 47  | 4 689941 | 48971 |                 | Motichur          | "                     | 40 53 17  | 4 285076 | 19279 |                 | Motichur          | "                     | 40 53 17  | 4 285076 | 19279 | 3 651           |                 |
| 338             | Sonarkoti          | h.s.                  | 99 6 1    | 4 387047 | 24381 | 350             | Ghugtigarh        | h.s.                  | 81 58 22  | 4 738855 | 54809 | 350             | Ghugtigarh        | h.s.                  | 81 58 22  | 4 738855 | 54809 | 10 381          | Theodolite used |
|                 | Chandipahar, LIV†  | "                     | 51 19 55  | 4 285076 | 19279 |                 | Jalballi          | "                     | 45 41 3   | 4 597741 | 39604 |                 | Jalballi          | "                     | 45 41 3   | 4 597741 | 39604 | 7 501           |                 |
|                 | Kalaphar           | "                     | 41 33 8   | 4 085793 | 12184 |                 | Jamankhatra (new) | "                     | 107 26 50 | 4 702191 | 50372 |                 | Jamankhatra (new) | "                     | 107 26 50 | 4 702191 | 50372 | 9 540           |                 |
| 339             | Kanra              | h.s.                  | 76 37 44  | 4 252147 | 17871 | 351             | Marhal            | h.s.                  | 45 41 3   | 4 597741 | 39604 | 351             | Marhal            | h.s.                  | 45 41 3   | 4 597741 | 39604 | 8 299           | Theodolite used |
|                 | Chandipahar, LIV†  | "                     | 61 49 8   | 4 209284 | 16191 |                 | Jalballi          | "                     | 16 27 44  | 4 175019 | 14963 |                 | Jalballi          | "                     | 16 27 44  | 4 175019 | 14963 | 2 834           |                 |
|                 | Kalaphar           | "                     | 41 33 8   | 4 085793 | 12184 |                 | Jamankhatra (new) | "                     | 107 26 50 | 4 702191 | 50372 |                 | Jamankhatra (new) | "                     | 107 26 50 | 4 702191 | 50372 | 9 540           |                 |
| 340             | Chandipahar, LIV†  | h.s.                  | 81 32 57  | 4 254685 | 17976 | 352             | Marhal            | h.s.                  | 45 41 3   | 4 597741 | 39604 | 352             | Marhal            | h.s.                  | 45 41 3   | 4 597741 | 39604 | 8 299           | Theodolite used |
|                 | Bhingora           | "                     | 56 20 56  | 4 179772 | 15128 |                 | Jalballi          | "                     | 38 25 42  | 4 175019 | 14963 |                 | Jalballi          | "                     | 38 25 42  | 4 175019 | 14963 | 2 834           |                 |
|                 | Dhangaon           | "                     | 42 6 7    | 4 085793 | 12184 |                 | Birbhaddar        | "                     | 94 37 9   | 4 380140 | 23996 |                 | Birbhaddar        | "                     | 94 37 9   | 4 380140 | 23996 | 4 545           |                 |
| 341             | Bhingora           | h.s.                  | 92 5 15   | 4 282491 | 19386 | 353             | Chandipahar, LIV† | h.s.                  | 81 32 57  | 4 254685 | 17976 | 353             | Chandipahar, LIV† | h.s.                  | 81 32 57  | 4 254685 | 17976 | 3 332           | Theodolite used |
|                 | Kalaphar           | "                     | 67 48 11  | 4 254685 | 17976 |                 | Jalballi          | "                     | 94 48 3   | 4 245345 | 17593 |                 | Jalballi          | "                     | 94 48 3   | 4 245345 | 17593 | 3 332           |                 |
|                 | Ambwala            | "                     | 67 48 11  | 4 254685 | 17976 |                 | Birbhaddar        | "                     | 62 5 11   | 4 597741 | 39604 |                 | Birbhaddar        | "                     | 62 5 11   | 4 597741 | 39604 | 7 501           |                 |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                              | Corrected Plane Angle | Distance                          |                         |                          | No. of Triangle | Station                              | Corrected Plane Angle | Distance                         |                         |                         | No. of Triangle | Station                              | Corrected Plane Angle | Distance                          |                                  |                         | No. of Triangle         |
|-----------------|--------------------------------------|-----------------------|-----------------------------------|-------------------------|--------------------------|-----------------|--------------------------------------|-----------------------|----------------------------------|-------------------------|-------------------------|-----------------|--------------------------------------|-----------------------|-----------------------------------|----------------------------------|-------------------------|-------------------------|
|                 |                                      |                       | Log. feet                         | Feet                    | Miles                    |                 |                                      |                       | Log. feet                        | Feet                    | Miles                   |                 |                                      |                       | Log. feet                         | Feet                             | Miles                   |                         |
| 354             | Kuthal<br>Marhal<br>Dhuru            | h.s.<br>" "<br>"      | 4.295019<br>4.524899<br>4.326908  | 19725<br>34489<br>21228 | 3.736<br>6.343<br>4.020  | 866             | Ránigarh, II<br>Jhangarh<br>Gurdhári | h.s.<br>" "<br>"      | 4.225863<br>4.592049<br>4.464496 | 16821<br>39089<br>29140 | 3.186<br>7.403<br>5.519 | 866             | Ránigarh, II<br>Jhangarh<br>Gurdhári | h.s.<br>" "<br>"      | 23 11 9<br>113 48 37<br>43 0 14   | 4.225863<br>4.592049<br>4.464496 | 16821<br>39089<br>29140 | 3.186<br>7.403<br>5.519 |
| 355             | Jalballi<br>Marhal<br>Dhuru          | h.s.<br>" "<br>"      | 4.295019<br>4.530165<br>4.175019  | 19725<br>33897<br>14983 | 3.736<br>6.420<br>2.834  | 867             | Kankhwála<br>Jhangarh<br>Gurdhári    | h.s.<br>" "<br>"      | 4.225863<br>4.257782<br>4.466617 | 16821<br>18104<br>27965 | 3.186<br>3.479<br>5.296 | 867             | Kankhwála<br>Jhangarh<br>Gurdhári    | h.s.<br>" "<br>"      | 35 15 21<br>38 24 27<br>106 20 12 | 4.225863<br>4.257782<br>4.466617 | 16821<br>18104<br>27965 | 3.186<br>3.479<br>5.296 |
| 356             | Kuthal<br>Dhuru<br>Banali            | h.s.<br>" "<br>"      | 4.240632<br>4.351620<br>4.524899  | 17493<br>22471<br>33489 | 3.206<br>4.256<br>6.343  | 868             | Kankhwála<br>Gurdhári<br>Majin       | h.s.<br>" "<br>"      | 4.202857<br>4.399824<br>4.237782 | 15954<br>25109<br>18104 | 3.022<br>4.755<br>3.449 | 868             | Kankhwála<br>Gurdhári<br>Majin       | h.s.<br>" "<br>"      | 39 17 3<br>94 46 38<br>45 55 59   | 4.202857<br>4.399824<br>4.237782 | 15954<br>25109<br>18104 | 3.022<br>4.755<br>3.449 |
| 357             | Dhari<br>Phaldakot<br>Kund           | h.s.<br>" "<br>"      | 4.345768<br>4.249621<br>4.572091  | 22170<br>17767<br>37333 | 4.199<br>3.365<br>7.071  | 869             | Devidat<br>Kankhwála<br>Kuthgarh     | h.s.<br>" "<br>"      | 4.217875<br>4.150888<br>4.137650 | 16515<br>14351<br>13729 | 3.128<br>2.718<br>2.600 | 869             | Devidat<br>Kankhwála<br>Kuthgarh     | h.s.<br>" "<br>"      | 72 0 34<br>55 44 27<br>52 14 59   | 4.217875<br>4.150888<br>4.137650 | 16515<br>14351<br>13729 | 3.128<br>2.718<br>2.600 |
| 358             | Kuthal<br>Phaldakot<br>Kund          | h.s.<br>" "<br>"      | 4.345768<br>4.277004<br>4.327359  | 22170<br>18924<br>21250 | 4.199<br>3.584<br>4.025  | 370             | Majin<br>Kankhwála<br>Kuthgarh       | h.s.<br>" "<br>"      | 4.217875<br>4.559431<br>4.399824 | 16515<br>36260<br>25109 | 3.128<br>6.867<br>4.755 | 370             | Majin<br>Kankhwála<br>Kuthgarh       | h.s.<br>" "<br>"      | 23 17 26<br>119 45 27<br>36 57 7  | 4.217875<br>4.559431<br>4.399824 | 16515<br>36260<br>25109 | 3.128<br>6.867<br>4.755 |
| 359             | Phaldakot<br>Marhal<br>Jalandi       | h.s.<br>" "<br>"      | 4.201855<br>3.879359<br>4.350079  | 19582<br>7575<br>22703  | 3.709<br>1.435<br>4.300  | 371             | Jhangarh<br>Gurdhári<br>Mintidhar    | h.s.<br>" "<br>"      | 3.753449<br>4.266641<br>4.225863 | 5668<br>18477<br>16821  | 1.074<br>3.500<br>3.186 | 371             | Jhangarh<br>Gurdhári<br>Mintidhar    | h.s.<br>" "<br>"      | 17 41 16<br>97 56 5<br>64 22 39   | 3.753449<br>4.266641<br>4.225863 | 5668<br>18477<br>16821  | 1.074<br>3.500<br>3.186 |
| 360             | Naugon<br>Ghugtigarh<br>Binak        | No. 1<br>" "<br>"     | 89.53 52<br>62.21 7<br>27.45 1    | 42359<br>37523<br>19723 | 8.023<br>7.107<br>3.755  | 372             | Kankhwála<br>Gurdhári<br>Mintidhar   | h.s.<br>" "<br>"      | 3.753449<br>4.368991<br>4.257782 | 5668<br>23388<br>18104  | 1.074<br>4.430<br>3.429 | 372             | Kankhwála<br>Gurdhári<br>Mintidhar   | h.s.<br>" "<br>"      | 5 43 3<br>155 43 43<br>18 33 14   | 3.753449<br>4.368991<br>4.257782 | 5668<br>23388<br>18104  | 1.074<br>4.430<br>3.429 |
| 361             | Mábegarh, I<br>Naugon<br>Jaspalgarh  | No. 1<br>h.s.<br>"    | 47.44 15<br>13.24 20<br>118.51 25 | 39345<br>12326<br>40562 | 7.452<br>2.334<br>8.819  | 373             | Jhangarh<br>Gurdhári<br>Chilaugbita  | h.s.<br>" "<br>"      | 3.906926<br>4.222101<br>4.225863 | 8071<br>18711<br>16821  | 1.529<br>3.544<br>3.186 | 373             | Jhangarh<br>Gurdhári<br>Chilaugbita  | h.s.<br>" "<br>"      | 25 33 8<br>90 25 24<br>64 1 28    | 3.906926<br>4.222101<br>4.225863 | 8071<br>18711<br>16821  | 1.529<br>3.544<br>3.186 |
| 362             | Ránigarh, II<br>Naugon<br>Jhangarh   | h.s.<br>" "<br>"      | 80.20 26<br>31.51 51<br>67.47 43  | 54417<br>29140<br>51106 | 10.306<br>5.519<br>6.679 | 374             | Kankhwála<br>Mintidhar<br>Sindi      | h.s.<br>" "<br>"      | 3.958631<br>4.293179<br>4.368991 | 9091<br>19642<br>23388  | 1.722<br>3.720<br>4.430 | 374             | Kankhwála<br>Mintidhar<br>Sindi      | h.s.<br>" "<br>"      | 3.958631<br>4.293179<br>4.368991  | 9091<br>19642<br>23388           | 1.722<br>3.720<br>4.430 |                         |
| 363             | Ránigarh, II<br>Jhangarh<br>Devidat  | h.s.<br>" "<br>"      | 73.27 0<br>53.50 18<br>52.42 42   | 35110<br>29571<br>29140 | 6.650<br>5.601<br>5.519  | 375             | Jhangarh<br>Kankhwála<br>Kolkidanda  | h.s.<br>" "<br>"      | 4.545428<br>4.470868<br>4.464496 | 35110<br>29571<br>29140 | 6.404<br>3.589<br>5.296 | 375             | Jhangarh<br>Kankhwála<br>Kolkidanda  | h.s.<br>" "<br>"      | 90 6 32<br>34 5 22<br>55 48 6     | 4.545428<br>4.470868<br>4.464496 | 35110<br>29571<br>29140 | 6.404<br>3.589<br>5.296 |
| 364             | Jhangarh<br>Devidat<br>Kankhwála     | h.s.<br>" "<br>"      | 21.33 52<br>48.28 26<br>109.57 42 | 13729<br>27965<br>35110 | 2.600<br>5.296<br>6.650  | 376             | Devidat<br>Kankhwála<br>Sumari       | h.s.<br>" "<br>"      | 4.137650<br>4.466617<br>4.545428 | 13729<br>27965<br>35110 | 2.600<br>5.296<br>6.650 | 376             | Devidat<br>Kankhwála<br>Sumari       | h.s.<br>" "<br>"      | 55 54 30<br>98 24 55<br>4 13 7650 | 4.137650<br>4.466617<br>4.545428 | 13729<br>27965<br>35110 | 2.600<br>5.296<br>6.650 |
| 365             | Ránigarh, II<br>Devidat<br>Kankhwála | h.s.<br>" "<br>"      | 22.40 36<br>101.11 8<br>56.8 16   | 13729<br>34935<br>29571 | 2.600<br>6.616<br>5.601  | 377             | Majin<br>Kankhwála<br>Sumari         | h.s.<br>" "<br>"      | 4.137650<br>4.543262<br>4.470868 | 13729<br>34935<br>29571 | 2.600<br>6.616<br>5.601 | 377             | Majin<br>Kankhwála<br>Sumari         | h.s.<br>" "<br>"      | 53 2 38<br>77 4 59<br>4 399824    | 4.137650<br>4.543262<br>4.470868 | 13729<br>34935<br>29571 | 2.600<br>6.616<br>5.601 |

\* Deduced base.

| No. of Triangle | Station       | Corrected Plane Angle<br>° ' " | Distance  |       |        | No. of Triangle | Station            | Corrected Plane Angle<br>° ' " | Distance  |           |       | Theodolite      |    |
|-----------------|---------------|--------------------------------|-----------|-------|--------|-----------------|--------------------|--------------------------------|-----------|-----------|-------|-----------------|----|
|                 |               |                                | Log. feet | Feet  | Miles  |                 |                    |                                | Log. feet | Feet      | Miles |                 |    |
| 378             | Ráinigárh, II | h.s.                           | 4' 782638 | 65623 | 11.482 | 380             | Devidat            | h.s.                           | 3' 607141 | 4047      | 0.767 | Theodolite<br>7 |    |
|                 | Naogárh       | "                              | 4' 444385 | 27822 | 5.209  |                 | Baungwári          | "                              | 3' 908261 | 9295      | 1.760 |                 |    |
|                 | Pansukhál     | "                              | 4' 708475 | 51106 | 9.679  |                 | Gadoli             | No. 1                          | 3' 978957 | 9527      | 1.804 |                 |    |
| 379             | Naogárh       | h.s.                           | 4' 334317 | 21593 | 4.090  | 381             | Baungwári          | h.s.                           | 4' 434342 | 3526      | 0.617 | "               |    |
|                 | Jhangárh      | "                              | 4' 682958 | 48190 | 9.127  |                 | Gadoli             | No. 1                          | 3' 661849 | 4590      | 0.869 |                 |    |
|                 | Deopraságh    | "                              | 4' 733738 | 54417 | 10.306 |                 | Gadoli             | No. 2                          | 3' 607141 | 4047      | 0.767 |                 |    |
| 380             | Naogárh       | h.s.                           | 4' 392449 | 24686 | 4.675  | 382             | Harpálsid, XLVIII† | h.s.                           | 16 53 28  | 4' 740084 | 54965 | 10.410          | 12 |
|                 | Ráinigárh, II | "                              | 4' 576443 | 37813 | 7.162  |                 | Mábégarh, I        | "                              | 9 23 1    | 4' 489162 | 30843 | 5.842           |    |
|                 | Naithána      | "                              | 4' 708475 | 51106 | 9.679  |                 | Jamaungárh         | h.s.                           | 153 43 31 | 4' 922943 | 83742 | 15.860          |    |
| 381             | Pansukhál     | h.s.                           | 4' 392449 | 24686 | 4.675  | 383             | Charekh            | h.s.                           | 112 19 6  | 4' 740084 | 54965 | 10.410          | "  |
|                 | Ráinigárh, II | "                              | 4' 358137 | 22811 | 4.320  |                 | Mábégarh, I        | "                              | 30 27 52  | 4' 478912 | 30124 | 5.705           |    |
|                 | Naithána      | "                              | 4' 444385 | 27822 | 5.269  |                 | Jamaungárh         | "                              | 37 13 2   | 4' 555540 | 35937 | 6.806           |    |
| 382             | Pansukhál     | h.s.                           | 4' 266100 | 18454 | 3.495  | 384             | Mábégarh, I        | h.s.                           | 32 20 42  | 4' 537393 | 34466 | 6.528           | "  |
|                 | Naithána      | "                              | 3' 059195 | 9103  | 1.724  |                 | Jamaungárh         | h.s.                           | 26 13 5   | 4' 454240 | 28460 | 5.390           |    |
|                 | Kimna         | "                              | 4' 358137 | 22811 | 4.320  |                 | Sidhwála           | No. 1                          | 121 20 13 | 4' 740084 | 54965 | 10.410          |    |
| 383             | Ráinigárh, II | h.s.                           | 4' 541517 | 34795 | 6.590  | 385             | Jamaungárh         | h.s.                           | 25 14 3   | 4' 209172 | 16187 | 3.066           | "  |
|                 | Pansukhál     | "                              | 4' 278006 | 18907 | 3.592  |                 | Sidhwála           | No. 1                          | 89 34 22  | 4' 579425 | 37969 | 7.191           |    |
|                 | Bangurni      | "                              | 4' 444385 | 27822 | 5.269  |                 | Haldukhátá         | "                              | 65 11 35  | 4' 537393 | 34466 | 6.528           |    |
| 384             | Naithána      | h.s.                           | 4' 541517 | 34795 | 6.590  | 386             | Sidhwála           | No. 1                          | 107 52 41 | 4' 260519 | 18219 | 3.451           | "  |
|                 | Pansukhál     | "                              | 4' 227778 | 16896 | 3.200  |                 | Haldukhátá         | "                              | 14 23 13  | 3' 672286 | 4756  | 0.901           |    |
|                 | Bangurni      | "                              | 4' 358137 | 22811 | 4.320  |                 | Sidhwála           | No. 2                          | 57 44 6   | 4' 209172 | 16187 | 3.066           |    |
| 385†            | Jhangárh      | h.s.                           | 4' 704968 | 50695 | 9.601  | 387             | Jamaungárh         | h.s.                           | 27 19 43  | 4' 260519 | 18219 | 3.451           | "  |
|                 | Devidat       | "                              | 4' 361066 | 22985 | 4.349  |                 | Haldukhátá         | "                              | 79 34 46  | 4' 591396 | 39030 | 7.392           |    |
|                 | Pali          | "                              | 4' 545428 | 35110 | 6.050  |                 | Sidhwála           | No. 2                          | 73 5 29   | 4' 579425 | 37969 | 7.191           |    |
| 386†            | Naogárh       | h.s.                           | 4' 533036 | 34122 | 6.463  | 388             | Dasmeri            | h.s.                           | 50 18 13  | 4' 521439 | 33223 | 6.292           | "  |
|                 | Naithána      | "                              | 4' 497845 | 31466 | 5.900  |                 | Charekh            | "                              | 18 11 7   | 4' 129545 | 13476 | 2.552           |    |
|                 | Pali          | "                              | 4' 577643 | 37813 | 7.162  |                 | Dikhet             | "                              | 111 30 40 | 4' 603909 | 40171 | 7.608           |    |
| 387             | Ráinigárh, II | h.s.                           | 4' 344121 | 22086 | 4.183  | 389             | Mábégarh, I        | h.s.                           | 57 17 9   | 4' 521439 | 33223 | 6.292           | "  |
|                 | Devidat       | "                              | 3' 919216 | 8393  | 1.572  |                 | Charekh            | "                              | 57 11 39  | 4' 520992 | 33189 | 6.285           |    |
|                 | Dhano         | "                              | 4' 470868 | 29571 | 5.601  |                 | Dikhet             | "                              | 65 31 12  | 4' 555540 | 35937 | 6.806           |    |
| 388             | Kankhwála     | h.s.                           | 4' 344121 | 22086 | 4.183  | 400             | Kalagarhi          | h.s.                           | 92 51 57  | 4' 688648 | 48826 | 9.247           | "  |
|                 | Devidat       | "                              | 4' 425428 | 26633 | 5.044  |                 | Charekh            | "                              | 34 2 57   | 4' 437305 | 2732  | 5.184           |    |
|                 | Dhano         | "                              | 4' 137650 | 13729 | 2.600  |                 | Langurgarhi        | "                              | 53 5 6    | 4' 592025 | 39086 | 7.403           |    |
| 389             | Devidat       | h.s.                           | 3' 923129 | 8553  | 1.620  | 401             | Dasmeri            | h.s.                           | 92 38 32  | 4' 688648 | 48826 | 9.247           | "  |
|                 | Kathagarh     | "                              | 3' 928957 | 9527  | 1.804  |                 | Charekh            | "                              | 32 5 10   | 4' 414362 | 25963 | 4.917           |    |
|                 | Baungwári     | "                              | 4' 156388 | 14351 | 2.718  |                 | Langurgarhi        | "                              | 55 16 18  | 4' 603909 | 40171 | 7.608           |    |

† Theodolite used at this station was a different instrument from those used at the other stations.



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                   | Corrected Plane Angle                  | Distance                         |                         |                          | No. of Triangle | Station                        | Corrected Plane Angle                        | Distance                         |                         |                          | No. of Triangle | Station                        | Corrected Plane Angle                        | Distance                         |                         |                          | No. of Triangle |
|-----------------|-------------------------------------------|----------------------------------------|----------------------------------|-------------------------|--------------------------|-----------------|--------------------------------|----------------------------------------------|----------------------------------|-------------------------|--------------------------|-----------------|--------------------------------|----------------------------------------------|----------------------------------|-------------------------|--------------------------|-----------------|
|                 |                                           |                                        | Log. feet                        | Feet                    | Miles                    |                 |                                |                                              | Log. feet                        | Feet                    | Miles                    |                 |                                |                                              | Log. feet                        | Feet                    | Miles                    |                 |
| 402             | Charekh Dasmeri Kajigarhi                 | h.s. 38 58 19<br>78 18 23              | 4 453719<br>4 646001<br>4 603909 | 28426<br>44259<br>40171 | 5 384<br>8 382<br>7 608  | 414             | Gujarat Giriwala, III Haruwala | h.s. 77 17 31<br>61 12 49<br>41 29 40        | 4 489605<br>4 443089<br>4 321593 | 30875<br>27739<br>20970 | 5 848<br>5 254<br>3 972  | 414             | Gujarat Giriwala, III Haruwala | h.s. 77 17 31<br>61 12 49<br>41 29 40        | 4 489605<br>4 443089<br>4 321593 | 30875<br>27739<br>20970 | 5 848<br>5 254<br>3 972  |                 |
| 403             | Langurgarhi Dasmeri Kajigarhi             | h.s. 102 38 0<br>14 20 9<br>63 1 51    | 4 453719<br>3 858122<br>4 414362 | 28426<br>7213<br>25963  | 5 384<br>1 306<br>4 917  | 415             | Gujarat Giriwala, III Kitali   | h.s. 93 6 31<br>32 24 0<br>54 29 20          | 4 410328<br>4 140022<br>4 321593 | 23723<br>13805<br>20970 | 4 872<br>2 614<br>3 972  | 415             | Gujarat Giriwala, III Kitali   | h.s. 93 6 31<br>32 24 0<br>54 29 20          | 4 410328<br>4 140022<br>4 321593 | 23723<br>13805<br>20970 | 4 872<br>2 614<br>3 972  |                 |
| 404             | Gajbara Kalogarhi Gajbara                 | No. 1 h.s. 5 39 6<br>No. 2 " 110 24 9  | 4 434533<br>3 474423<br>4 452937 | 27108<br>2981<br>28375  | 5 151<br>0 565<br>5 374  | 416             | Jamunagarh Charekh Jamargadi   | h.s. 58 51 32<br>25 34 53<br>95 33 35        | 4 413381<br>4 116235<br>4 478912 | 23905<br>13069<br>30124 | 4 906<br>2 475<br>5 705  | 416             | Jamunagarh Charekh Jamargadi   | h.s. 58 51 32<br>25 34 53<br>95 33 35        | 4 413381<br>4 116235<br>4 478912 | 23905<br>13069<br>30124 | 4 906<br>2 475<br>5 705  |                 |
| 405             | Charekh Kalogarhi Gajbara                 | h.s. 66 7 3<br>72 20 52                | 4 434533<br>4 574097<br>4 592025 | 27198<br>37506<br>39086 | 5 151<br>7 103<br>7 403  | 417             | Gajbara Charekh Jamargadi      | No. 1 h.s. 38 39 47<br>38 50 54<br>102 29 19 | 4 413381<br>4 415130<br>4 607282 | 23905<br>26009<br>40484 | 4 906<br>4 926<br>7 667  | 417             | Gajbara Charekh Jamargadi      | No. 1 h.s. 38 39 47<br>38 50 54<br>102 29 19 | 4 413381<br>4 415130<br>4 607282 | 23905<br>26009<br>40484 | 4 906<br>4 926<br>7 667  |                 |
| 406             | Harpalsid, XLVIII* Jamunagarh Sana        | h.s. 46 24 34<br>26 36 45<br>106 58 41 | 4 568424<br>4 159748<br>4 489102 | 23357<br>14446<br>30843 | 4 424<br>2 736<br>5 842  | 418             | Jamunagarh Jamargadi Kamari    | h.s. 72 17 56<br>77 52 54<br>29 49 10        | 4 398580<br>4 409857<br>4 116235 | 25937<br>25695<br>13069 | 4 742<br>4 867<br>2 475  | 418             | Jamunagarh Jamargadi Kamari    | h.s. 72 17 56<br>77 52 54<br>29 49 10        | 4 398580<br>4 409857<br>4 116235 | 25937<br>25695<br>13069 | 4 742<br>4 867<br>2 475  |                 |
| 407             | Harpalsid, XLVIII* Jamunagarh Bagnala     | h.s. 108 18 38<br>51 6 54              | 4 575389<br>4 143786<br>4 489162 | 37617<br>13925<br>30843 | 7 125<br>2 037<br>5 842  | 419             | Harpalsid, XLVIII* Charekh Joi | h.s. 8 12 34<br>158 29 4                     | 4 373447<br>4 580760<br>4 783117 | 23629<br>38086<br>60690 | 4 475<br>7 213<br>11 494 | 419             | Harpalsid, XLVIII* Charekh Joi | h.s. 8 12 34<br>158 29 4                     | 4 373447<br>4 580760<br>4 783117 | 23629<br>38086<br>60690 | 4 475<br>7 213<br>11 494 |                 |
| 408             | Harpalsid, XLVIII* Giriwala, III Kharbana | h.s. 56 41 4<br>25 53 10<br>97 25 49   | 4 719629<br>4 437672<br>4 793943 | 52436<br>27395<br>62222 | 9 931<br>5 188<br>11 784 | 420             | Jamunagarh Charekh Joi         | h.s. 25 27 18<br>3 871191<br>146 46 27       | 4 373447<br>3 871191<br>4 478912 | 23629<br>7433<br>30124  | 4 475<br>1 408<br>5 705  | 420             | Jamunagarh Charekh Joi         | h.s. 25 27 18<br>3 871191<br>146 46 27       | 4 373447<br>3 871191<br>4 478912 | 23629<br>7433<br>30124  | 4 475<br>1 408<br>5 705  |                 |
| 409             | Jamunagarh Harpalsid, XLVIII* Gujarsot    | h.s. 27 14 21<br>132 53 31             | 4 618437<br>4 822740<br>4 489162 | 41537<br>60488<br>30843 | 7 867<br>12 592<br>5 842 | 421             | Kalajhuni Chakargarhi Dorban   | h.s. 49 32 24<br>68 47 42<br>61 39 54        | 4 556769<br>4 645017<br>4 620040 | 36039<br>44159<br>41691 | 6 826<br>8 363<br>7 896  | 421             | Kalajhuni Chakargarhi Dorban   | h.s. 49 32 24<br>68 47 42<br>61 39 54        | 4 556769<br>4 645017<br>4 620040 | 36039<br>44159<br>41691 | 6 826<br>8 363<br>7 896  |                 |
| 410             | Kharbana Harpalsid, XLVIII* Gujarsot      | h.s. 79 4 22<br>60 34 6<br>40 21 32    | 4 618437<br>4 566373<br>4 437672 | 41537<br>36845<br>27395 | 7 867<br>6 978<br>5 188  | 422             | Chandkot Chakargarhi Dorban    | h.s. 133 30 13<br>5 56 56<br>40 32 51        | 4 550769<br>3 711763<br>4 509198 | 36039<br>5150<br>32300  | 6 826<br>0 975<br>6 117  | 422             | Chandkot Chakargarhi Dorban    | h.s. 133 30 13<br>5 56 56<br>40 32 51        | 4 550769<br>3 711763<br>4 509198 | 36039<br>5150<br>32300  | 6 826<br>0 975<br>6 117  |                 |
| 411             | Gujarsot Harpalsid, XLVIII* Chapra        | h.s. 63 10 37<br>43 52 37<br>72 56 40  | 4 588527<br>4 478769<br>4 618437 | 38773<br>30114<br>41537 | 7 343<br>5 203<br>7 867  | 423             | Chandkot Chakargarhi Utain     | h.s. 61 31 12<br>73 42 25<br>44 46 23        | 4 603421<br>4 643630<br>4 509198 | 40311<br>44019<br>32300 | 7 635<br>8 337<br>6 117  | 423             | Chandkot Chakargarhi Utain     | h.s. 61 31 12<br>73 42 25<br>44 46 23        | 4 603421<br>4 643630<br>4 509198 | 40311<br>44019<br>32300 | 7 635<br>8 337<br>6 117  |                 |
| 412             | Giriwala, III Harpalsid, XLVIII* Chapra   | h.s. 37 27 51<br>39 59 32<br>102 32 37 | 4 588527<br>4 612432<br>4 793943 | 38773<br>40967<br>62222 | 7 343<br>7 759<br>11 784 | 424             | Dorban Chakargarhi Utain       | h.s. 60 53 5<br>67 45 29<br>51 21 26         | 4 603421<br>4 630508<br>4 556769 | 40311<br>42708<br>36039 | 7 635<br>8 089<br>6 826  | 424             | Dorban Chakargarhi Utain       | h.s. 60 53 5<br>67 45 29<br>51 21 26         | 4 603421<br>4 630508<br>4 556769 | 40311<br>42708<br>36039 | 7 635<br>8 089<br>6 826  |                 |
| 413             | Harpalsid, XLVIII* Giriwala, III Haruwala | h.s. 29 30 22<br>53 30 5<br>96 59 33   | 4 489605<br>4 702371<br>4 793943 | 30875<br>50393<br>62222 | 5 848<br>9 544<br>11 784 | 425             | Ghangti, IV Kalajhuni Ulsa     | h.s. 49 5 36<br>48 46 20<br>82 8 4           | 4 588626<br>4 586505<br>4 700127 | 38782<br>38593<br>50831 | 7 345<br>7 309<br>9 627  | 425             | Ghangti, IV Kalajhuni Ulsa     | h.s. 49 5 36<br>48 46 20<br>82 8 4           | 4 588626<br>4 586505<br>4 700127 | 38782<br>38593<br>50831 | 7 345<br>7 309<br>9 627  |                 |

† Deduced base.

\* Of the Duddou Meridional Series.

| No. of Triangle | Station                             | Corrected Plane Angle | Distance                         |                                     | Theodolite used         | No. of Triangle              | Station | Corrected Plane Angle                   | Distance             |                                   | Theodolite used                     |                         |                               |                |
|-----------------|-------------------------------------|-----------------------|----------------------------------|-------------------------------------|-------------------------|------------------------------|---------|-----------------------------------------|----------------------|-----------------------------------|-------------------------------------|-------------------------|-------------------------------|----------------|
|                 |                                     |                       | Log. feet                        | Feet                                |                         |                              |         |                                         | Log. feet            | Feet                              |                                     |                         |                               |                |
| 426             | Chatargarhi<br>Kalajhuni<br>Ulsa    | h.s.<br>" "<br>"      | 53 34 20<br>6 18 22<br>120 7 18  | 4' 588626<br>3' 723805<br>4' 620040 | 38782<br>5294<br>41691  | 7 345<br>1' 003<br>7 896     | 438     | Silong<br>Bujgala<br>Urkhiali           | h.s.<br>" "<br>"     | 50 33 18<br>58 56 6<br>70 30 36   | 4' 431080<br>4' 476100<br>4' 517704 | 26982<br>29930<br>32939 | 5' 110<br>5' 668<br>6' 238    | Inch<br>8<br>" |
| 427             | Ghungti, IV<br>Kalajhuni<br>Ringori | h.s.<br>" "<br>"      | 4 39 39<br>8 28 40<br>166 51 41  | 4' 259375<br>4' 518086<br>4' 706127 | 18171<br>32968<br>50831 | 3' 441<br>6' 244<br>9' 627   | 480     | Urkhiali<br>Bujgala<br>Deungan          | h.s.<br>" "<br>"     | 70 26 47<br>77 20 57<br>32 12 16  | 4' 678602<br>4' 693726<br>4' 431080 | 47709<br>49400<br>26982 | 9' 036<br>9' 356<br>5' 110    | "              |
| 428             | Chandkot<br>Chatargarhi<br>Koinath  | h.s.<br>" "<br>"      | 73 9 41<br>50 29 38<br>56 20 41  | 4' 569841<br>4' 476241<br>4' 509198 | 37140<br>29939<br>32300 | 7' 034<br>5' 670<br>6' 117   | 440     | Bujgala<br>Deungan<br>Budhra            | h.s.<br>" "<br>"     | 29 42 51<br>72 4 33<br>78 12 30   | 4' 383058<br>4' 666255<br>4' 678602 | 24158<br>46372<br>47709 | 4' 575<br>8' 783<br>9' 030    | "              |
| 429             | Devitonk<br>Chatargarhi<br>Koinath  | h.s.<br>" "<br>"      | 67 0 10<br>39 35 17              | 4' 569841<br>4' 410125              | 37140<br>25711          | 7' 034<br>4' 870             | 441     | Badhra<br>Deungan<br>Bamidhura          | h.s.<br>" "<br>"     | 70 15 57<br>65 19 30<br>44 24 27  | 4' 511825<br>4' 496533<br>4' 383058 | 32496<br>31371<br>24158 | 6' 154<br>5' 942<br>4' 575    | "              |
| 430             | Kankra<br>Jatropani<br>Chorkharak   | No. 1<br>" "<br>"     | 29 20 55<br>41 4 3<br>109 35 2   | 4' 606894<br>4' 734120<br>4' 890710 | 40448<br>54215<br>77752 | 7' 661<br>10' 268<br>14' 726 | 442     | Bamidhura<br>Deungan<br>Ramechhaua      | h.s.<br>" "<br>"     | 67 5 46<br>51 39 4<br>61 15 10    | 4' 533284<br>4' 463402<br>4' 511825 | 34142<br>29067<br>32496 | 6' 466<br>5' 505<br>6' 154    | "              |
| 431             | Kankra<br>Chorkharak<br>Manil       | No. 1<br>" "<br>"     | 27 34 4<br>38 53 41<br>113 32 15 | 4' 437237<br>4' 569731<br>4' 734120 | 27368<br>37130<br>54215 | 5' 183<br>7' 032<br>10' 268  | 443     | Deungan<br>Ramechhaua<br>Nagnath        | h.s.<br>" "<br>No. 1 | 63 3 47<br>71 9 40<br>45 46 33    | 4' 628121<br>4' 654086<br>4' 533284 | 42474<br>45091<br>34142 | 8' 044<br>8' 540<br>6' 406    | "              |
| 432             | Chorkharak<br>Manil                 | h.s.<br>" "           | 88 20 32<br>40 20 23             | 4' 544612<br>4' 355911              | 35044<br>22694          | 6' 627<br>4' 298             | 444     | Ramechhaua<br>Nagnath<br>Tungnath       | h.s.<br>" "<br>"     | 38 2 18<br>94 14 5                | 4' 548634<br>4' 757733<br>4' 628121 | 35370<br>57244<br>42474 | 6' 699<br>10' 842<br>8' 044   | "              |
| 433             | Chorkharak<br>Talanti<br>Nauali     | h.s.<br>" "<br>"      | 82 43 40<br>63 4 12<br>34 12 8   | 4' 602378<br>4' 356237<br>4' 355911 | 40048<br>35995<br>22694 | 7' 585<br>6' 817<br>4' 298   | 445     | Ramechhaua<br>Nagnath<br>Neolpauga      | h.s.<br>" "<br>"     | 15 15 59<br>12 2 51<br>152 41 10  | 4' 386899<br>4' 286005<br>4' 628121 | 24372<br>19320<br>42474 | 4' 616<br>3' 659<br>8' 044    | "              |
| 434             | Talanti<br>Nauali<br>Balán          | h.s.<br>" "<br>"      | 39 19 40<br>96 22 28<br>44 17 52 | 4' 560404<br>4' 755780<br>4' 602378 | 36342<br>56989<br>40048 | 6' 883<br>10' 793<br>7' 585  | 446     | Nagnath<br>Neolpauga<br>Khal-ka-danda   | No. 1<br>" "<br>"    | 116 57 20<br>12 11 58<br>50 50 42 | 4' 447403<br>3' 822281<br>4' 386899 | 28016<br>6642<br>24372  | 5' 306<br>1' 258<br>4' 616    | "              |
| 435             | Nauali<br>Balán<br>Shikani          | h.s.<br>" "<br>"      | 58 22 52<br>75 20 59<br>46 16 9  | 4' 631721<br>4' 687154<br>4' 560404 | 42827<br>48658<br>36342 | 8' 111<br>9' 216<br>6' 883   | 447     | Neolpauga<br>Khal-ka-danda<br>Deodetani | h.s.<br>" "<br>"     | 25 9 51<br>84 31 46               | 4' 102185<br>4' 471596<br>4' 447403 | 12653<br>29621<br>28016 | 2' 396<br>5' 610<br>5' 306    | "              |
| 436             | Kankra<br>Manil<br>Bujgala          | No. 1<br>h.s.<br>"    | 48 6 33<br>94 49 49<br>37 3 38   | 4' 661476<br>4' 788114<br>4' 569731 | 45864<br>61392<br>37130 | 8' 686<br>11' 627<br>7' 032  | 448     | Gwanagarh<br>Ragsli<br>Kingalbanj       | h.s.<br>" "<br>"     | 36 17 29<br>77 55 29<br>65 47 2   | 4' 756046<br>4' 974086<br>4' 943801 | 57022<br>94208<br>87862 | 10' 800<br>17' 842<br>16' 641 | 12<br>" "<br>" |
| 437             | Manil<br>Bujgala<br>Silong          | h.s.<br>" "<br>"      | 35 42 16<br>69 50 32<br>54 21 12 | 4' 517704<br>4' 515152<br>4' 661476 | 32939<br>58669<br>43864 | 6' 238<br>10' 639<br>8' 689  | 440     | Ragsli<br>Khal-ka-danda<br>Khalbanj     | h.s.<br>" "<br>"     | 67 3 8<br>55 9 36<br>57 47 36     | 4' 792802<br>4' 756046<br>4' 756046 | 62058<br>53839<br>37622 | 11' 754<br>10' 865<br>10' 865 | "              |

\* Deodetani base.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station       | Corrected Plane Angle | Distance  |          | No. of Triangle | Station | Corrected Plane Angle | Distance  |        | No. of Triangle | Station       | Corrected Plane Angle | Distance  |          | Theodolite used |           |      |
|-----------------|---------------|-----------------------|-----------|----------|-----------------|---------|-----------------------|-----------|--------|-----------------|---------------|-----------------------|-----------|----------|-----------------|-----------|------|
|                 |               |                       | Log. feet | Feet     |                 |         |                       | Log. feet | Feet   |                 |               |                       | Log. feet | Feet     |                 | Log. feet | Feet |
| 450             | Kāśāśīa       | h.s.                  | 24 15 3   | 4 357114 | 22757           | h.s.    | 64 6 11               | 4 677584  | 47598  | 462             | Kapoli        | h.s.                  | 64 6 11   | 4 677584 | 47598           | Inch      |      |
|                 | Rageshi       | h.s.                  | 69 8 54   | 4 714437 | 51777           | "       | 42 53 49              | 4 550488  | 30015  |                 | Palikhet      | "                     | 42 53 49  | 4 550488 | 30015           |           | 12   |
|                 | Tungnāth      | h.s.                  | 86 36 3   | 4 742790 | 55368           | "       | 73 0 0                | 4 704140  | 50599  |                 | Phukot        | "                     | 73 0 0    | 4 704140 | 50599           |           |      |
| 451             | Rageshi       | h.s.                  | 44 8 23   | 4 243588 | 17522           | h.s.    | 62 2 33               | 4 658401  | 45541  | 468             | Kapoli        | h.s.                  | 62 2 33   | 4 658401 | 45541           | Inch      |      |
|                 | Tungnāth      | h.s.                  | 71 6 33   | 4 376077 | 23805           | "       | 73 38 50              | 4 694361  | 49472  |                 | Phukot        | "                     | 73 38 50  | 4 694361 | 49472           |           | " "  |
|                 | Deodekni      | "                     | 64 45 4   | 4 357114 | 22757           | "       | 44 18 37              | 4 556488  | 36015  |                 | Maabhodevi    | "                     | 44 18 37  | 4 556488 | 36015           |           |      |
| 452             | Devitank      | h.s.                  | 56 12 3   | 4 697527 | 49834           | h.s.    | 65 2 47               | 4 694795  | 49522  | 464             | Kapoli        | h.s.                  | 65 2 47   | 4 694795 | 49522           | Inch      |      |
|                 | Chatargarhi   | h.s.                  | 83 39 1   | 4 775257 | 59602           | "       | 50 1 48               | 4 621800  | 41860  |                 | Maabhodevi    | "                     | 50 1 48   | 4 621800 | 41860           |           | " "  |
|                 | Khatidevitank | No. 1                 | 40 8 56   | 4 587339 | 38667           | "       | 64 55 35              | 4 694361  | 49472  |                 | Jaorasi       | "                     | 64 55 35  | 4 694361 | 49472           |           |      |
| 453             | Chatargarhi   | h.s.                  | 38 20 7   | 4 494555 | 31229           | h.s.    | 73 57 58              | 4 699983  | 50117  | 465             | Maabhodevi    | h.s.                  | 73 57 58  | 4 699983 | 50117           | Inch      |      |
|                 | Khatidevitank | No. 1                 | 59 51 20  | 4 638876 | 43559           | "       | 34 17 11              | 4 467978  | 29375  |                 | Jaorasi       | "                     | 34 17 11  | 4 467978 | 29375           |           | " "  |
|                 | Ghungti, IV   | "                     | 81 48 33  | 4 697527 | 49834           | "       | 71 44 51              | 4 694795  | 49522  |                 | Nisania       | "                     | 71 44 51  | 4 694795 | 49522           |           |      |
| 454             | Khatidevitank | No. 1                 | 81 56 55  | 4 723599 | 52917           | h.s.    | 69 8 42               | 4 737577  | 57224  | 466             | Jaorasi       | h.s.                  | 69 8 42   | 4 737577 | 57224           | Inch      |      |
|                 | Ghungti, IV   | h.s.                  | 62 17 46  | 4 675022 | 47318           | "       | 55 55 40              | 4 795210  | 50724  |                 | Nisania       | "                     | 55 55 40  | 4 795210 | 50724           |           | " "  |
|                 | Jogi-ka-dānda | h.s.                  | 35 45 19  | 4 494555 | 31229           | "       | 54 55 38              | 4 699983  | 50117  |                 | Ringoni       | "                     | 54 55 38  | 4 699983 | 50117           |           |      |
| 455             | Khatidevitank | No. 1                 | 68 39 52  | 4 649716 | 44639           | h.s.    | 12 48 33              | 4 395806  | 24877  | 467             | Nisania       | h.s.                  | 12 48 33  | 4 395806 | 24877           | Inch      |      |
|                 | Jogi-ka-dānda | "                     | 30 27 26  | 4 385467 | 24292           | "       | 136 31 44             | 4 887613  | 77109  |                 | Ringoni       | "                     | 136 31 44 | 4 887613 | 77109           |           | " "  |
|                 | Gujaragarh    | "                     | 80 52 42  | 4 675022 | 47318           | "       | 30 39 43              | 4 737577  | 57224  |                 | Dudatoli      | "                     | 30 39 43  | 4 737577 | 57224           |           |      |
| 456             | Jogi-ka-dānda | h.s.                  | 12 55 39  | 4 088657 | 12265           | h.s.    | 55 41 20              | 4 804603  | 63768  | 468             | Nisania       | h.s.                  | 55 41 20  | 4 804603 | 63768           | Inch      |      |
|                 | Gujaragarh    | "                     | 112 33 32 | 4 704386 | 50627           | "       | 34 4 38               | 4 636106  | 43262  |                 | Dudatoli      | "                     | 34 4 38   | 4 636106 | 43262           |           | " "  |
|                 | Khamlekarhi   | "                     | 54 30 49  | 4 649716 | 44639           | "       | 90 15 33              | 4 887613  | 77109  |                 | Kaukra        | "                     | 90 15 33  | 4 887613 | 77109           |           |      |
| 457             | Jogi-ka-dānda | h.s.                  | 79 21 35  | 4 730693 | 53789           | h.s.    | 123 37 31             | 5 057337  | 114114 | 469             | Dudatoli      | h.s.                  | 123 37 31 | 5 057337 | 114114          | Inch      |      |
|                 | Khamlekarhi   | "                     | 32 57 56  | 4 473931 | 29780           | "       | 28 58 40              | 4 817534  | 65605  |                 | Kaukra        | "                     | 28 58 40  | 4 817534 | 65605           |           | " "  |
|                 | Simatkhāl     | "                     | 67 40 29  | 4 704386 | 50627           | "       | 27 43 49              | 4 804603  | 63768  |                 | Gwanagarh     | "                     | 27 43 49  | 4 804603 | 63768           |           |      |
| 458             | Khamlekarhi   | h.s.                  | 56 33 30  | 4 653728 | 45053           | h.s.    | 35 2 29               | 4 543876  | 34085  | 470             | Devitank      | h.s.                  | 35 2 29   | 4 543876 | 34085           | Inch      |      |
|                 | Simatkhāl     | "                     | 28 28 16  | 4 410588 | 25739           | "       | 42 58 6               | 4 618363  | 41530  |                 | Khatidevitank | "                     | 42 58 6   | 4 618363 | 41530           |           | " "  |
|                 | Mandhla       | "                     | 94 58 14  | 4 730693 | 53789           | "       | 101 59 45             | 4 775257  | 59602  |                 | Saitagarhi    | "                     | 101 59 45 | 4 775257 | 59602           |           |      |
| 459             | Simatkhāl     | h.s.                  | 60 22 2   | 4 671657 | 46952           | h.s.    | 50 41 48              | 4 544793  | 35058  | 471             | Devitank      | h.s.                  | 50 41 48  | 4 544793 | 35058           | Inch      |      |
|                 | Mandhla       | "                     | 46 44 7   | 4 562695 | 36534           | "       | 62 51 47              | 4 605513  | 40319  |                 | Saitagarhi    | "                     | 62 51 47  | 4 605513 | 40319           |           | " "  |
|                 | Dang          | "                     | 63 53 51  | 4 653728 | 45053           | "       | 66 26 25              | 4 618363  | 41530  |                 | Nandatopa     | "                     | 66 26 25  | 4 618363 | 41530           |           |      |
| 460             | Mandhla       | h.s.                  | 71 42 38  | 4 685529 | 48476           | h.s.    | 78 17 26              | 4 787368  | 61287  | 472             | Saitagarhi    | h.s.                  | 78 17 26  | 4 787368 | 61287           | Inch      |      |
|                 | Dang          | "                     | 41 25 0   | 4 528591 | 33775           | "       | 67 38 40              | 4 764569  | 57885  |                 | Nandatopa     | "                     | 67 38 40  | 4 764569 | 57885           |           | " "  |
|                 | Kapoli        | "                     | 66 52 22  | 4 671657 | 46952           | "       | 34 3 54               | 4 544793  | 35058  |                 | Jaorasi       | "                     | 34 3 54   | 4 544793 | 35058           |           |      |
| 461             | Dang          | h.s.                  | 78 26 16  | 4 704140 | 50599           | h.s.    | 55 27 19              | 4 705210  | 50724  | 473             | Nandatopa     | h.s.                  | 55 27 19  | 4 705210 | 50724           | Inch      |      |
|                 | Kapoli        | "                     | 31 44 34  | 4 434118 | 27172           | "       | 40 8 59               | 4 598866  | 39707  |                 | Jaorasi       | "                     | 40 8 59   | 4 598866 | 39707           |           | " "  |
|                 | Palikhet      | "                     | 69 49 10  | 4 685529 | 48476           | "       | 84 23 42              | 4 787368  | 61287  |                 | Ringoni       | "                     | 84 23 42  | 4 787368 | 61287           |           |      |

| No of Triangle | Station                           | Corrected Plane Angle |                                  | Distance                         |                         |                          | Theodolite | Station                             | Corrected Plane Angle  |                                   | Distance                         |                         |                          | Theodolite |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|----------------|-----------------------------------|-----------------------|----------------------------------|----------------------------------|-------------------------|--------------------------|------------|-------------------------------------|------------------------|-----------------------------------|----------------------------------|-------------------------|--------------------------|------------|-----|----------------------------------------|-----------------------|----------------------------------|----------------------------------|-------------------------|---------------------------|---|-------------------------------------|----------------------|----------------------------------|----------------------------------|-------------------------|---------------------------|--------|
|                |                                   | °                     | '                                | Log. feet                        | Feet                    | Miles                    |            |                                     | °                      | '                                 | Log. feet                        | Feet                    | Miles                    |            |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
| 474            | Devitok<br>Chandkot<br>Ameli      | h.s.<br>h.s.<br>No. 1 | 43 43 4<br>35 40 2<br>100 36 54  | 4 540626<br>4 473807<br>4 704585 | 35451<br>29909<br>50418 | 6 714<br>5 665<br>"      | 12<br>"    | Nainidevi<br>Nagnath<br>Gwanagarh   | No. 1<br>No. 2<br>h.s. | 79 33 13<br>55 15 44<br>45 11 3   | 4 746161<br>4 668170<br>4 604297 | 55739<br>46377<br>40807 | 10 557<br>8 821<br>7 615 | 12<br>"    |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            | 475 | Devitok<br>Ameli<br>Panjung            | h.s.<br>h.s.<br>No. 1 | 74 56 44<br>66 6 21<br>38 56 55  | 4 662249<br>4 638503<br>4 473807 | 45946<br>43501<br>29909 | 8 702<br>8 239<br>5 665   | " | Nainidevi<br>Gwanagarh<br>Gandkhola | h.s.<br>h.s.<br>h.s. | 46 11 51<br>99 29 27<br>34 18 42 | 4 775501<br>4 911140<br>4 668170 | 59635<br>81497<br>46577 | 11 295<br>15 435<br>8 821 | "      |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
| 477            | Panjung<br>Piplimath<br>Banjkot   | h.s.<br>"             | 87 0 46<br>39 43 9<br>53 16 5    | 4 669716<br>4 475824<br>4 574178 | 46743<br>29911<br>37513 | 8 853<br>5 665<br>7 105  | "          | Snowy Peak R<br>Nilang<br>Nilang    | h.s.<br>h.s.<br>"      | 75 59 2<br>53 54 11<br>"          | 4 353801<br>4 455703<br>4 376253 | 22584<br>28556<br>23782 | 4 277<br>5 408<br>4 504  | "          |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            | 478 | Piplimath<br>Banjkot<br>Gandkhola      | h.s.<br>"             | 62 57 39<br>52 2 11<br>65 0 10   | 4 662160<br>4 609178<br>4 669716 | 45937<br>40661<br>46743 | 8 700<br>7 701<br>8 853   | " | Nilang<br>Naga<br>Naga              | h.s.<br>"            | 53 0 24<br>91 39 35<br>35 20 1   | 4 494008<br>4 591439<br>4 353801 | 31189<br>39034<br>22584 | 5 907<br>7 393<br>4 277   | 7<br>" |
| 479            | Banjkot<br>Gandkhola<br>Gwanagarh | h.s.<br>"             | 101 7 31<br>29 46 39<br>49 5 50  | 4 775501<br>4 479776<br>4 662160 | 59635<br>30184<br>45937 | 11 295<br>5 717<br>8 700 | "          | Nilang<br>Naga<br>Jadhhang          | h.s.<br>"              | 53 16 59<br>68 38 8<br>58 4 53    | 4 469159<br>4 534283<br>4 494008 | 29455<br>34220<br>31189 | 5 579<br>6 481<br>5 907  | "          |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            | 480 | Banjkot<br>Gwanagarh<br>Dudatoli       | h.s.<br>h.s.<br>h.s.  | 91 7 41<br>61 31 33<br>27 20 40  | 4 817534<br>4 761623<br>4 479776 | 65695<br>57759<br>30184 | 12 442<br>10 939<br>5 717 | " | Jadhhang<br>Naga<br>Sonam           | h.s.<br>"            | 84 26 3<br>32 53 47<br>62 40 10  | 4 518512<br>4 255461<br>4 469159 | 33000<br>18008<br>29455 | 6 250<br>3 411<br>5 579   | "      |
| 481            | Gandkhola<br>Piplimath<br>Manda   | h.s.<br>"             | 43 42 57<br>61 20 14<br>74 56 49 | 4 463871<br>4 507508<br>4 609178 | 29999<br>36940<br>40661 | 5 511<br>6 997<br>7 701  | "          | Nilang<br>Naga<br>Sonam             | h.s.<br>"              | 40 33 12<br>101 31 55<br>37 54 53 | 4 518512<br>4 096038<br>4 494008 | 33000<br>49732<br>31189 | 6 250<br>9 419<br>5 907  | "          |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            | 482 | Piplimath<br>Manda<br>Ameli            | h.s.<br>"             | 105 38 34<br>34 59 29<br>"       | 4 645206<br>4 420096<br>4 463871 | 44178<br>26308<br>29999 | 8 367<br>4 983<br>5 511   | " | Sonam<br>Jadhhang<br>Ku             | h.s.<br>"            | 58 47 7<br>31 36 57<br>"         | 4 535936<br>4 468030<br>4 255461 | 34351<br>29379<br>18008 | 6 506<br>5 564<br>3 411   | "      |
| 483            | Manda<br>Ameli<br>Rangarh, II     | h.s.<br>"             | 100 40 56<br>42 30 41<br>"       | 4 807837<br>4 592938<br>4 645206 | 64245<br>39169<br>44178 | 12 168<br>7 418<br>8 367 | "          | Naga<br>Jadhhang<br>Ku              | h.s.<br>"              | 95 48 8<br>25 38 56<br>58 34 56   | 4 535936<br>4 174509<br>4 469159 | 34351<br>14945<br>29455 | 6 506<br>2 831<br>5 579  | "          |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |
|                |                                   |                       |                                  |                                  |                         |                          |            |                                     |                        |                                   |                                  |                         |                          |            | 484 | Rangarh, I<br>Rangarh, II<br>Nainidevi | h.s.<br>h.s.<br>h.s.  | 48 32 33<br>60 43 52<br>70 43 35 | 4 655836<br>4 721779<br>4 756046 | 45273<br>52666<br>37022 | 8 574<br>9 080<br>10 800  | " | Jadhhang<br>Sonam<br>Pulamsanda     | h.s.<br>"            | 58 50 48<br>31 10 38<br>"        | 4 473759<br>4 541394<br>4 555461 | 29769<br>18008<br>"     | 5 638<br>6 588<br>3 411   | "      |
| 485            | Ragahi<br>Nainidevi<br>Nagnath    | h.s.<br>h.s.<br>No. 2 | 51 33 46<br>66 33 55<br>61 32 58 | 4 604297<br>4 655836<br>4 655836 | 40207<br>43273<br>43273 | 7 615<br>8 915<br>8 574  | "          | Sonam<br>Pulamsanda<br>Tung Chok Lm | h.s.<br>"              | 55 41 35<br>80 45 32<br>35 3 22   | 4 631557<br>4 714524<br>4 475250 | 42811<br>51723<br>59260 | 8 108<br>9 815<br>5 638  | "          |     |                                        |                       |                                  |                                  |                         |                           |   |                                     |                      |                                  |                                  |                         |                           |        |

of the North-East Longitudinal Series.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                | Corrected Plane Angle         |           |          | Distance  |        |        | Theodolite used |
|-----------------|----------------------------------------|-------------------------------|-----------|----------|-----------|--------|--------|-----------------|
|                 |                                        | °                             | '         | "        | Log. feet | Feet   | Miles  |                 |
| 498             | Pulamsanda<br>Yang Chok La<br>Thaga La | h.s.<br>" "<br>No. 1          | 52 32 25  | 4 522926 | 35721     | 6 705  | 7 246  | Inch            |
|                 |                                        |                               | 55 24 32  | 4 508744 | 37046     | 7 016  | 7 246  |                 |
|                 |                                        |                               | 72 3 3    | 4 631557 | 42811     | 8 108  | 13 962 |                 |
| 499             | Sonam<br>Tsang Chok La<br>Thaga La     | h.s.<br>" "<br>No. 1          | 34 25 41  | 4 552926 | 35721     | 6 705  | 7 246  | " "             |
|                 |                                        |                               | 90 27 54  | 4 800579 | 63180     | 11 966 | 3 441  |                 |
|                 |                                        |                               | 55 6 25   | 4 714524 | 51853     | 9 815  | 7 132  |                 |
| 500             | Pulamsanda<br>Thaga La<br>Thaga La     | h.s.<br>" "<br>No. 1<br>No. 2 | 15 36 52  | 4 083349 | 12116     | 2 295  | 5 825  | " "             |
|                 |                                        |                               | 108 59 51 | 4 629011 | 42561     | 8 061  | 9 671  |                 |
|                 |                                        |                               | 55 23 17  | 4 508744 | 37046     | 7 016  | 5 696  |                 |
| 501             | Tungnath<br>Ragshi<br>Bisuri           | h.s.<br>" "<br>h.s.           | 119 34 5  | 4 618721 | 41564     | 7 872  | 4 774  | " "             |
|                 |                                        |                               | 31 59 38  | 4 403452 | 25319     | 4 795  | 10 773 |                 |
|                 |                                        |                               | 28 26 17  | 4 357114 | 22757     | 4 310  | 10 800 |                 |
| 502             | Kalasila<br>Ragshi<br>Bisuri           | h.s.<br>" "<br>h.s.           | 48 32 12  | 4 618721 | 41564     | 7 872  | 4 774  | " "             |
|                 |                                        |                               | 37 9 16   | 4 525032 | 33199     | 6 345  | 5 737  |                 |
|                 |                                        |                               | 94 18 32  | 4 742790 | 55308     | 10 475 | 8 919  |                 |
| 503             | Kalasila<br>Bisuri<br>Mandani          | h.s.<br>" "<br>" "            | 65 17 22  | 4 496576 | 31374     | 5 942  | 7 911  | " "             |
|                 |                                        |                               | 38 47 35  | 4 333212 | 21638     | 4 098  | 7 080  |                 |
|                 |                                        |                               | 75 55 3   | 4 525032 | 33499     | 6 345  | 4 774  |                 |
| 504             | Ragshi<br>Kalasila<br>Tingri           | h.s.<br>" "<br>" "            | 20 21 7   | 4 328452 | 21304     | 4 035  | 7 911  | " "             |
|                 |                                        |                               | 44 11 34  | 4 630420 | 42699     | 8 087  | 7 905  |                 |
|                 |                                        |                               | 115 27 19 | 4 742790 | 55308     | 10 475 | 8 574  |                 |
| 505             | Mandani<br>Kalasila<br>Tingri          | h.s.<br>" "<br>" "            | 69 38 0   | 4 328452 | 21304     | 4 035  | 8 025  | " "             |
|                 |                                        |                               | 55 49 28  | 4 333212 | 21638     | 4 098  | 5 779  |                 |
|                 |                                        |                               | 80 13 13  | 4 202032 | 19590     | 3 710  | 8 025  |                 |
| 506             | Tungnath<br>Deodekni<br>Bhairkharak    | h.s.<br>" "<br>" "            | 37 57 42  | 4 087359 | 12228     | 2 316  | 8 025  | " "             |
|                 |                                        |                               | 61 49 5   | 4 243588 | 17522     | 3 319  | 5 779  |                 |
|                 |                                        |                               | 54 24 47  | 4 292032 | 19590     | 3 710  | 8 025  |                 |
| 507             | Ragshi<br>Deodekni<br>Bhairkharak      | h.s.<br>" "<br>" "            | 26 47 22  | 4 035717 | 10857     | 2 056  | 4 595  | " "             |
|                 |                                        |                               | 98 47 51  | 4 376677 | 23805     | 4 509  | 6 790  |                 |
|                 |                                        |                               | 78 45 49  | 4 764612 | 58158     | 11 015 | 5 779  |                 |
| 508             | Kalasila<br>Ragshi<br>Paundala         | h.s.<br>" "<br>" "            | 38 39 48  | 4 575854 | 37558     | 7 132  | 7 246  | " "             |
|                 |                                        |                               | 60 34 23  | 4 742790 | 55308     | 10 475 | 2 361  |                 |
|                 |                                        |                               | 80 13 13  | 4 202032 | 19590     | 3 710  | 7 615  |                 |
| 509             | Ringalbanj<br>Ragshi<br>Paundala       | h.s.<br>" "<br>" "            | 28 23 20  | 4 451254 | 28265     | 5 353  | 0 989  | " "             |
|                 |                                        |                               | 73 34 22  | 4 756046 | 57022     | 10 800 | 6 226  |                 |
|                 |                                        |                               | 8 36 39   | 3 718039 | 5224      | 0 989  | 5 825  |                 |

| No. of Triangle | Station              | Corrected Plane Angle | Distance  |       |        | No. of Triangle | Station       | Corrected Plane Angle | Distance  |          |        | Theodolite used |
|-----------------|----------------------|-----------------------|-----------|-------|--------|-----------------|---------------|-----------------------|-----------|----------|--------|-----------------|
|                 |                      |                       | Log. feet | Feet  | Miles  |                 |               |                       | Log. feet | Feet     | Miles  |                 |
| 522             | Khatersami           | h.s.                  | 3.718039  | 5224  | 0.989  | 534             | Kankra        | No. 1                 | h.s.      | 4.629507 | 42610  | 8.070           |
|                 | Nainidevi            | No. 1                 | 4.188057  | 15440 | 2.924  |                 | Manil         | h.s.                  | 4.749988  | 56233    | 10.650 |                 |
|                 | Nainidevi            | No. 2                 | 4.095658  | 12464 | 2.361  |                 | Patori        | "                     | 4.569731  | 37130    | 7.032  |                 |
| 523             | Khatersami Hill Mark |                       | 3.931393  | 8539  | 1.617  | 585             | Silong        | h.s.                  | 4.629507  | 42610    | 8.070  |                 |
|                 | Nainidevi            | No. 1                 | 4.265308  | 19292 | 3.634  |                 | Manil         | "                     | 4.464102  | 29120    | 5.515  |                 |
|                 | Nainidevi            | No. 3                 | 4.209763  | 10209 | 3.070  |                 | Patori        | "                     | 4.751585  | 50440    | 10.089 |                 |
| 524             | Ringalbanj           | h.s.                  | 3.931393  | 8539  | 1.617  | 586             | Nagnath       | No. 1                 | h.s.      | 4.496694 | 31383  | 5.944           |
|                 | Nainidevi            | No. 1                 | 4.674295  | 47238 | 8.947  |                 | Deangan       | "                     | 4.588845  | 38801    | 7.349  |                 |
|                 | Nainidevi            | No. 3                 | 4.721779  | 52696 | 9.980  |                 | Kaudata       | "                     | 4.654086  | 45091    | 8.540  |                 |
| 525             | Nainidevi            | No. 1                 | 4.231709  | 17049 | 3.229  | 587             | Urkhiali      | h.s.                  | 4.496694  | 31383    | 5.944  |                 |
|                 | Nagnath              | No. 2                 | 4.539643  | 34645 | 6.562  |                 | Deangan       | "                     | 4.338850  | 21820    | 4.133  |                 |
|                 | Ranoun               | "                     | 4.604297  | 40207 | 7.615  |                 | Kandara       | "                     | 4.693726  | 49400    | 9.350  |                 |
| 526             | Ranoun               | h.s.                  | 4.528130  | 33739 | 6.390  | 588             | Deangan       | h.s.                  | 4.233956  | 17138    | 3.246  |                 |
|                 | Nainidevi            | No. 1                 | 3.890864  | 7774  | 1.472  |                 | Badhra        | "                     | 4.248350  | 17715    | 3.355  |                 |
|                 | Chutwapipal          | "                     | 4.559643  | 34645 | 6.562  |                 | Churpani      | "                     | 4.383058  | 24158    | 4.575  |                 |
| 527             | Nagnath              | No. 2                 | 4.528130  | 33739 | 6.390  | 589             | Bujjala       | h.s.                  | 4.233956  | 17138    | 3.246  |                 |
|                 | Nainidevi            | No. 1                 | 4.394164  | 24754 | 4.604  |                 | Badhra        | "                     | 4.517311  | 32009    | 6.233  |                 |
|                 | Chutwapipal          | "                     | 4.604297  | 40207 | 7.615  |                 | Churpani      | "                     | 4.666255  | 46372    | 8.783  |                 |
| 528             | Ranoun               | h.s.                  | 4.440390  | 27567 | 5.221  | 540             | Badhra        | h.s.                  | 4.444091  | 27803    | 5.266  |                 |
|                 | Nagnath              | No. 2                 | 4.327185  | 21241 | 4.023  |                 | Kandihura     | "                     | 4.177479  | 15048    | 2.850  |                 |
|                 | Chilarimar           | "                     | 4.231709  | 17049 | 3.229  |                 | Airah         | "                     | 4.496533  | 31371    | 5.942  |                 |
| 529             | Nainidevi            | No. 1                 | 4.440390  | 27567 | 5.221  | 541             | Ranchana      | h.s.                  | 4.444091  | 27803    | 5.266  |                 |
|                 | Nagnath              | No. 2                 | 4.133063  | 13595 | 2.573  |                 | Banidihura    | "                     | 4.575620  | 37637    | 7.128  |                 |
|                 | Chilarimar           | "                     | 4.604297  | 40207 | 7.615  |                 | Airah         | "                     | 4.463402  | 29067    | 5.505  |                 |
| 530             | Pawalgarh            | h.s.                  | 4.489224  | 30848 | 5.842  | 542             | Badhra        | h.s.                  | 4.135429  | 13659    | 2.587  |                 |
|                 | Mandani              | "                     | 4.563866  | 36632 | 6.938  |                 | Banidihura    | "                     | 4.427801  | 26779    | 5.072  |                 |
|                 | Jangi                | No. 1                 | 4.757004  | 57150 | 10.825 |                 | Dhaungmalkund | "                     | 4.496533  | 31371    | 5.942  |                 |
| 531             | Pawalgarh            | h.s.                  | 3.630474  | 4270  | 0.809  | 543             | Ranchana      | h.s.                  | 4.135429  | 13659    | 2.587  |                 |
|                 | Jangi                | No. 1                 | 4.545859  | 35145 | 6.656  |                 | Banidihura    | "                     | 4.373588  | 23037    | 4.477  |                 |
|                 | Jangi                | No. 2                 | 4.563866  | 36632 | 6.938  |                 | Dhaungmalkund | "                     | 4.463402  | 29067    | 5.505  |                 |
| 532             | Mandani              | h.s.                  | 3.873373  | 7471  | 1.415  | 544             | Dhaungmalkund | h.s.                  | 4.270679  | 18650    | 3.532  |                 |
|                 | Jangi                | No. 1                 | 4.91186   | 30987 | 5.869  |                 | Ranchana      | "                     | 4.184666  | 15297    | 2.897  |                 |
|                 | Mansuna              | "                     | 4.489224  | 30848 | 5.842  |                 | Ghuddhar      | "                     | 4.373588  | 23037    | 4.477  |                 |
| 533             | Jangi                | No. 2                 | 3.873373  | 7471  | 1.415  | 545             | Deangan       | h.s.                  | 4.270679  | 18650    | 3.532  |                 |
|                 | Jangi                | No. 1                 | 3.947192  | 8451  | 1.677  |                 | Ranchana      | "                     | 4.532195  | 34059    | 6.486  |                 |
|                 | Mansuna              | "                     | 3.630474  | 4270  | 0.809  |                 | Ghuddhar      | "                     | 4.533284  | 33742    | 6.486  |                 |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station     | Corrected Plane Angle |           |          | Distance  |        |       | Theodolite used | No. of Triangle | Station   | Corrected Plane Angle |          |          | Distance   |            |            | Theodolite used |
|-----------------|-------------|-----------------------|-----------|----------|-----------|--------|-------|-----------------|-----------------|-----------|-----------------------|----------|----------|------------|------------|------------|-----------------|
|                 |             | o                     | '         | "        | Log. feet | Feet   | Miles |                 |                 |           | Log. feet             | Feet     | Miles    | o          | '          | "          |                 |
| 546             | Nagnath     | No. 1                 | h.s.      | 49 47 8  | 4 306629  | 20260  | 3 837 | Inch            | 558             | Gundānda  | h.s.                  | 57 14 30 | 4 243083 | 11         | 3 315      | Theodolite |                 |
|                 | Neolpauga   | No. 3                 | "         | 16 56 43 | 3 888321  | 7733   | 1 464 | 12              |                 | Gandkhola | "                     | 54 45 35 | 4 230391 | 16998      | 3 219      |            |                 |
|                 | Nagnath     | "                     | 113 16 9  | 4 368699 | 24372     | 4 616  | "     | 3 655           |                 | Kotikhāl  | "                     | 67 59 55 | 4 285409 | 19290      | "          |            |                 |
| 547             | Deangau     | h.s.                  | 61 24 44  | 4 702237 | 59378     | 9 541  | "     | 559             | Gwanagarh       | h.s.      | 103 16 8              | 4 498372 | 31504    | 5 067      | Theodolite |            |                 |
|                 | Nagnath     | "                     | 67 24 8   | 4 725334 | 33154     | 10 067 | "     |                 | Banjokot        | h.s.      | 7 54 7                | 3 648357 | 4450     | 0 843      |            |            |                 |
|                 | Kankhul     | "                     | 51 33 8   | 4 654686 | 45091     | 8 540  | "     |                 | Pandubri        | "         | 68 49 45              | 4 479770 | 30184    | 5 717      |            |            |                 |
| 548             | Kandāra     | h.s.                  | 108 58 38 | 4 702237 | 59378     | 9 541  | "     | 560             | Dudatoli        | h.s.      | 83 13 34              | 4 498372 | 31504    | 5 067      | Theodolite |            |                 |
|                 | Nagnath     | "                     | 24 16 30  | 4 340473 | 21901     | 4 148  | "     |                 | Banjokot        | "         | 83 13 34              | 4 795500 | 62445    | 11 827     |            |            |                 |
| 549             | Kankhul     | "                     | 46 44 52  | 4 588845 | 38801     | 7 349  | "     | 561             | Pandubri        | "         | 66 42 30              | 4 761623 | 57759    | 10 939     | Theodolite |            |                 |
|                 | Piplimath   | h.s.                  | 29 1 58   | 4 297180 | 19823     | 3 754  | "     |                 | Nandatopa       | h.s.      | 63 33 28              | 4 563470 | 36599    | 6 932      |            |            |                 |
| 550             | Gandkhola   | "                     | 66 26 21  | 4 573358 | 37442     | 7 091  | "     | 562             | Devitank        | h.s.      | 4 379672              | 23970    | 4 340    | Theodolite |            |            |                 |
|                 | Ullagarh    | "                     | 22 43 24  | 4 304733 | 20171     | 3 820  | "     |                 | Kaur            | h.s.      | 80 32 19              | 4 605513 | 40319    |            | 7 636      |            |                 |
|                 | Mānda       | h.s.                  | 134 57 59 | 4 507508 | 30940     | 6 997  | "     |                 | Panjing         | h.s.      | 55 48 21              | 4 563470 | 36599    |            | 6 932      |            |                 |
| 551             | Chāndkot    | h.s.                  | 90 2 3    | 4 682537 | 48143     | 9 118  | "     | 563             | Devitank        | h.s.      | 137 58 53             | 4 905855 | 42742    | 8 095      | Theodolite |            |                 |
|                 | Charatgarhi | "                     | 47 49 44  | 4 552439 | 35681     | 6 758  | "     |                 | Jiblikhāl       | h.s.      | 21 12 11              | 4 638503 | 43501    | 8 439      |            |            |                 |
| 552             | Piplimath   | h.s.                  | 101 9 56  | 4 618300 | 41524     | 7 864  | "     | 564             | Saitangarhi     | h.s.      | 79 28 18              | 4 630855 | 42742    | 8 095      | Theodolite |            |                 |
|                 | Mānda       | "                     | 35 24 7   | 4 389509 | 24519     | 4 644  | "     |                 | Devitank        | h.s.      | 27 43 35              | 4 305915 | 20226    | 3 831      |            |            |                 |
| 553             | Ameli       | "                     | 43 25 57  | 4 463871 | 29099     | 5 511  | "     | 565             | Jiblikhāl       | h.s.      | 72 48 7               | 4 618363 | 41530    | 7 866      | Theodolite |            |                 |
|                 | Gandkhola   | h.s.                  | 60 37 17  | 4 508071 | 32216     | 6 102  | "     |                 | Nandatopa       | h.s.      | 63 29 18              | 4 576747 | 37735    | 7 147      |            |            |                 |
| 554             | Mānda       | "                     | 31 27 43  | 4 285469 | 19296     | 3 655  | "     | 566             | Saitangarhi     | "         | 60 16 20              | 4 563715 | 30020    | 6 936      | Theodolite |            |                 |
|                 | Gunadānda   | "                     | 87 55 0   | 4 507568 | 30946     | 6 997  | "     |                 | Mahargau        | "         | 56 14 22              | 4 544793 | 35958    | 6 640      |            |            |                 |
| 555             | Piplimath   | h.s.                  | 75 31 22  | 4 508071 | 32216     | 6 102  | "     | 567             | Gujaragarh      | h.s.      | 46 19 8               | 4 576747 | 37735    | 7 147      | Theodolite |            |                 |
|                 | Mānda       | "                     | 43 29 6   | 4 359777 | 22897     | 4 337  | "     |                 | Saitangarhi     | "         | 93 29 18              | 4 716686 | 52082    | 9 864      |            |            |                 |
| 556             | Gunadānda   | "                     | 60 59 32  | 4 463871 | 29099     | 5 511  | "     | 568             | Mahargau        | "         | 40 11 34              | 4 527294 | 33674    | 6 378      | Theodolite |            |                 |
|                 | Banjokot    | h.s.                  | 7 48 30   | 4 291121 | 19549     | 3 702  | "     |                 | Ringoni         | h.s.      | 51 15 27              | 4 575811 | 37654    | 7 131      |            |            |                 |
| 557             | Gandkhola   | "                     | 10 48 33  | 4 431121 | 26985     | 5 111  | "     | 569             | Dudatoli        | "         | 97 43 27              | 4 679777 | 47838    | 9 000      | Theodolite |            |                 |
|                 | Kotikhāl    | "                     | 161 22 57 | 4 662160 | 45937     | 8 700  | "     |                 | Sulidānda       | "         | 31 1 6                | 4 395806 | 24877    | 4 712      |            |            |                 |
| 558             | Gunadānda   | h.s.                  | 61 12 25  | 4 301121 | 19549     | 3 702  | "     | 568             | Gwanagarh       | h.s.      | 29 39 33              | 4 575811 | 37654    | 7 131      | Theodolite |            |                 |
|                 | Gandkhola   | "                     | 58 54 23  | 4 281074 | 19102     | 3 618  | "     |                 | Dudatoli        | h.s.      | 90 38 45              | 4 881319 | 76088    | 14 411     |            |            |                 |
| 559             | Kotikhāl    | "                     | 59 53 12  | 4 285469 | 19296     | 3 655  | "     | 569             | Sulidānda       | "         | 59 41 42              | 4 817534 | 65695    | 12 442     | Theodolite |            |                 |
|                 | Banjokot    | h.s.                  | 4 4 4     | 4 243083 | 17502     | 3 315  | "     |                 | Dudatoli        | h.s.      | 32 15 29              | 4 326116 | 21180    | 4 013      |            |            |                 |
| 560             | Gandkhola   | "                     | 6 39 45   | 4 456748 | 28645     | 5 421  | "     | 569             | Sulidānda       | "         | 71 31 30              | 4 575811 | 37654    | 7 131      | Theodolite |            |                 |
|                 | Kotikhāl    | "                     | 169 16 11 | 4 662160 | 45937     | 8 700  | "     |                 | Bani Tal        | "         | 71 31 30              | 4 575811 | 37654    | 7 131      |            |            |                 |

• Deduced base.

| No. of Triangle | Station       | Corrected Plane Angle | Distance  |       |        | No. of Triangle | Station       | Corrected Plane Angle | Distance  |       |        | No. of Triangle | Inch |
|-----------------|---------------|-----------------------|-----------|-------|--------|-----------------|---------------|-----------------------|-----------|-------|--------|-----------------|------|
|                 |               |                       | Log. feet | Feet  | Miles  |                 |               |                       | Log. feet | Feet  | Miles  |                 |      |
| 570             | Sulidanda     | h.s.                  | 4.353070  | 17946 | 3.399  | 582             | Chitaoor      | 93 53 10              | 4.620365  | 42596 | 2      | Inch            |      |
|                 | Bani Tal      | "                     | 4.580159  | 38033 | 4.013  |                 | Ghungthi, IV  | 41 28 17              | 4.451384  | 28274 | 8.067  |                 |      |
|                 | Alimajari     | "                     | 4.326116  | 21189 | 4.013  |                 | Akahi         | 44 38 33              | 4.477123  | 30000 | 5.355  |                 |      |
| 571             | Dudatoli      | h.s.                  | 4.529439  | 33841 | 6.409  | 588             | Nisania       | 64 27 38              | 4.734901  | 54313 | 10.286 | "               |      |
|                 | Pandubri      | "                     | 4.601370  | 39936 | 7.504  |                 | Ringoni       | 43 36 51              | 4.618278  | 41522 | 7.864  |                 |      |
|                 | Alimajari     | "                     | 4.795500  | 62445 | 11.827 |                 | Kaukra        | 71 55 31              | 4.757577  | 57224 | 10.838 |                 |      |
| 572             | Devitok       | h.s.                  | 4.613183  | 41038 | 7.772  | 584             | Dudatoli      | 62 59 56              | 4.734901  | 54313 | 10.286 | "               |      |
|                 | Nandatopa     | h.s.                  | 4.578292  | 37870 | 7.172  |                 | Ringoni       | 92 54 53              | 4.784462  | 60878 | 11.530 |                 |      |
|                 | Panjikhal     | "                     | 4.605513  | 40319 | 7.636  |                 | Kaukra        | 24 5 11               | 4.393806  | 24877 | 4.712  |                 |      |
| 573             | Devitok       | h.s.                  | 3.940474  | 8719  | 1.651  | 585             | Kaukra        | 44 35 7               | 4.481287  | 30289 | 5.737  | "               |      |
|                 | Nandatopa     | h.s.                  | 4.639843  | 43636 | 8.264  |                 | Nisania       | 52 32 24              | 4.538698  | 34370 | 6.547  |                 |      |
|                 | Kanokhal      | "                     | 4.605513  | 40319 | 7.636  |                 | Debara        | 4.636106              | 43262     | 8.194 |        |                 |      |
| 574             | Panjing       | h.s.                  | 3.940474  | 8719  | 1.651  | 586             | Gujaragarh    | h.s.                  | 4.674661  | 47278 | 8.954  | "               |      |
|                 | Nandatopa     | "                     | 4.553972  | 35807 | 6.782  |                 | Jogi-ka-danda | 30 31 52              | 4.386227  | 24335 | 4.609  |                 |      |
|                 | Kanokhal      | "                     | 4.620362  | 41722 | 7.992  |                 | Khatldevitok  | 68 43 45              | 4.649716  | 44939 | 8.454  |                 |      |
| 575             | Kanokhal      | h.s.                  | 4.698028  | 49892 | 9.449  | 587             | Chitaoor      | 65 32 5               | 4.674661  | 47278 | 8.954  | "               |      |
|                 | Saitangarhi   | "                     | 4.447709  | 28036 | 5.310  |                 | Jogi-ka-danda | 69 4 18               | 4.688878  | 48515 | 9.168  |                 |      |
|                 | Choprakot     | "                     | 4.640760  | 43728 | 8.282  |                 | Khatldevitok  | 4.567966              | 36980     | 7.004 |        |                 |      |
| 576             | Mahargaon     | h.s.                  | 4.698028  | 49892 | 9.449  | 588             | Chitaoor      | 41 57 48              | 4.514881  | 32725 | 6.198  | "               |      |
|                 | Saitangarhi   | "                     | 4.380112  | 23995 | 4.544  |                 | Khatldevitok  | 40 28 3               | 4.501934  | 31764 | 6.916  |                 |      |
|                 | Choprakot     | "                     | 4.576747  | 37735 | 7.147  |                 | Jagera        | 97 34 9               | 4.685878  | 48315 | 9.168  |                 |      |
| 577             | Mahargaon     | h.s.                  | 4.340359  | 21906 | 4.149  | 589             | Gujaragarh    | 64 16 54              | 4.514881  | 32725 | 6.198  | "               |      |
|                 | Saitangarhi   | "                     | 4.340812  | 21919 | 4.151  |                 | Khatldevitok  | 73 39 19              | 4.522270  | 34855 | 6.601  |                 |      |
|                 | Gaibantni     | "                     | 4.576747  | 37735 | 7.147  |                 | Jagera        | 4.386227              | 24335     | 4.609 |        |                 |      |
| 578             | Nandatopa     | h.s.                  | 4.340359  | 21906 | 4.149  | 590             | Simatkhal     | 69 9 28               | 4.669336  | 46702 | 8.845  | "               |      |
|                 | Saitangarhi   | "                     | 4.286866  | 19338 | 3.666  |                 | Mandhla       | 46 28 36              | 4.559121  | 36234 | 6.863  |                 |      |
|                 | Gaibantni     | "                     | 4.544793  | 35058 | 6.640  |                 | Dang          | 64 21 56              | 4.653728  | 45053 | 8.533  |                 |      |
| 579             | Jogi-ka-danda | h.s.                  | 4.477123  | 30000 | 5.682  | 591             | Kapoli        | 66 29 22              | 4.669336  | 46702 | 8.845  | "               |      |
|                 | Ghungthi, IV  | "                     | 4.567966  | 36980 | 7.004  |                 | Mandhla       | 71 58 9               | 4.683103  | 48429 | 9.172  |                 |      |
|                 | Chitaoor      | "                     | 4.723599  | 52917 | 10.022 |                 | Dang          | 41 32 29              | 4.58591   | 33775 | 6.397  |                 |      |
| 580             | Khatldevitok  | No. 1 h.s.            | 4.477123  | 30000 | 5.682  | 592             | Simatkhal     | 59 26 39              | 4.588809  | 38798 | 7.348  | "               |      |
|                 | Ghungthi, IV  | "                     | 4.686513  | 48586 | 9.202  |                 | Mandhla       | 30 57 32              | 4.365059  | 23177 | 4.390  |                 |      |
|                 | Chitaoor      | "                     | 4.494555  | 31229 | 5.915  |                 | Dabharakot    | 89 35 49              | 4.653728  | 45053 | 8.533  |                 |      |
| 581             | Ringoni       | h.s.                  | 4.620365  | 42596 | 8.067  | 593             | Dang          | 48 5                  | 4.588809  | 38798 | 7.348  | "               |      |
|                 | Ghungthi, IV  | "                     | 4.578292  | 37870 | 7.172  |                 | Mandhla       | 116 23 31             | 4.744542  | 52049 | 2.614  |                 |      |
|                 | Akahi         | "                     | 4.518086  | 32068 | 6.244  |                 | Dabharakot    | 4.669336              | 46702     | 8.845 |        |                 |      |



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station       | Corrected Plane Angle |          | Distance  |        |           | Theodolite used | No. of Triangle | Station        | Corrected Plane Angle | Distance  |        |        | Theodolite used |    |
|-----------------|---------------|-----------------------|----------|-----------|--------|-----------|-----------------|-----------------|----------------|-----------------------|-----------|--------|--------|-----------------|----|
|                 |               | °                     | '        | Log. feet | Feet   | Miles     |                 |                 |                |                       | Log. feet | Feet   | Miles  |                 |    |
| 584             | Nisania       | 71 42 52              | 4 691329 | 49128     | 9 305  | 12        | Inch            | 606             | Pinkot         | 48 37 37              | 4 616322  | 41335  | 7 829  | Inch            |    |
|                 | Manbhodevi    | 73 41 35              | 4 695999 | 46659     | 9 405  | 12        |                 |                 | Bhadkot        | 70 7 49               | 4 714361  | 51804  | 9 811  |                 | 12 |
|                 | Jaorasi       | 34 35 33              | 4 467978 | 29375     | 5 563  | "         |                 |                 | Airideo        | 45 42 1               | 4 569166  | 46289  | 9 146  |                 | "  |
| 585             | Kapoli        | 64 25 21              | 4 691329 | 49128     | 9 305  | "         | "               | 607             | Pinkot         | 43 13 31              | 4 550044  | 35485  | 7 023  | "               |    |
|                 | Manbhodevi    | 50 18 11              | 4 622292 | 41908     | 7 937  | "         |                 |                 | Airideo        | 43 13 31              | 4 550044  | 35485  | 6 721  |                 | "  |
|                 | Jaorasi       | 65 16 28              | 4 694361 | 49472     | 9 370  | "         |                 |                 | Laundhar       | 91 4 28               | 4 714361  | 51804  | 9 811  |                 | "  |
| 586             | Kapoli        | 60 28 40              | 4 638722 | 43523     | 8 243  | "         | "               | 608             | h.s.           | 80 33 33              | 4 722617  | 52798  | 10 000 | "               |    |
|                 | Manbhodevi    | 37 59 24              | 4 488366 | 30787     | 5 831  | "         |                 |                 | Laundhar       | 55 35 11              | 4 644983  | 41155  | 8 363  |                 | "  |
|                 | Adgnon        | 81 31 56              | 4 694361 | 49472     | 9 370  | "         |                 |                 | Kaliinat       | 43 51 16              | 4 569166  | 37082  | 7 023  |                 | "  |
| 587             | Nisania       | 58 45 10              | 4 638722 | 43523     | 8 243  | "         | "               | 609             | Airideo        | 97 11 24              | 4 811052  | 64722  | 12 258 | "               |    |
|                 | Manbhodevi    | 86 0 22               | 4 705732 | 50795     | 9 618  | "         |                 |                 | Kaliinat       | 40 12 39              | 4 624446  | 42116  | 7 976  |                 | "  |
|                 | Adgnon        | 35 14 28              | 4 467978 | 29375     | 5 563  | "         |                 |                 | Sungarkot      | 42 35 57              | 4 644983  | 41155  | 8 303  |                 | "  |
| 588             | Manbhodevi    | 44 51 23              | 4 574286 | 37522     | 7 106  | "         | "               | 610             | Kaliinat       | 84 57 0               | 4 944528  | 88009  | 16 668 | 14              |    |
|                 | Jaorasi       | 4 310314              | 20432    | 3 870     | "      | Sungarkot |                 |                 | 47 56 59       | 4 816947              | 65607     | 12 425 | 12     |                 |    |
|                 | Khatsari      | 112 33 25             | 4 691329 | 49128     | 9 305  | "         |                 |                 | Jagesar        | 47 6 1                | 4 811052  | 64722  | 12 258 |                 | 14 |
| 589             | Jaorasi       | 107 22 15             | 3 003372 | 8005      | 1 516  | "         | "               | 611             | h.s.           | 50 57 55              | 4 614314  | 41145  | 7 793  | 12              |    |
|                 | Khatsari      | 61 47 33              | 4 574286 | 37522     | 7 106  | "         |                 |                 | Kaliinat       | 43 38 42              | 4 562092  | 36550  | 6 024  |                 | "  |
|                 | Godi          | 61 47 33              | 4 574286 | 37522     | 7 106  | "         |                 |                 | Siahi Devi     | 85 23 23              | 4 722617  | 52798  | 10 000 |                 | "  |
| 600             | Manbhodevi    | 34 49 34              | 4 458677 | 28753     | 5 446  | "         | "               | 612             | No. 1 h.s.     | 33 7 34               | 4 361212  | 22073  | 4 351  | "               |    |
|                 | Kapoli        | 65 52 17              | 4 662269 | 45948     | 8 702  | "         |                 |                 | Kaliinat       | 68 42 8               | 4 592914  | 39160  | 7 418  |                 | "  |
|                 | Komalt        | 79 18 9               | 4 694361 | 49472     | 9 370  | "         |                 |                 | Gaia           | 78 10 18              | 4 614314  | 41145  | 7 793  |                 | "  |
| 601             | Palikhet      | 34 29 29              | 4 458677 | 28753     | 5 446  | "         | "               | 613             | h.s.           | 85 52 54              | 4 575826  | 37655  | 7 132  | "               |    |
|                 | Kapoli        | 60 16 27              | 4 644368 | 44093     | 8 351  | "         |                 |                 | Siahi Devi     | 56 38 13              | 4 498741  | 31531  | 5 972  |                 | "  |
|                 | Komalt        | 85 14 4               | 4 704140 | 50599     | 9 583  | "         |                 |                 | Pathargarhi    | 37 28 53              | 4 361212  | 22073  | 4 351  |                 | "  |
| 602             | Manbhodevi    | 19 38 51              | 4 755246 | 56917     | 10 780 | "         | "               | 614             | h.s.           | 49 42 51              | 4 458318  | 28729  | 5 441  | "               |    |
|                 | Nisania       | 150 21 34             | 4 922823 | 83719     | 15 856 | "         |                 |                 | Pathargarhi    | 39 17 41              | 4 377507  | 23851  | 4 517  |                 | "  |
|                 | Fajana        | 81 31 56              | 4 694361 | 49472     | 9 370  | "         |                 |                 | Sera           | 90 59 83              | 4 575826  | 37655  | 7 132  |                 | "  |
| 603             | Suilidanda    | 46 28 23              | 4 755246 | 56917     | 10 780 | "         | "               | 615             | h.s.           | 61 35 22              | 4 600850  | 39889  | 7 555  | "               |    |
|                 | Nisania       | 19 8 18               | 4 410553 | 25737     | 4 874  | "         |                 |                 | Sera           | 79 6 11               | 4 648681  | 44533  | 8 434  |                 | "  |
|                 | Fajana        | 114 23 19             | 4 854284 | 71496     | 13 541 | "         |                 |                 | Binek          | 39 18 27              | 4 458318  | 28729  | 5 441  |                 | "  |
| 604             | Jogi-ka-danda | 114 45 16             | 4 790142 | 61680     | 11 682 | "         | "               | 616             | h.s.           | 81 31 10              | 4 672734  | 47069  | 8 915  | "               |    |
|                 | Simatkhal     | 26 0 20               | 4 633112 | 42065     | 8 137  | "         |                 |                 | Binek          | 42 6 28               | 4 504167  | 31050  | 6 051  |                 | "  |
|                 | Diba-ka-chir  | 75 34 39              | 4 683851 | 48289     | 9 146  | "         |                 |                 | Kauka          | 56 50 22              | 4 600850  | 39889  | 7 555  |                 | "  |
| 605             | Manbhodevi    | 75 34 39              | 4 683851 | 48289     | 9 146  | "         | "               | 617             | h.s.           | 54 35 10              | 4 602081  | 40002  | 7 576  | "               |    |
|                 | Pinkot        | 38 26 54              | 4 491415 | 31004     | 5 872  | "         |                 |                 | Kauka          | 51 53 3               | 4 580775  | 38617  | 7 314  |                 | "  |
|                 | Bhadkot       | 65 58 27              | 4 058401 | 45541     | 8 625  | "         |                 |                 | Saonchidia, VI | 73 31 47              | 4 672734  | 47069  | 8 915  |                 | "  |

\* Deduced base.

| No. of Triangle | Station                                       | Corrected Plane Angle<br>° ' " | Distance  |          |        | Theodolite used | No. of Triangle | Station                                    | Corrected Plane Angle<br>° ' " | Distance  |          |       | Theodolite used |        |
|-----------------|-----------------------------------------------|--------------------------------|-----------|----------|--------|-----------------|-----------------|--------------------------------------------|--------------------------------|-----------|----------|-------|-----------------|--------|
|                 |                                               |                                | Log. feet | Feet     | Miles  |                 |                 |                                            |                                | Log. feet | Feet     | Miles |                 |        |
| 618             | Kanka<br>Saochalia, VI<br>Palikhet            | h.s.<br>" "                    | 69 18 25  | 4 60986  | 4085   | 7 592           | 680             | Chinnal<br>Dhungalgarh<br>Gujarkot-ki-garh | h.s.<br>" "                    | 48 30 19  | 4 475521 | 29890 | Inch<br>12      |        |
|                 |                                               |                                | 41 41 58  | 4 454916 | 28505  | 5 399           |                 |                                            |                                | 79 10 38  | 4 593235 | 39195 |                 | 7 423  |
|                 |                                               |                                | 68 59 37  | 4 602081 | 40002  | 7 576           |                 |                                            |                                | 52 19 3   | 4 499431 | 31581 |                 | 5 981  |
| 619             | Dhols, V<br>Saochalia, VI<br>Gujarkot-ki-garh | h.s.<br>" "                    | 28 55 26  | 4 742220 | 52236  | 10 461          | 681             | Chinnal<br>Gunginath<br>Kaliakhar          | h.s.<br>" "                    | 54 59 25  | 4 640984 | 43751 | " "             |        |
|                 |                                               |                                | 40 34 12  | 4 870856 | 71277  | 14 068          |                 |                                            |                                | 66 51 26  | 4 691236 | 49117 |                 | 9 303  |
|                 |                                               |                                | 110 30 22 | 5 029261 | 160970 | 20 259          |                 |                                            |                                | 58 9 9    | 4 656812 | 45374 |                 | 8 594  |
| 620             | Saochalia, VI<br>Gujarkot-ki-garh<br>Chinnal  | h.s.<br>" "                    | 35 55 46  | 4 593235 | 39195  | 7 423           | 682             | Gunginath<br>Kaliakhar<br>Rhiar            | h.s.<br>" "                    | 45 30 13  | 4 498220 | 31493 | " "             |        |
|                 |                                               |                                | 88 17 11  | 4 824559 | 60767  | 12 045          |                 |                                            |                                | 36 45 48  | 4 422024 | 26426 |                 | 5 005  |
|                 |                                               |                                | 55 47 3   | 4 742220 | 55236  | 10 461          |                 |                                            |                                | 97 43 59  | 4 640984 | 43751 |                 | 8 286  |
| 621             | Gujarkot-ki-garh<br>Chinnal                   | h.s.<br>" "                    | 71 33 16  | 4 656812 | 45374  | 8 594           | 683             | Kaliakhar<br>Rhiar<br>Madan Bhir           | h.s.<br>" "                    | 92 2 57   | 4 724304 | 53003 | " "             |        |
|                 |                                               |                                | 53 25 0   | 4 584428 | 35409  | 7 274           |                 |                                            |                                | 51 31 26  | 4 618271 | 41521 |                 | 7 864  |
|                 |                                               |                                | 55 1 44   | 4 593235 | 39195  | 7 423           |                 |                                            |                                | 36 25 37  | 4 498220 | 31493 |                 | 5 965  |
| 622             | Gujarkot-ki-garh<br>Gunginath<br>Bialakhan    | h.s.<br>" "                    | 55 52 55  | 4 502751 | 31824  | 6 027           | 684             | Rhiar<br>Madan Bhir<br>Bijaon              | h.s.<br>" "                    | 43 26 40  | 4 570961 | 37236 | " "             |        |
|                 |                                               |                                | 30 25 50  | 4 358457 | 28827  | 4 323           |                 |                                            |                                | 58 21 49  | 4 603724 | 46102 |                 | 8 752  |
|                 |                                               |                                | 87 41 15  | 4 584428 | 36409  | 7 274           |                 |                                            |                                | 78 11 31  | 4 724304 | 53003 |                 | 10 039 |
| 623             | Gunginath<br>Bialakhan<br>Palikhet            | h.s.<br>" "                    | 41 58 0   | 4 517456 | 32920  | 6 235           | 685             | Madan Bhir<br>Bijaon<br>Gatgar             | h.s.<br>" "                    | 34 52 7   | 4 340366 | 21896 | " "             |        |
|                 |                                               |                                | 97 45 36  | 4 688431 | 48779  | 9 238           |                 |                                            |                                | 68 40 12  | 4 552334 | 35677 |                 | 6 757  |
|                 |                                               |                                | 40 16 24  | 4 502751 | 31824  | 6 027           |                 |                                            |                                | 76 27 41  | 4 570961 | 37236 |                 | 7 052  |
| 624             | Bialakhan<br>Palikhet<br>Saochalia, VI        | h.s.<br>" "                    | 65 36 14  | 4 602086 | 40085  | 7 592           | 686             | Bijaon<br>Gatgar<br>Dedhurra               | h.s.<br>" "                    | 57 48 16  | 4 316617 | 20731 | " "             |        |
|                 |                                               |                                | 65 59 10  | 4 604288 | 40206  | 7 615           |                 |                                            |                                | 58 50 28  | 4 321466 | 20064 |                 | 3 970  |
|                 |                                               |                                | 48 44 36  | 4 517456 | 32920  | 6 235           |                 |                                            |                                | 63 21 16  | 4 340366 | 21896 |                 | 4 147  |
| 625             | Gunginath<br>Chinnal<br>Bhadargarhi           | h.s.<br>" "                    | 52 29 18  | 4 625187 | 42188  | 7 990           | 687             | Gatgar<br>Dedhurra<br>Biloti               | h.s.<br>" "                    | 52 43 51  | 4 388407 | 24457 | " "             |        |
|                 |                                               |                                | 68 57 22  | 4 095812 | 49638  | 9 401           |                 |                                            |                                | 84 51 0   | 4 485847 | 30009 |                 | 5 797  |
|                 |                                               |                                | 58 33 20  | 4 656812 | 45374  | 8 594           |                 |                                            |                                | 42 25 9   | 4 316617 | 20731 |                 | 3 926  |
| 626             | Chinnal<br>Bhadargarhi<br>Laldhar             | h.s.<br>" "                    | 46 11 50  | 4 487731 | 30742  | 5 822           | 688             | Dedhurra<br>Biloti<br>Bhim Tal             | h.s.<br>" "                    | 59 7 57   | 4 417702 | 26164 | " "             |        |
|                 |                                               |                                | 35 52 28  | 4 397264 | 24961  | 4 727           |                 |                                            |                                | 67 30 39  | 4 449684 | 28163 |                 | 5 334  |
|                 |                                               |                                | 97 55 42  | 4 625187 | 42188  | 7 990           |                 |                                            |                                | 53 21 24  | 4 388407 | 24457 |                 | 4 632  |
| 627             | Chinnal<br>Laldhar<br>Silbasaila              | h.s.<br>" "                    | 32 45 37  | 4 156248 | 14330  | 2 714           | 689             | Biloti<br>Bhim Tal<br>Ghuksa               | h.s.<br>" "                    | 41 6 24   | 4 433020 | 27103 | " "             |        |
|                 |                                               |                                | 76 45 7   | 4 411236 | 25777  | 4 882           |                 |                                            |                                | 99 29 50  | 4 609154 | 40659 |                 | 7 701  |
|                 |                                               |                                | 70 29 16  | 4 397264 | 24961  | 4 727           |                 |                                            |                                | 39 23 46  | 4 417702 | 26164 |                 | 4 955  |
| 628             | Chinnal<br>Silbasaila<br>Dhulwa               | h.s.<br>" "                    | 67 55 23  | 4 495640 | 31307  | 5 929           | 640             | Biloti<br>Ghuksa<br>Paniam                 | h.s.<br>" "                    | 39 30 47  | 4 414770 | 25988 | " "             |        |
|                 |                                               |                                | 62 19 22  | 4 475886 | 20915  | 5 666           |                 |                                            |                                | 55 57 37  | 4 529510 | 33846 |                 | 6 410  |
|                 |                                               |                                | 49 44 15  | 4 411236 | 25777  | 4 882           |                 |                                            |                                | 84 31 36  | 4 609154 | 40659 |                 | 7 701  |
| 629             | Chinnal<br>Dhulwa<br>Dhungalgarh              | h.s.<br>" "                    | 42 13 49  | 4 346457 | 22205  | 4 206           | 641             | Ghuksa<br>Paniam<br>Biraond, VIII          | h.s.<br>" "                    | 64 56 5   | 4 537604 | 34483 | " "             |        |
|                 |                                               |                                | 74 54 9   | 4 499886 | 31861  | 5 666           |                 |                                            |                                | 72 20 46  | 4 558798 | 32207 |                 | 6 551  |
|                 |                                               |                                | 64 52 22  | 4 475886 | 29915  | 5 666           |                 |                                            |                                | 43 3 9    | 4 414770 | 25988 |                 | 4 922  |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                 | Corrected Plane Angle | Distance                         |                                     |                         | No. of Triangle         | Station | Corrected Plane Angle                             | Distance              |                                   |                                     | No. of Triangle         | Station                   | Corrected Plane Angle | Distance                                  |                       |                                    | No. of Triangle                     |                         |                         |
|-----------------|-----------------------------------------|-----------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|---------|---------------------------------------------------|-----------------------|-----------------------------------|-------------------------------------|-------------------------|---------------------------|-----------------------|-------------------------------------------|-----------------------|------------------------------------|-------------------------------------|-------------------------|-------------------------|
|                 |                                         |                       | Log. feet                        | Feet                                | Miles                   |                         |         |                                                   | Log. feet             | Feet                              | Miles                               |                         |                           |                       | Log. feet                                 | Feet                  | Miles                              |                                     |                         |                         |
| 642             | Chikna<br>Bironcl, VIII<br>Deothal      | h.s.<br>" "           | 80 46 30<br>30 25 55<br>62 47 35 | 4' 604066<br>4' 383409<br>4' 558798 | 40185<br>24177<br>36207 | 7.611<br>4.379<br>6.857 | 654     | Tiktadānda<br>Dhanik<br>Deopathar                 | h.s.<br>" "           | 31 58 53<br>66 44 28<br>81 10 39  | 4' 140315<br>4' 379519<br>4' 411279 | 13814<br>25962<br>27800 | 2.616<br>4.538<br>4.883   | 655                   | Dhanik<br>Deopathar<br>Manura             | h.s.<br>" "           | 54 35 35<br>75 35 54<br>49 48 31   | 4' 168471<br>4' 243416<br>4' 140315 | 14739<br>17515<br>13814 | 2.791<br>3.317<br>2.616 |
| 648             | Birond, VIII<br>Deothal<br>Gurudeodhura | h.s.<br>" "           | 54 3 5<br>61 27 21<br>64 29 34   | 4' 556844<br>4' 592320<br>4' 604066 | 36045<br>39113<br>40185 | 6.827<br>7.408<br>7.611 | 656     | Deopathar<br>Manura<br>Lurikantā                  | h.s.<br>" "           | 65 40 41<br>53 53 50<br>60 25 29  | 4' 188733<br>4' 130488<br>4' 168471 | 15443<br>13693<br>14739 | 2.925<br>2.593<br>2.791   | 657                   | Lurikantā<br>Manura<br>Bhim Tal           | h.s.<br>" "           | 70 15 34<br>79 31 33<br>30 13 3    | 4' 479244<br>4' 461328<br>4' 188733 | 30147<br>28929<br>15443 | 5.710<br>4.479<br>2.925 |
| 644             | Deothal<br>Gurudeodhura<br>Motipathar   | h.s.<br>" "           | 78 59 22<br>53 54 43<br>47 5 5   | 4' 683952<br>4' 599493<br>4' 556844 | 48301<br>39764<br>36045 | 9.148<br>7.531<br>6.827 | 658     | Harpalsid, XLVIII*<br>Gurjwāla, III<br>Khairagarh | No. 1 h.s.<br>" "     | 20 18 54<br>73 35 48              | 4' 335507<br>4' 776886<br>4' 793943 | 21652<br>59825<br>62222 | 4.101<br>11.331<br>11.784 | 659                   | Gurjwāla, III<br>Khairagarh<br>Khairagarh | No. 1 h.s.<br>No. 2 " | 29 52 25<br>81 26 23<br>68 41 12   | 4' 063581<br>4' 361410<br>4' 335507 | 11577<br>22983<br>21652 | 2.193<br>4.353<br>4.101 |
| 645             | Deothal<br>Motipathar<br>Muktisar       | h.s.<br>" "           | 42 34 25<br>74 44 52<br>62 40 43 | 4' 481153<br>4' 635289<br>4' 599493 | 30280<br>43181<br>39764 | 5.735<br>8.178<br>7.531 | 660     | Khairagarh<br>Khairagarh<br>Khairagarh            | No. 1 h.s.<br>No. 2 " | 31 45 48<br>121 15 36<br>26 58 36 | 4' 128207<br>4' 338757<br>4' 063581 | 13434<br>21815<br>11577 | 2.544<br>4.132<br>2.193   | 661                   | Khairagarh<br>Khairagarh<br>Jenti Rao     | No. 2 h.s.<br>No. 3 " | 25 34 13<br>144 20 26<br>4' 519821 | 4' 519821<br>4' 650165<br>4' 128207 | 33099<br>44706<br>13434 | 6.269<br>8.467<br>2.544 |
| 646             | Deothal<br>Muktisar<br>Gagar            | h.s.<br>" "           | 50 5 34<br>69 5 5<br>60 49 21    | 4' 579061<br>4' 664616<br>4' 635289 | 37937<br>46197<br>43181 | 7.185<br>8.749<br>8.178 | 662     | Khairagarh<br>Jenti Rao<br>Dhanpāni               | No. 3 h.s.<br>" "     | 26 58 10<br>82 16 8<br>70 45 33   | 4' 201413<br>4' 540818<br>4' 519821 | 15901<br>34739<br>33099 | 3.011<br>6.579<br>6.269   | 663                   | Jenti Rao<br>Dhanpāni<br>Bursoti          | h.s.<br>" "           | 69 39 34<br>27 14 23               | 4' 512856<br>4' 537662<br>4' 201413 | 32573<br>34488<br>15901 | 6.169<br>6.532<br>3.011 |
| 647             | Muktisar<br>Gagar<br>Pathargarhi        | h.s.<br>" "           | 36 19 13<br>47 13 27<br>90 27 20 | 4' 354364<br>4' 447530<br>4' 579061 | 22613<br>28024<br>37937 | 4.283<br>5.308<br>7.185 | 664     | Dhulwa<br>Dhela, V<br>Bursoti                     | h.s.<br>" "           | 81 2 35<br>25 17 17<br>73 40 8    | 4' 478574<br>4' 114502<br>4' 460016 | 30101<br>13017<br>19243 | 5.701<br>2.465<br>5.538   | 665                   | Chnpra<br>Kilauli<br>Kalsanyid            | h.s.<br>" "           | 18 22 28<br>67 53 27               | 4' 022407<br>4' 490615<br>4' 522861 | 10529<br>30947<br>33334 | 1.994<br>5.801<br>6.313 |
| 648             | Gagar<br>Muktisar<br>Pathargarhi        | h.s.<br>" "           | 69 5 5<br>60 49 21               | 4' 664616<br>4' 635289              | 46197<br>43181          | 8.749<br>8.178          |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |
| 649             | Muktisar<br>Gagar<br>Pathargarhi        | h.s.<br>" "           | 36 19 13<br>47 13 27<br>90 27 20 | 4' 354364<br>4' 447530<br>4' 579061 | 22613<br>28024<br>37937 | 4.283<br>5.308<br>7.185 |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |
| 649             | Gugināth<br>Bihar<br>Badandhura         | h.s.<br>" "           | 41 47 0<br>46 45 44<br>91 27 16  | 4' 245844<br>4' 284603<br>4' 422024 | 17613<br>19558<br>26426 | 3.336<br>3.647<br>5.005 | 666     | Khairagarh<br>Khairagarh<br>Khairagarh            | No. 3 h.s.<br>" "     | 26 58 10<br>82 16 8<br>70 45 33   | 4' 201413<br>4' 540818<br>4' 519821 | 15901<br>34739<br>33099 | 3.011<br>6.579<br>6.269   |                       |                                           |                       |                                    |                                     |                         |                         |
| 650             | Bihar<br>Badandhura<br>Tiktadānda       | h.s.<br>" "           | 85 24 50<br>57 51 38<br>36 43 32 | 4' 467762<br>4' 390913<br>4' 245844 | 29360<br>24041<br>17613 | 5.561<br>4.724<br>3.336 |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |
| 651             | Badandhura<br>Tiktadānda<br>Badantoli   | h.s.<br>" "           | 35 55 45<br>51 28 27<br>92 35 48 | 4' 236687<br>4' 361597<br>4' 467762 | 17246<br>22993<br>29300 | 3.466<br>4.385<br>5.501 |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |
| 652             | Tiktadānda<br>Badantoli<br>Binek        | h.s.<br>" "           | 58 36 46<br>58 32 33<br>62 50 41 | 4' 218696<br>4' 218371<br>4' 236687 | 16546<br>16534<br>17246 | 3.434<br>3.431<br>3.266 |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |
| 653             | Tiktadānda<br>Binek<br>Dhanik           | h.s.<br>" "           | 90 32 57<br>56 56 15<br>32 30 48 | 4' 487976<br>4' 411279<br>4' 218371 | 30759<br>25780<br>16534 | 5.826<br>4.883<br>3.131 |         |                                                   |                       |                                   |                                     |                         |                           |                       |                                           |                       |                                    |                                     |                         |                         |

\* Of the Budhon Meridional Series.

† Deduced base.

| No. of Triangle | Station         | Corrected Plane Angle<br>° / ' / " | Distance  |       |       | No. of Triangle | Station             | Corrected Plane Angle<br>° / ' / " | Distance  |          |          | Theodolite<br>Inch |
|-----------------|-----------------|------------------------------------|-----------|-------|-------|-----------------|---------------------|------------------------------------|-----------|----------|----------|--------------------|
|                 |                 |                                    | Log. feet | Feet  | Miles |                 |                     |                                    | Log. feet | Feet     | Miles    |                    |
| 666             | Girjwala, III   | 49 22 49                           | 4 022407  | 10529 | 1 904 | 678             | Barsoti             | h.s.                               | 33 42 54  | 4 279486 | 19032    | 3 605              |
|                 | Kiladi          | 46 16 17                           | 4 001040  | 10024 | 1 809 |                 | Dhela, V            | "                                  | 84 53 56  | 4 533422 | 34152    | 6 468              |
|                 | Kalusayid       | h.s.                               | 4 140022  | 13855 | 2 614 |                 | Barikothirau        | "                                  | 61 23 10  | 4 478574 | 30101    | 5 701              |
| 667             | Girjwala, III   | 95 54 56                           | 4 589685  | 38876 | 7 363 | 679             | Sidhon-ki-dhang     | h.s.                               | 124 2 15  | 4 279486 | 19032    | 3 605              |
|                 | Khairagarh      | 50 26 35                           | 4 479953  | 30134 | 5 707 |                 | Dhela, V            | "                                  | 23 8 52   | 3 955611 | 9028     | 1 710              |
|                 | Kalagarh        | 33 38 29                           | 4 335507  | 21652 | 4 101 |                 | Barikothirau        | "                                  | 32 48 53  | 4 095042 | 12446    | 2 357              |
| 668             | Khairagarh      | 83 21 54                           | 4 589685  | 38876 | 7 363 | 680             | Barikothirau        | h.s.                               | 52 8 6    | 3 933010 | 8371     | 1 623              |
|                 | Khairagarh      | 62 45 36                           | 4 541553  | 34708 | 6 591 |                 | Sidhon-ki-dhang     | "                                  | 71 35 54  | 4 012886 | 10301    | 1 951              |
|                 | Kalagarh        | "                                  | 4 338757  | 21815 | 4 134 |                 | Laldhang            | "                                  | 56 16 0   | 3 955611 | 9028     | 1 710              |
| 669             | Denapani        | h.s.                               | 3 991312  | 9802  | 1 856 | 681             | Dhela, V            | h.s.                               | 43 15 7   | 3 933010 | 8371     | 1 623              |
|                 | Barsoti         | 45 30 46                           | 4 445507  | 26638 | 5 045 |                 | Sidhon-ki-dhang     | h.s.                               | 52 26 21  | 3 990301 | 9915     | 1 878              |
|                 | Manujadi        | 119 16 6                           | 4 512856  | 32573 | 6 169 |                 | Laldhang            | "                                  | 84 18 32  | 4 095042 | 12446    | 2 357              |
| 670             | Barsoti         | 54 39 18                           | 4 228365  | 16919 | 3 204 | 682             | Silabasila          | h.s.                               | 72 26 49  | 4 475105 | 29861    | 5 656              |
|                 | Manujadi        | 97 8 37                            | 4 313459  | 20581 | 3 808 |                 | Dhulwa              | "                                  | 3 934473  | 8600     | 1 629    |                    |
|                 | Surabduli       | 28 12 5                            | 3 991312  | 9802  | 1 856 |                 | Katbhairon-ki-dhang | "                                  | 91 36 59  | 4 495640 | 13307    | 5 929              |
| 671             | Barsoti         | h.s.                               | 4 401682  | 32116 | 4 776 | 683             | Dhela, V            | h.s.                               | 82 25 5   | 4 475105 | 29861    | 5 656              |
|                 | Surabduli       | 124 2 14                           | 4 607474  | 40502 | 7 671 |                 | Dhulwa              | "                                  | 4 042593  | 11030    | 2 089    |                    |
|                 | Jinti           | 24 54 11                           | 4 313459  | 20581 | 3 808 |                 | Katbhairon-ki-dhang | "                                  | 76 6 10   | 4 466016 | 29243    | 5 538              |
| 672             | Barsoti         | 37 17 40                           | 4 378093  | 23883 | 4 523 | 684             | Dhela, V            | h.s.                               | 75 27 24  | 4 436447 | 27318    | 5 174              |
|                 | Surabduli       | 111 13 50                          | 4 565160  | 36742 | 6 959 |                 | Silabasila          | "                                  | 60 47 5   | 4 301501 | 24632    | 4 665              |
|                 | Jinti           | 31 28 30                           | 4 313459  | 20581 | 3 808 |                 | Malani              | "                                  | 43 45 31  | 4 290459 | 19519    | 3 697              |
| 673             | Jinti           | 69 59 46                           | 4 378093  | 23883 | 4 523 | 685             | Bhadargarhi         | h.s.                               | 49 49 49  | 4 374422 | 23682    | 4 485              |
|                 | Surabduli       | 12 43 24                           | 3 750869  | 5634  | 1 067 |                 | Laldhar             | "                                  | 82 42 54  | 4 487731 | 30742    | 5 822              |
|                 | Jinti           | 97 11 50                           | 4 401682  | 32116 | 4 776 |                 | Chalkia             | "                                  | h.s.      | 33 54 54 | 4 300358 | 19969              |
| 674             | Surabduli       | h.s.                               | 4 086785  | 12212 | 2 313 | 686             | Chinal              | h.s.                               | 101 51 45 | 4 544377 | 35025    | 6 634              |
|                 | Jinti           | 104 20 16                          | 4 485088  | 30619 | 5 799 |                 | Laldhar             | "                                  | 44 13 21  | 4 397264 | 24961    | 4 727              |
|                 | Dharaun         | 52 55 50                           | 4 401682  | 32116 | 4 776 |                 | Sidhon-ka-than      | "                                  | h.s.      | 58 4 16  | 4 300358 | 19969              |
| 675             | Barsoti         | h.s.                               | 4 086785  | 12212 | 2 313 | 687             | Chalkia             | h.s.                               | 49 49 49  | 4 374422 | 23682    | 4 485              |
|                 | Jinti           | 129 14 27                          | 4 691484  | 49146 | 7 308 |                 | Laldhar             | "                                  | 82 42 54  | 4 487731 | 30742    | 5 822              |
|                 | Dharaun         | 39 39 48                           | 4 607474  | 40502 | 7 671 |                 | Sidhon-ka-than      | "                                  | h.s.      | 58 4 16  | 4 300358 | 19969              |
| 676             | Dharaun         | 52 20 42                           | 4 024500  | 10580 | 2 004 | 688             | Chalkia             | h.s.                               | 20 45 20  | 3 784555 | 6089     | 1 153              |
|                 | Jinti           | 13 41 24                           | 3 500058  | 3163  | 0 599 |                 | Sidhon-ka-than      | h.s.                               | 58 45 40  | 4 167056 | 14691    | 2 782              |
|                 | Dharaun         | 4 086785                           | 12212     | 2 313 | h.s.  |                 | 100 29 0            | h.s.                               | 76 1 58   | 4 227773 | 16896    | 3 200              |
| 677             | Dhela, V        | 61 45 4                            | 4 424409  | 26577 | 5 033 | 689             | Dhargalgarh         | h.s.                               | 39 35 5   | 4 248873 | 33488    | 6 342              |
|                 | Barsoti         | 24 21 53                           | 4 095042  | 12446 | 2 357 |                 | Gujariot-ki-garh    | "                                  | 105 45 52 | 4 475924 | 29800    | 5 661              |
|                 | Sidhon-ki-dhang | 93 53 3                            | 4 478574  | 30101 | 5 701 |                 | Manujadi            | "                                  | 34 23 2   | 4 227773 | 16896    | 3 200              |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                | Corrected Plane Angle | Distance                       |                                     |                         | No. of Triangle         | Station | Corrected Plane Angle    | Distance             |                                 |                                     | No. of Triangle         | Station                 | Corrected Plane Angle | Distance                      |                    |                                  | No. of Triangle                     |                         |                         |     |                                |                          |                                  |                                     |                         |                         |     |                           |                          |                                 |                                     |                         |                         |     |                              |                    |                                 |                                     |                         |                         |     |                               |                    |                                   |                                    |                         |                         |     |                                |                    |                                  |                                     |                         |                         |     |                             |                    |                       |                        |                |                |     |                             |                          |                                  |                                     |                         |                         |     |                                |                          |                                  |                                     |                         |                         |     |                             |                    |                                 |                                     |                         |                         |     |                               |                     |                                  |                                     |                         |                         |
|-----------------|----------------------------------------|-----------------------|--------------------------------|-------------------------------------|-------------------------|-------------------------|---------|--------------------------|----------------------|---------------------------------|-------------------------------------|-------------------------|-------------------------|-----------------------|-------------------------------|--------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|-----|--------------------------------|--------------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|-----|---------------------------|--------------------------|---------------------------------|-------------------------------------|-------------------------|-------------------------|-----|------------------------------|--------------------|---------------------------------|-------------------------------------|-------------------------|-------------------------|-----|-------------------------------|--------------------|-----------------------------------|------------------------------------|-------------------------|-------------------------|-----|--------------------------------|--------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|-----|-----------------------------|--------------------|-----------------------|------------------------|----------------|----------------|-----|-----------------------------|--------------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|-----|--------------------------------|--------------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|-----|-----------------------------|--------------------|---------------------------------|-------------------------------------|-------------------------|-------------------------|-----|-------------------------------|---------------------|----------------------------------|-------------------------------------|-------------------------|-------------------------|
|                 |                                        |                       | Log. feet                      | Feet                                | Miles                   |                         |         |                          | Log. feet            | Feet                            | Miles                               |                         |                         |                       | Log. feet                     | Feet               | Miles                            |                                     |                         |                         |     |                                |                          |                                  |                                     |                         |                         |     |                           |                          |                                 |                                     |                         |                         |     |                              |                    |                                 |                                     |                         |                         |     |                               |                    |                                   |                                    |                         |                         |     |                                |                    |                                  |                                     |                         |                         |     |                             |                    |                       |                        |                |                |     |                             |                          |                                  |                                     |                         |                         |     |                                |                          |                                  |                                     |                         |                         |     |                             |                    |                                 |                                     |                         |                         |     |                               |                     |                                  |                                     |                         |                         |
| 690             | Chinal<br>Gujarkot-ki-garh<br>Rasalday | h.s.<br>" "<br>" "    | 54 24 50<br>53 26 0<br>72 9 10 | 4' 524872<br>4' 519453<br>4' 503235 | 33487<br>33072<br>39195 | 6.342<br>6.264<br>7.423 | 702     | Gaia<br>Kālimat<br>Pansu | h.s.<br>No. 1<br>" " | 35 19 29<br>64 52 31<br>79 48 0 | 4' 361918<br>4' 556666<br>4' 592914 | 23010<br>36030<br>39166 | 4.358<br>6.824<br>7.418 | 703                   | Airdeo<br>Pansu<br>Sonargarhi | h.s.<br>" "<br>" " | 53 38 44<br>48 54 47<br>77 26 29 | 4' 479336<br>4' 450549<br>4' 562826 | 30153<br>28219<br>35454 | 5.711<br>5.345<br>6.921 | 704 | Kālimat<br>Pansu<br>Sonargarhi | No. 1 h.s.<br>" "<br>" " | 86 25 11<br>43 58 26<br>49 36 23 | 4' 479336<br>4' 321751<br>4' 361918 | 30153<br>20977<br>23010 | 5.711<br>3.973<br>4.358 | 705 | Kālimat<br>Pansu<br>Shura | No. 1 h.s.<br>" "<br>" " | 35 45 59<br>54 58 58<br>89 15 3 | 4' 128725<br>4' 275228<br>4' 361918 | 13450<br>18846<br>23010 | 2.547<br>3.560<br>4.358 | 706 | Sonargarhi<br>Pansu<br>Shura | h.s.<br>" "<br>" " | 8 36 58<br>11 0 32<br>160 22 30 | 4' 128725<br>4' 234120<br>4' 479336 | 13450<br>17144<br>30153 | 2.547<br>3.247<br>5.711 | 707 | Siahi Devi<br>Gaia<br>Olkūgri | h.s.<br>" "<br>" " | 22 10 33<br>124 39 21<br>4 301212 | 4' 200005<br>4' 538325<br>4 301212 | 15849<br>34540<br>22973 | 3.002<br>6.542<br>4.551 | 708 | Pathargarhi<br>Gaia<br>Olkūgri | h.s.<br>" "<br>" " | 27 22 3<br>38 46 27<br>113 51 30 | 4' 200005<br>4' 331284<br>4' 498741 | 15849<br>21592<br>31531 | 3.002<br>4.689<br>5.972 | 709 | Olkūgri<br>Gaia<br>Kalamkot | h.s.<br>" "<br>" " | 128 41 35<br>14 26 19 | 4' 695585<br>4' 200005 | 49612<br>15849 | 9.396<br>3.002 | 710 | Kālimat<br>Gaia<br>Kalamkot | No. 1 h.s.<br>" "<br>" " | 72 45 21<br>28 28 46<br>78 45 53 | 4' 581344<br>4' 279094<br>4' 592914 | 35137<br>19041<br>39166 | 7.223<br>3.668<br>7.418 | 711 | Kālimat<br>Kalamkot<br>Motiana | No. 1 h.s.<br>" "<br>" " | 42 1 25<br>30 19 51<br>107 38 44 | 4' 126533<br>4' 003908<br>4' 279694 | 13376<br>10090<br>19041 | 2.533<br>1.911<br>3.666 | 712 | Gatgar<br>Biloti<br>Deokānk | h.s.<br>" "<br>" " | 53 14 6<br>63 25 16<br>63 20 38 | 4' 438333<br>4' 486140<br>4' 485847 | 27437<br>30630<br>30609 | 5.166<br>5.861<br>5.797 | 713 | Biloti<br>Deokānk<br>Haldwāni | h.s.<br>" "<br>t.s. | 41 44 53<br>64 17 21<br>73 57 46 | 4' 278953<br>4' 410294<br>4' 438333 | 19009<br>25721<br>27437 | 3.600<br>4.571<br>5.196 |

| Triangle No. | Station          | Corrected Plane Angle | Distance  |       |        | No. of Theodolite used | Station        | Corrected Plane Angle | Distance  |       |       | Theodolite used |
|--------------|------------------|-----------------------|-----------|-------|--------|------------------------|----------------|-----------------------|-----------|-------|-------|-----------------|
|              |                  |                       | Log. feet | Feet  | Miles  |                        |                |                       | Log. feet | Feet  | Miles |                 |
| 714          | Haldwani         | t.s. 51 19 27         | 4 404751  | 25395 | 4 810  | 726                    | Bhandargarhi   | h.s. 9 12 26          | 4 141960  | 13867 | 2 626 |                 |
|              | Biloti           | h.s. 76 25 22         | 4 499961  | 31620 | 5 989  |                        | Bandarjuri     | " No. 1 152 59 34     | 4 591988  | 39354 | 7 453 |                 |
|              | Raonail          | h.s. 52 15 11         | 4 410294  | 25721 | 4 871  |                        | Madan Bhir     | " No. 2 17 48 0       | 4 423123  | 26492 | 5 018 |                 |
| 715          | Bhim Tal         | h.s. 68 28 41         | 4 462645  | 20216 | 5 496  | 727                    | Bandarjuri     | h.s. 14 01 35         | 4 374605  | 25692 | 4 487 |                 |
|              | Biloti           | " 57 05 7             | 4 417702  | 26164 | 4 955  |                        | Madan Bhir     | " No. 2 17 46 1       | 4 053402  | 11308 | 2 142 |                 |
|              | Raonail          | " 80 25 23            | 4 404281  | 25368 | 4 804  |                        | Gaibua-ka-tait | " 21 58 24            | 4 141969  | 13867 | 2 626 |                 |
| 716          | Haldwani         | t.s. 10 41 14         | 3 678597  | 4771  | 0 904  | 728                    | Gaibua-ka-tait | h.s. 18 58 17         | 3 627635  | 4243  | 0 804 |                 |
|              | Biloti           | h.s. 88 53 23         | 4 410294  | 25721 | 4 871  |                        | Bandarjuri     | " No. 1 4 107611      | 12812     | 2 426 |       |                 |
|              | Haldwani         | " 57 10 49            | 4 404751  | 25395 | 4 810  |                        | Bandarjuri     | " No. 2 60 3 24       | 4 053402  | 11308 | 2 142 |                 |
| 717          | Raonail          | h.s. 65 44 8          | 4 440108  | 27549 | 5 218  | 729                    | Madan Bhir     | h.s. 14 14 38         | 3 627635  | 4243  | 0 804 |                 |
|              | Biloti           | " 57 10 49            | 4 404751  | 25395 | 4 810  |                        | Bandarjuri     | " No. 1 4 038164      | 10919     | 2 068 |       |                 |
|              | Haldwani         | " 124 28 20           | 4 388560  | 24466 | 4 634  |                        | Bandarjuri     | " No. 2 126 28 6      | 4 141969  | 13867 | 2 626 |                 |
| 718          | Bhandargarhi     | h.s. 29 25 21         | 4 163721  | 14579 | 2 701  | 730                    | Bijaon         | h.s. 4 363130         | 23074     | 4 370 |       |                 |
|              | Kailakhur        | " 26 6 19             | 4 115896  | 13959 | 2 473  |                        | Rhinar         | " 45 11 11            | 4 531919  | 34034 | 6 446 |                 |
|              | Barwadhang       | " 23 2 51             | 4 356926  | 22747 | 4 308  |                        | Kotah          | " 106 3 57            | 4 663724  | 46102 | 8 732 |                 |
| 719          | Bijaon           | h.s. 70 12 7          | 4 737968  | 54698 | 10 359 | 731                    | Badantoll      | h.s. 115 32 57        | 4 652618  | 44938 | 8 511 |                 |
|              | Kailakhur        | " 86 45 48            | 4 763735  | 58041 | 10 993 |                        | Rhinar         | " 36 51 12            | 4 475292  | 29874 | 5 658 |                 |
|              | Bandarjuri       | " 59 8 11             | 4 356926  | 22747 | 4 308  |                        | Kotah          | " 94 49 59            | 4 514581  | 32702 | 6 194 |                 |
| 720          | Bhandargarhi     | h.s. 91 20 24         | 4 423123  | 26492 | 5 018  | 732                    | Rasalday       | h.s. 4 138080         | 13743     | 2 603 |       |                 |
|              | Kailakhur        | " 29 31 25            | 4 115896  | 13959 | 2 473  |                        | Rhinar         | " 4 455444            | 28539     | 5 405 |       |                 |
|              | Bandarjuri       | " 54 7 1              | 4 251776  | 17856 | 3 382  |                        | Rampur         | " 4 514581            | 32702     | 6 194 |       |                 |
| 721          | Bijaon           | h.s. 54 7 1           | 4 251776  | 17856 | 3 382  | 733                    | Badandhura     | h.s. 127 57 6         | 4 138080  | 13743 | 2 603 |                 |
|              | Garagar          | " 42 23 40            | 4 171985  | 14859 | 2 814  |                        | Rhinar         | " 29 28 23            | 4 449684  | 28163 | 5 334 |                 |
|              | Khamari-ka-danda | h.s. 83 29 19         | 4 340366  | 21896 | 4 147  |                        | Rampur         | " 33 42 9             | 4 245844  | 17613 | 3 336 |                 |
| 722          | Madan Bhir       | h.s. 25 35 24         | 4 251776  | 17856 | 3 382  | 734                    | Lurikanta      | h.s. 33 42 9          | 4 383206  | 24166 | 4 577 |                 |
|              | Garagar          | " 34 4 1              | 4 364678  | 23157 | 4 386  |                        | Manura         | " 125 31 45           | 4 540534  | 35443 | 6 713 |                 |
|              | Khamari-ka-danda | " 120 20 35           | 4 552384  | 35077 | 6 757  |                        | Chulpokra      | " 20 40 6             | 4 188733  | 15443 | 2 925 |                 |
| 723          | Khamari-ka-danda | h.s. 77 12 41         | 4 313125  | 20565 | 3 895  | 735                    | Bhim Tal       | h.s. 55 0 30          | 4 383206  | 24166 | 4 577 |                 |
|              | Garagar          | " 44 55 53            | 4 172999  | 14804 | 2 821  |                        | Manura         | " 46 10 11            | 4 328696  | 21316 | 4 037 |                 |
|              | Kaladhungi       | " 57 51 26            | 4 251776  | 17856 | 3 382  |                        | Chulpokra      | " 78 43 19            | 4 461328  | 28929 | 5 479 |                 |
| 724          | Bijaon           | h.s. 44 27 20         | 4 313125  | 20565 | 3 895  | 736                    | Chilpokra      | h.s. 54 25 22         | 4 554543  | 22623 | 4 785 |                 |
|              | Garagar          | " 87 19 33            | 4 407333  | 29331 | 5 555  |                        | Manura         | " 05 15 19            | 4 402448  | 25261 | 4 784 |                 |
|              | Kaladhungi       | " 48 13 7             | 4 340366  | 21896 | 4 147  |                        | Harchan        | " 60 19 19            | 4 383206  | 24166 | 4 577 |                 |
| 725          | Madan Bhir       | h.s. 133 58 32        | 4 501320  | 31719 | 6 007  | 737                    | Lurikanta      | h.s. 77 51 41         | 4 354543  | 22623 | 4 785 |                 |
|              | Khamari-ka-danda | " 14 19 51            | 4 037818  | 10910 | 2 066  |                        | Manura         | " 60 16 26            | 4 28086   | 20093 | 3 866 |                 |
|              | Madan Bhir       | " 31 41 37            | 4 364678  | 23157 | 4 386  |                        | Harchan        | " 41 51 53            | 4 188733  | 15443 | 2 925 |                 |

| No. of Triangle | Station        | Corrected Plane Angle |           |          | Distance  |       |       | Theodolite used |
|-----------------|----------------|-----------------------|-----------|----------|-----------|-------|-------|-----------------|
|                 |                | °                     | '         | "        | Log. feet | Feet  | Miles |                 |
| 738             | Manura         | h.s.                  | 43 47     | 9        | 4 031703  | 10757 | 2 037 | Inch            |
|                 | Lurakanta      | "                     | 39 30     | 57       | 3 996193  | 9913  | 1 877 | 8               |
|                 | Jar Pathar     | "                     | 96 35     | 54       | 4 188733  | 15443 | 2 925 | 12              |
| 739             | Deopathar      | h.s.                  | 46 25     | 1        | 4 031703  | 10757 | 2 037 | 8               |
|                 | Lurakanta      | "                     | 20 48     | 32       | 3 722276  | 5276  | 0 999 | "               |
|                 | Jar Pathar     | "                     | 4 136488  | 13693    | 2 593     | 2 593 | 2 593 | "               |
| 740             | Jar Pathar     | h.s.                  | 56 31     | 21       | 3 933730  | 8595  | 1 626 | 12              |
|                 | Manura         | "                     | 49 5 8    | 3 890853 | 7778      | 1 473 | 1 473 | "               |
|                 | Kalikhan       | "                     | 74 23     | 31       | 3 996193  | 9913  | 1 877 | "               |
| 741             | Deopathar      | h.s.                  | 35 29     | 10       | 3 933730  | 8595  | 1 626 | 8               |
|                 | Manura         | "                     | 59 11     | 49       | 4 103882  | 12702 | 2 406 | "               |
|                 | Kalikhan       | "                     | 4 168471  | 14739    | 2 791     | 2 791 | 2 791 | "               |
| 742             | Manura         | h.s.                  | 37 55     | 19       | 3 877896  | 7549  | 1 430 | 12              |
|                 | Jar Pathar     | "                     | 88 16     | 23       | 4 080115  | 12278 | 2 325 | "               |
|                 | Sher-ka-danda  | "                     | 53 48     | 18       | 3 996193  | 9913  | 1 877 | "               |
| 743             | Kalikhan       | h.s.                  | 71 7 21   | 3 877896 | 7549      | 1 430 | 1 430 | "               |
|                 | Jar Pathar     | "                     | 31 45 2   | 3 623077 | 4198      | 0 795 | 0 795 | "               |
|                 | Sher-ka-danda  | "                     | 77 7 37   | 3 890853 | 7778      | 1 473 | 1 473 | "               |
| 744             | Sher-ka-danda  | h.s.                  | 48 13 1   | 3 869637 | 7407      | 1 403 | 1 403 | "               |
|                 | Jar Pathar     | "                     | 82 19 11  | 3 993175 | 9844      | 1 864 | 1 864 | "               |
|                 | Chinar         | "                     | 49 27 48  | 3 877896 | 7549      | 1 430 | 1 430 | 8               |
| 745             | Kalikhan       | h.s.                  | 32 3 27   | 3 869637 | 7407      | 1 403 | 1 403 | 12              |
|                 | Jar Pathar     | "                     | 114 4 13  | 4 103223 | 12742     | 2 413 | 2 413 | 8               |
|                 | Chinar         | "                     | 33 52 20  | 3 890853 | 7778      | 1 473 | 1 473 | "               |
| 746             | Sher-ka-danda  | h.s.                  | 92 52 54  | 4 039457 | 10951     | 2 074 | 2 074 | "               |
|                 | Chinar         | "                     | 23 15 3   | 3 636336 | 4328      | 0 820 | 0 820 | "               |
|                 | Naini Tal Lake | "                     | 63 52 3   | 3 993175 | 9844      | 1 864 | 1 864 | "               |
| 747             | Birond, VIII   | h.s.                  | 50 15 12  | 4 462500 | 29007     | 5 494 | 5 494 | 12              |
|                 | Ghutsa         | h.s.                  | 56 3 33   | 4 492519 | 31298     | 5 928 | 5 928 | "               |
|                 | Panna          | No. 2                 | 73 41 15  | 4 553798 | 36207     | 6 857 | 6 857 | "               |
| 748             | Bhim Tal       | h.s.                  | 39 23 46  | 4 462500 | 29007     | 5 494 | 5 494 | "               |
|                 | Ghutsa         | "                     | 104 13 55 | 4 646409 | 44301     | 8 390 | 8 390 | "               |
|                 | Panna          | No. 2                 | 36 22 19  | 4 433020 | 27103     | 5 133 | 5 133 | "               |
| 749             | Motiapathar    | h.s.                  | 111 54 7  | 4 633029 | 42956     | 8 136 | 8 136 | "               |
|                 | Muktisar       | "                     | 27 15 10  | 4 320350 | 21601     | 4 015 | 4 015 | "               |
|                 | Sekadanda      | "                     | 40 50 43  | 4 481153 | 30280     | 5 735 | 5 735 | "               |

\* Deduced base. † Not found.

| No. of Triangle | Station    | Corrected Plane Angle | Distance  |          |        | Theodolite used | No. of Triangle  | Station | Corrected Plane Angle | Distance  |       |       | Theodolite used |
|-----------------|------------|-----------------------|-----------|----------|--------|-----------------|------------------|---------|-----------------------|-----------|-------|-------|-----------------|
|                 |            |                       | Log. feet | Feet     | Miles  |                 |                  |         |                       | Log. feet | Feet  | Miles |                 |
| 762             | Jagesar    | h.s.                  | 35 28 9   | 4 598476 | 39671  | Inch            | Timlihdár        | h.s.    | 56 46 40              | 4 523430  | 33376 | Inch  |                 |
|                 | Bundani    | h.s.                  | 33 18 9   | 4 574469 | 37538  | "               | Mahádrá          | "       | 50 10 6               | 4 486258  | 30638 | "     |                 |
|                 | Mutrapuri  | "                     | 111 13 42 | 4 804333 | 63728  | "               | Kaualek          | "       | 73 3 14               | 4 581658  | 38164 | "     |                 |
| 763             | Randani    | h.s.                  | 48 1 30   | 4 559011 | 36225  | "               | Mahádrá          | h.s.    | 78 20 50              | 4 482818  | 30396 | "     |                 |
|                 | Mutrapuri  | "                     | 77 28 15  | 4 677299 | 47566  | "               | Kaualek          | "       | 47 47 38              | 4 607891  | 40341 | "     |                 |
| 764             | Kariabunga | "                     | 54 30 15  | 4 598476 | 39671  | "               | Mutiabánj        | "       | 53 51 32              | 4 523430  | 33376 | "     |                 |
|                 | Mutrapuri  | h.s.                  | 54 41 36  | 4 638928 | 43544  | "               | Mahádrá          | h.s.    | 35 41 9               | 4 472671  | 29694 | "     |                 |
| 765             | Kariabunga | "                     | 82 32 54  | 4 723317 | 52907  | "               | Mutiabánj        | "       | 91 31 28              | 4 706595  | 50866 | "     |                 |
|                 | Mulákot    | "                     | 42 45 30  | 4 559011 | 36225  | "               | Garaphor         | "       | 52 47 23              | 4 607891  | 40341 | "     |                 |
| 766             | Mutrapuri  | h.s.                  | 51 5 16   | 4 615702 | 41276  | "               | Mutiabánj        | h.s.    | 66 59 21              | 4 506161  | 32075 | "     |                 |
|                 | Mulákot    | "                     | 43 4 13   | 4 559016 | 36226  | "               | Garaphor         | "       | 54 34 4               | 4 453222  | 28394 | "     |                 |
| 767             | Balkot     | h.s.                  | 85 50 31  | 4 723317 | 52907  | "               | Shiala           | "       | 58 20 35              | 4 472671  | 29694 | "     |                 |
|                 | Mulákot    | h.s.                  | 96 4 59   | 4 825405 | 66897  | "               | Garaphor         | h.s.    | 31 15 95              | 4 413002  | 25888 | "     |                 |
| 768             | Jhum       | h.s.                  | 46 4 15   | 4 685309 | 48452  | "               | Shiala           | "       | 108 44 9              | 4 674382  | 47248 | "     |                 |
|                 | Dhuj       | h.s.                  | 37 50 46  | 4 615702 | 41276  | "               | Punágiri         | "       | 40 0 26               | 4 506161  | 32075 | "     |                 |
| 769             | Balkot     | h.s.                  | 72 6 20   | 4 825344 | 66897  | "               | Garaphor         | h.s.    | 85 49 37              | 4 748194  | 56001 | "     |                 |
|                 | Bambhil    | h.s.                  | 35 45 50  | 4 613023 | 41079  | "               | Punágiri         | "       | 4 527581              | 33696     | 6 382 |       |                 |
| 770             | Jhum       | h.s.                  | 72 7 50   | 4 825405 | 66897  | "               | Kánadeo          | "       | 57 17 42              | 4 674382  | 47248 | "     |                 |
|                 | Dhuj       | h.s.                  | 90 28 52  | 5 006321 | 101466 | "               | Garaphor         | h.s.    | 72 44 14              | 4 718007  | 52251 | "     |                 |
| 771             | Patráni    | h.s.                  | 48 16 52  | 4 879319 | 75739  | "               | Kánadeo          | "       | 69 15 0               | 4 708989  | 51167 | "     |                 |
|                 | Lobehula   | h.s.                  | 41 14 16  | 4 825344 | 66897  | "               | Narsing-ka-dánda | "       | 38 0 46               | 4 527581  | 33696 | "     |                 |
| 772             | Patráni    | h.s.                  | 100 40 30 | 4 669874 | 46760  | "               | Kánadeo          | h.s.    | 51 13 16              | 4 636264  | 43278 | "     |                 |
|                 | Lobehula   | h.s.                  | 29 46 45  | 4 373513 | 23633  | "               | Narsing-ka-dánda | h.s.    | 58 31 22              | 4 675281  | 47346 | "     |                 |
| 773             | Chorgalia  | "                     | 49 32 45  | 4 558798 | 36207  | "               | Jhum             | h.s.    | 70 15 22              | 4 718007  | 52251 | "     |                 |
|                 | Chorgalia  | h.s.                  | 74 12 27  | 4 527465 | 35687  | "               | Narsing-ka-dánda | h.s.    | 71 41 1               | 4 685309  | 48452 | "     |                 |
| 774             | Patráni    | h.s.                  | 63 20 3   | 4 495337 | 31235  | "               | Jhum             | h.s.    | 50 19 34              | 4 504206  | 30283 | "     |                 |
|                 | Lobehula   | h.s.                  | 42 27 30  | 4 373513 | 23633  | "               | Mulákot          | h.s.    | 57 59 25              | 4 636264  | 43278 | "     |                 |
| 775             | Patráni    | h.s.                  | 44 10 51  | 4 371871 | 23544  | "               | Birond, VIII     | h.s.    | 31 53 18              | 4 320845  | 20934 | "     |                 |
|                 | Lobehula   | h.s.                  | 50 6 44   | 4 413651 | 25921  | "               | Gurudeodhura     | h.s.    | 67 21 7               | 4 583142  | 36571 | "     |                 |
| 776             | Chorgalia  | "                     | 85 42 25  | 4 527465 | 33087  | "               | Káliadhura       | "       | 80 45 35              | 4 592320  | 39113 | "     |                 |
|                 | Chorgalia  | h.s.                  | 87 27 35  | 4 613593 | 41068  | "               | Biridek          | h.s.    | 67 19 22              | 4 675702  | 47392 | "     |                 |
| 777             | Lobehula   | "                     | 57 36 1   | 4 540443 | 34709  | "               | Akwa             | "       | 3 674113              | 44067     | 8 076 |       |                 |
|                 | Timlihdár  | "                     | 34 56 24  | 4 371871 | 23544  | "               | Akwa             | "       | 53 35 20              | 4 610322  | 41335 | "     |                 |
| 778             | Lobehula   | h.s.                  | 53 57 30  | 4 581658 | 38164  | "               | Airideo          | h.s.    | 57 45 10              | 4 626825  | 42357 | "     |                 |
|                 | Timlihdár  | "                     | 79 42 8   | 4 665432 | 46284  | "               | Kwa              | "       | 60 37 48              | 4 639879  | 43639 | "     |                 |
| 779             | Mahádrá    | "                     | 47 20 22  | 4 540443 | 34709  | "               | Coplakot         | "       | 61 37 48              | 4 644113  | 44007 | "     |                 |
|                 | Mahádrá    | "                     |           |          |        | "               |                  | "       |                       |           |       | "     |                 |



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station        | Corrected Plane Angle | Distance     |               |        | No. of Triangle | Station      | Corrected Plane Angle | Distance     |               |       | No. of Triangle |           |
|-----------------|----------------|-----------------------|--------------|---------------|--------|-----------------|--------------|-----------------------|--------------|---------------|-------|-----------------|-----------|
|                 |                |                       | Log. feet    | Feet          | Miles  |                 |              |                       | Log. feet    | Feet          | Miles |                 | Log. feet |
| 786             | Akwa           | h.s.                  | 4° 51' 09"   | 34479         | 6.151  | 798             | Kausani      | h.s.                  | 101° 6' 19"  | 4° 50' 95.24" | 33224 | Inch            |           |
|                 | Gopálkot       | "                     | 49° 1' 32"   | 4° 50' 95.24" | 6.122  |                 | Akwa         | "                     | 43° 24' 51"  | 4° 35' 48.59" | 22639 |                 | 8         |
|                 | Alna           | "                     | 81° 37' 49"  | 4° 62' 69.95" | 8.022  |                 | Alna         | "                     | 35° 28' 50"  | 4° 28' 14.81" | 19120 |                 | "         |
| 787             | Akwa           | h.s.                  | 62° 0' 57"   | 4° 53' 79.93" | 6.537  | 799             | Akwa         | h.s.                  | 20° 1' 41"   | 4° 12' 48.13" | 13329 | Inch            |           |
|                 | Alna           | "                     | 62° 11' 16"  | 4° 53' 86.53" | 6.547  |                 | Alna         | "                     | 103° 49' 13" | 4° 57' 41.9"  | 37794 |                 | "         |
|                 | Magru-ka-dánda | "                     | 55° 47' 47"  | 4° 50' 95.24" | 6.122  |                 | Aiartoli     | No. 1                 | 56° 9' 6"    | 4° 50' 95.24" | 32324 |                 | 6.122     |
| 788             | Alna           | h.s.                  | 68° 27' 1"   | 4° 62' 66.98" | 8.018  | 800             | Alna         | h.s.                  | 44° 40' 14"  | 3° 97' 18.29" | 9372  | Inch            |           |
|                 | Magru-ka-dánda | "                     | 62° 14' 16"  | 4° 60' 95.7"  | 7.628  |                 | Aiartoli     | No. 1                 | 44° 31' 42"  | 3° 97' 07.35" | 9348  |                 | "         |
|                 | Harap          | "                     | 49° 18' 43"  | 4° 53' 79.93" | 6.537  |                 | Baijúnáth    | "                     | 90° 48' 4"   | 4° 12' 48.13" | 13329 |                 | "         |
| 789             | Magru-ka-dánda | h.s.                  | 105° 27' 3"  | 4° 76' 21.68" | 10.961 | 801             | Aiartoli     | No. 1                 | 36° 50' 38"  | 3° 79' 10.32" | 6181  | Inch            |           |
|                 | Harap          | "                     | 29° 42' 45"  | 4° 47' 50.28" | 5.636  |                 | Baijúnáth    | "                     | 28° 33' 30"  | 3° 69' 26.20" | 4927  |                 | "         |
|                 | Daj            | "                     | 44° 50' 12"  | 4° 62' 66.98" | 8.018  |                 | Choursan     | No. 1                 | 114° 35' 52" | 3° 97' 18.29" | 9372  |                 | "         |
| 790             | Harap          | h.s.                  | 26° 50' 40"  | 4° 50' 82.7"  | 3.189  | 802             | Aiartoli     | No. 1                 | 69° 17' 40"  | 3° 68' 37.43" | 4828  | Inch            |           |
|                 | Daj            | "                     | 97° 57' 58"  | 4° 84' 35.91" | 6.986  |                 | Choursan     | No. 1                 | 38° 0' 43"   | 3° 50' 21.99" | 3178  |                 | "         |
|                 | Kokru-ka-dánda | "                     | 55° 11' 22"  | 4° 76' 21.68" | 5.782  |                 | Aiartoli     | No. 2                 | 72° 41' 37"  | 3° 69' 26.20" | 4927  |                 | "         |
| 791             | Daj            | h.s.                  | 88° 5' 35"   | 4° 73' 10.58" | 5.384  | 803             | Baijúnáth    | h.s.                  | 42° 51' 35"  | 3° 68' 37.43" | 4828  | Inch            |           |
|                 | Kokru-ka-dánda | "                     | 55° 41' 5"   | 4° 64' 85.2"  | 4.489  |                 | Choursan     | No. 1                 | 76° 35' 9"   | 3° 83' 09.0"  | 6904  |                 | "         |
|                 | Hagdau         | "                     | 36° 13' 20"  | 4° 50' 82.7"  | 3.189  |                 | Aiartoli     | No. 2                 | 60° 33' 16"  | 3° 79' 10.32" | 6181  |                 | "         |
| 792             | Kokru-ka-dánda | h.s.                  | 51° 44' 32"  | 4° 62' 79.89" | 4.637  | 804             | Aiartoli     | No. 1                 | 57° 27' 0"   | 3° 93' 87.23" | 8684  | Inch            |           |
|                 | Hagdau         | "                     | 45° 45' 32"  | 4° 58' 95.53" | 3.960  |                 | Baijúnáth    | "                     | 57° 5' 15"   | 3° 93' 09.57" | 8649  |                 | "         |
|                 | Gurana         | "                     | 82° 29' 56"  | 4° 73' 10.58" | 5.384  |                 | Choursan     | No. 2                 | 65° 27' 45"  | 3° 97' 18.29" | 9372  |                 | "         |
| 793             | Hagdau         | h.s.                  | 29° 29' 40"  | 4° 42' 22.79" | 26.441 | 805             | Baijúnáth    | h.s.                  | 55° 38' 15"  | 3° 85' 98.70" | 7442  | Inch            |           |
|                 | Gurana         | "                     | 97° 57' 9"   | 4° 72' 58.18" | 5.188  |                 | Choursan     | No. 2                 | 42° 32' 37"  | 3° 77' 31.83" | 5932  |                 | "         |
|                 | Bashikanág     | "                     | 52° 33' 11"  | 4° 62' 79.89" | 4.637  |                 | Silingdhár   | "                     | 81° 49' 18"  | 3° 93' 87.23" | 8684  |                 | "         |
| 794             | Bashikanág     | h.s.                  | 98° 44' 42"  | 4° 755' 100"  | 568.98 | 806             | Choursan     | No. 2                 | 62° 27' 17"  | 3° 81' 12.20" | 6475  | Inch            |           |
|                 | Gurana         | "                     | 53° 54' 46"  | 4° 667' 95.5" | 465.22 |                 | Silingdhár   | "                     | 34° 54' 48"  | 3° 62' 11.13" | 4179  |                 | "         |
|                 | Jagesar        | h.s.                  | 27° 20' 32"  | 4° 42' 22.79" | 20.441 |                 | Mattan Chena | "                     | 82° 37' 58"  | 3° 85' 98.70" | 7442  |                 | "         |
| 795             | Gurana         | h.s.                  | 95° 45' 3"   | 4° 944' 52.8" | 880.09 | 807             | Aiartoli     | No. 1                 | 71° 3' 42"   | 4° 00' 94.77" | 10221 | Inch            |           |
|                 | Jagesar        | h.s.                  | 44° 12' 52"  | 4° 790' 167"  | 616.83 |                 | Baijúnáth    | "                     | 48° 47' 20"  | 3° 91' 00.29" | 8129  |                 | "         |
|                 | Sungarkot      | "                     | 40° 2' 5"    | 4° 755' 100"  | 568.98 |                 | Choursan     | No. 3                 | 60° 8' 58"   | 3° 97' 18.29" | 9372  |                 | "         |
| 796             | Sungarkot      | h.s.                  | 4° 890' 473" | 777.09        | 14.718 | 808             | Aiartoli     | No. 1                 | 37° 42' 11"  | 3° 83' 09.19" | 6775  | Inch            |           |
|                 | Kálimat        | No. 1                 | 17° 57' 46"  | 4° 409' 43"   | 4.862  |                 | Choursan     | No. 3                 | 95° 5' 39"   | 4° 04' 27.55" | 11035 |                 | "         |
|                 | Kausani        | "                     | 51° 2' 14"   | 4° 811' 05.2" | 6.722  |                 | Choursan     | No. 4                 | 47° 12' 10"  | 3° 91' 00.29" | 8129  |                 | "         |
| 797             | Kálimat        | No. 1                 | 13° 53' 3"   | 4° 281' 481"  | 19.120 | 809             | Choursan     | No. 2                 | 52° 34' 43"  | 3° 74' 47.77" | 5556  | Inch            |           |
|                 | Kausani        | "                     | 63° 21' 1"   | 4° 852' 566"  | 121.14 |                 | Mattan Chena | "                     | 90° 44' 17"  | 3° 84' 48.18" | 6995  |                 | "         |
|                 | Akwa           | "                     | 102° 45' 56" | 4° 890' 473"  | 777.09 |                 | Arkholi      | No. 1                 | 36° 41' 0"   | 3° 62' 11.13" | 4179  |                 | "         |

| No. of Triangle | Station                         | Corrected Plane Angle |          | Distance  |        |        | Theodolite |
|-----------------|---------------------------------|-----------------------|----------|-----------|--------|--------|------------|
|                 |                                 | °                     | '        | Log. feet | Feet   | Miles  |            |
| 810             | Choursuan No. 3 h.s.            | 72 30 4               | 3 895707 | 7865      | 1 490  | 1 490  | 8          |
|                 | Choursuan No. 4 "               | 52 15 31              | 3 814342 | 6241      | 1 235  | 1 235  | "          |
|                 | Arkhohi No. 1 "                 | 55 14 25              | 3 835919 | 6775      | 1 235  | 1 235  | "          |
| 811             | Choursuan No. 4 h.s.            | 61 41 50              | 3 867325 | 7368      | 1 395  | 1 395  | "          |
|                 | Arkhohi No. 1 "                 | 48 15 53              | 3 795494 | 6444      | 1 183  | 1 183  | "          |
|                 | Arkhohi No. 2 "                 | 70 2 13               | 3 895707 | 7865      | 1 490  | 1 490  | "          |
| 812             | Choursuan No. 3 h.s.            | 40 59 48              | 3 867325 | 7368      | 1 395  | 1 395  | 8          |
|                 | Arkhohi No. 1 "                 | 103 30 20             | 4 038233 | 10920     | 2 668  | 2 668  | "          |
| 813             | Arkhohi No. 2 "                 | 35 29 52              | 3 814342 | 6241      | 1 235  | 1 235  | "          |
|                 | Bajinath Silingdhar Chanoli     | 25 26 48              | 3 491007 | 3997      | 0 587  | 0 587  | "          |
|                 | Mattan Chens Silingdhar Chanoli | 99 11 2               | 3 852268 | 7117      | 1 348  | 1 348  | "          |
| 814             | Silingdhar Chanoli              | 55 22 10              | 3 773183 | 5932      | 1 423  | 1 423  | "          |
|                 | Silingdhar Chanoli              | 14 51 18              | 3 491007 | 3997      | 0 587  | 0 587  | "          |
| 815             | Puniagiri Garaphor Shiata       | 17 33 1               | 3 561482 | 3643      | 0 690  | 0 690  | "          |
|                 | Puniagiri Garaphor Shiata       | 147 35 41             | 3 811220 | 6475      | 1 226  | 1 226  | "          |
| 816             | Puniagiri Garaphor Shiata       | 40 28 11              | 4 509219 | 32301     | 6 118  | 6 118  | 12         |
|                 | Matiabanj Garaphor Shiata       | 31 13 18              | 4 411567 | 25797     | 4 886  | 4 886  | "          |
| 817             | Shiata                          | 67 21 22              | 4 509219 | 32301     | 6 118  | 6 118  | "          |
|                 | Puniagiri Chini                 | 54 36 11              | 4 453299 | 28330     | 5 403  | 5 403  | "          |
| 818             | Shiata                          | 122 39 23             | 4 726097 | 53223     | 10 080 | 10 080 | "          |
|                 | Puniagiri Chini                 | 33 10 10              | 4 538906 | 34826     | 6 350  | 6 350  | "          |
| 819             | Patrani Biloti                  | 24 10 27              | 4 413092 | 25888     | 4 903  | 4 903  | "          |
|                 | Banskhara                       | 123 26 2              | 4 726097 | 53223     | 10 080 | 10 080 | "          |
| 820             | Patrani Biloti                  | 46 32 13              | 4 663377 | 46066     | 8 725  | 8 725  | "          |
|                 | Banskhara                       | 33 45 37              | 4 547405 | 35970     | 6 680  | 6 680  | "          |
| 821             | Paniagiri Shiata                | 99 42 10              | 4 796292 | 62359     | 11 848 | 11 848 | "          |
|                 | Banskhara                       | 42 36 18              | 4 493028 | 31154     | 5 906  | 5 906  | "          |
| 822             | Patrani Biloti                  | 47 17 6               | 4 529310 | 33846     | 6 410  | 6 410  | "          |
|                 | Banskhara                       | 80 59 49              | 4 542664 | 34887     | 6 607  | 6 607  | "          |
| 823             | Patrani Biloti                  | 86 53 0               | 4 547405 | 33846     | 6 410  | 6 410  | "          |
|                 | Banskhara                       | 107 43 0              | 4 868007 | 73807     | 13 079 | 13 079 | "          |
| 824             | Patrani Biloti                  | 52 45 53              | 4 700108 | 61688     | 11 683 | 11 683 | "          |
|                 | Banskhara                       | 44 13 09              | 4 413092 | 25888     | 4 903  | 4 903  | "          |

\* See page 71.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station             | Corrected Plane Angle | Distance  |        |          | No. of Triangle | Station          | Corrected Plane Angle | Distance  |        |       | No. of Triangle |
|-----------------|---------------------|-----------------------|-----------|--------|----------|-----------------|------------------|-----------------------|-----------|--------|-------|-----------------|
|                 |                     |                       | Log. feet | Feet   | Miles    |                 |                  |                       | Log. feet | Feet   | Miles |                 |
| 834             | Shiela              | 115 32 55             | 4' 888245 | 77312  | 14' 642  | 846             | Jhum             | 26 37 15              | 4' 424976 | 26606  | 12    |                 |
|                 | Puningiri           | 46 52 2               | 4' 796119 | 62534  | 11' 844  |                 | Kanádeo          | 25 59 20              | 4' 417815 | 26171  |       |                 |
|                 | Bánani Bāgh Mark    | 4' 413092             | 25888     | 4' 903 | Khumbale |                 | 127 33 25        | 4' 675281             | 47346     | 8' 907 |       |                 |
| 835             | Shiela              | 134 1 32              | 4' 066649 | 92608  | 17' 539  | 847             | Launchaura       | 61 26 8               | 4' 424976 | 26606  | "     |                 |
|                 | Puningiri           | 34 22 45              | 4' 861695 | 72737  | 13' 774  |                 | Kanádeo          | 80 50 16              | 4' 475766 | 29907  |       |                 |
|                 | Nagaon Nāth Mark    | 4' 413092             | 25888     | 4' 903 | Khumbale |                 | 37 43 36         | 4' 268020             | 18536     | 3' 511 |       |                 |
| 836             | Shiela              | 35 21 30              | 4' 925954 | 84335  | 15' 971  | 848             | Kanádeo          | 49 46 40              | 4' 604151 | 40193  | "     |                 |
|                 | Puningiri           | 134 24 30             | 5' 017433 | 104066 | 19' 715  |                 | Narsing-ka-dánda | 47 11 22              | 4' 586778 | 38617  |       |                 |
|                 | Sirsagarh Peak      | 4' 413092             | 25888     | 4' 903 | Bhalain  |                 | 83 1 58          | 4' 718097             | 52251     | 9' 896 |       |                 |
| 837             | Shiela              | 39 56 0               | 4' 746898 | 56221  | 10' 648  | 849             | Jhum             | 114 14 5              | 4' 721609 | 52676  | "     |                 |
|                 | Puningiri           | 122 32 30             | 4' 866639 | 73359  | 13' 932  |                 | Muláket          | 8 45 24               | 3' 944200 | 8794   |       |                 |
|                 | Baitlani Peak No. 1 | 4' 413092             | 25888     | 4' 903 | Bhalain  |                 | 57 0 31          | 4' 685309             | 48452     | 9' 176 |       |                 |
| 838             | Puningiri           | 138 56 26             | 4' 931749 | 85457  | 16' 185  | 850             | Macháli          | 47 59 3               | 4' 412810 | 25871  | "     |                 |
|                 | Garaphor            | 19 45 55              | 4' 043421 | 43997  | 8' 333   |                 | Narsing-ka-dánda | 42 54 30              | 4' 374882 | 23707  |       |                 |
|                 | Baitlani Peak No. 2 | 4' 674382             | 47248     | 8' 948 | Páti     |                 | 89 6 27          | 4' 541792             | 34817     | 6' 594 |       |                 |
| 839             | Bodlakharak         | 87 33 49              | 4' 517815 | 32947  | 6' 240   | 851             | Muláket          | 28 46 14              | 4' 412810 | 25871  | "     |                 |
|                 | Puningiri           | 61 58 26              | 4' 464038 | 29110  | 5' 513   |                 | Narsing-ka-dánda | 18 11 7               | 4' 224672 | 16775  |       |                 |
|                 | Malash-ka-lek Peak  | 4' 223194             | 16718     | 3' 166 | Páti     |                 | 133 2 39         | 4' 594266             | 39283     | 7' 440 |       |                 |
| 840             | Banera              | 121 56 22             | 4' 517815 | 32947  | 6' 240   | 852             | Ládhauandhura    | 16 41 41              | 4' 387197 | 24389  | "     |                 |
|                 | Puningiri           | 40 34 20              | 4' 402293 | 25252  | 4' 783   |                 | Ma-hali          | 15 7 47               | 4' 345552 | 22159  |       |                 |
|                 | Malash-ka-lek Peak  | 4' 066969             | 11667     | 2' 210 | Gadura   |                 | 148 10 32        | 4' 650976             | 44769     | 8' 479 |       |                 |
| 841             | Garaphor            | 36 44 7               | 4' 490248 | 30921  | 5' 856   | 853             | Páti             | 37 17 9               | 4' 387197 | 24389  | "     |                 |
|                 | Narsing-ka-dánda    | 45 3 26               | 4' 563379 | 36501  | 6' 930   |                 | Macháli          | 106 38 18             | 4' 586209 | 38574  |       |                 |
|                 | Ládhauandhura       | 98 12 27              | 4' 708989 | 51107  | 9' 091   |                 | Gadura           | 36 4 33               | 4' 374882 | 23707  |       |                 |
| 842             | Muláket             | 53 37 19              | 4' 541792 | 34817  | 6' 594   | 854             | Narsing-ka-dánda | 21 56 36              | 4' 264108 | 18570  | "     |                 |
|                 | Narsing-ka-dánda    | 01 5 37               | 4' 578143 | 37857  | 7' 170   |                 | Ládhauandhura    | 17 1 59               | 4' 153551 | 14400  |       |                 |
|                 | Macháli             | 65 17 4               | 4' 594266 | 39283  | 7' 440   |                 | Sibh-ka-dhura    | 141 1 35              | 4' 490248 | 30921  |       |                 |
| 843             | Ládhauandhura       | 50 50 44              | 4' 541792 | 34817  | 6' 594   | 855             | Ládhauandhura    | 35 25 28              | 4' 440603 | 27580  | "     |                 |
|                 | Narsing-ka-dánda    | 85 37 48              | 4' 650976 | 44769  | 8' 470   |                 | Launchaura       | 4' 290017             | 19490     | 3' 693 |       |                 |
|                 | Macháli             | 45 31 28              | 4' 490248 | 30921  | 5' 856   |                 | Tola             | 120 23 1              | 4' 613289 | 41048  |       |                 |
| 844             | Kanádeo             | 106 49 36             | 4' 745212 | 55618  | 10' 534  | 856             | Garaphor         | 107 2 5               | 4' 440603 | 27580  | "     |                 |
|                 | Jhum                | 18 36 11              | 4' 268020 | 18536  | 3' 511   |                 | Launchaura       | 4' 255214             | 17998     | 3' 409 |       |                 |
|                 | Launchaura          | 54 34 13              | 4' 675281 | 47346  | 8' 907   |                 | Tola             | 34 21 44              | 4' 211689 | 16281  |       |                 |
| 845             | Narsing-ka-dánda    | 78 37 48              | 4' 745212 | 55618  | 10' 534  | 857             | Rariabanga       | 69 53 31              | 4' 541633 | 34806  | "     |                 |
|                 | Jhum                | 51 39 11              | 4' 648284 | 44902  | 8' 437   |                 | Muttramari       | 32 19 45              | 4' 207143 | 10822  |       |                 |
|                 | Launchaura          | 49 43 1               | 4' 636264 | 43278  | 8' 197   |                 | Sungarkhal       | 77 46 44              | 4' 559011 | 36225  |       |                 |

\* Deduced base.

| No. of Triangle | Station    | Corrected Plane Angle<br>° ' " | Distance  |       |                            | No. of Triangle                | Station        | Corrected Plane Angle<br>° ' " | Distance  |        |       | No. of Triangle |
|-----------------|------------|--------------------------------|-----------|-------|----------------------------|--------------------------------|----------------|--------------------------------|-----------|--------|-------|-----------------|
|                 |            |                                | Log. feet | Feet  | Miles                      |                                |                |                                | Log. feet | Feet   | Miles |                 |
| 858             | Bandani    | h.s. 58 29 51                  | 4 541653  | 34806 | 6.52                       | Sungarkot Gurana Garunath      | h.s. 64 9 18   | 4 747267                       | 55881     | 10.584 | 7     |                 |
|                 | Muttrapuri | " 45 8 30                      | 4 461455  | 28937 | 5.481                      |                                | h.s. 19 16 0   | 4 311504                       | 20488     | 3.880  |       |                 |
|                 | Sungarkhál | " 76 21 39                     | 4 598476  | 39671 | 7.513                      |                                | " 96 34 42     | 4 790167                       | 61683     | 11.682 |       |                 |
| 859             | Mulákot    | h.s. 13 14 55                  | 4 106316  | 12774 | 2.419                      | Airidao Sungarkot Gorkhgarhi   | h.s. 21 8 44   | 4 239988                       | 17377     | 3.291  | 7     |                 |
|                 | Muttrapuri | " 18 24 57                     | 4 676520  | 47481 | 8.993                      |                                | h.s. 39 48 54  | 4 489183                       | 30845     | 5.842  |       |                 |
| 860             | Gwaldekot  | " 108 20 8                     | 4 723517  | 52907 | 10.020                     | Gawauáth Sungarkot Gorkhgarhi  | h.s. 119 2 22  | 4 624446                       | 42116     | 7.976  | 7     |                 |
|                 | Sungarkhál | h.s. 14 32 1                   | 4 106316  | 12774 | 2.419                      |                                | h.s. 57 32 18  | 4 239985                       | 17377     | 3.291  |       |                 |
| 861             | Mulákot    | h.s. 28 36 24                  | 4 380881  | 24371 | 4.616                      | Sungarkot Gorkhgarhi           | h.s. 26 36 49  | 3 965021                       | 9226      | 1.747  | 7     |                 |
|                 | Papoli     | " 136 51 35                    | 4 541653  | 34806 | 6.502                      |                                | h.s. 95 50 53  | 4 311504                       | 20488     | 3.880  |       |                 |
| 862             | Jhum       | h.s. 55 10 30                  | 4 623823  | 42056 | 7.965                      | Sungarkot Gorkhgarhi Jalakot   | h.s. 54 32 38  | 4 363831                       | 23112     | 4.377  | 7     |                 |
|                 | Mulákot    | h.s. 53 47 3                   | 4 616297  | 41333 | 7.828                      |                                | h.s. 87 41 19  | 4 452534                       | 28350     | 5.309  |       |                 |
| 863             | Balkot     | " 71 2 27                      | 4 685309  | 48452 | 9.176                      | Daj Hagdanna Jakari            | " 37 46 3      | 4 239985                       | 17377     | 3.291  | 7     |                 |
|                 | Mulákot    | h.s. 70 14 6                   | 4 623823  | 42056 | 7.965                      |                                | h.s. 48 55 9   | 4 557068                       | 36064     | 6.830  |       |                 |
| 864             | Papoli     | " 42 17 56                     | 4 478207  | 30975 | 5.666                      | Kokru-ka-dánda Hagdanna Jakari | " 111 34 58    | 4 648252                       | 44489     | 8.426  | 7     |                 |
|                 | Bariar     | " 67 27 58                     | 4 615702  | 41276 | 7.818                      |                                | h.s. 41 38 7   | 4 557068                       | 36064     | 6.830  |       |                 |
| 865             | Mulákot    | h.s. 41 19 44                  | 4 449176  | 28130 | 5.328                      | Kokru-ka-dánda Hagdanna Parkot | h.s. 55 43 13  | 4 651784                       | 44852     | 8.495  | 7     |                 |
|                 | Balkot     | " 34 21 56                     | 4 381024  | 24045 | 4.554                      |                                | " 82 38 40     | 4 731058                       | 53834     | 10.196 |       |                 |
| 866             | Bariar     | " 104 18 20                    | 4 615702  | 41276 | 7.818                      | Daj Hagdanna Parkot            | h.s. 73 2 4    | 4 711940                       | 51516     | 9.757  | 7     |                 |
|                 | Papoli     | h.s. 66 10 18                  | 4 449176  | 28130 | 5.328                      |                                | h.s. 18 43 37  | 4 237848                       | 17292     | 3.275  |       |                 |
| 867             | Balkot     | " 35 52 10                     | 4 255723  | 18019 | 3.413                      | Hagdanna Parkot                | " 88 14 19     | 4 731058                       | 53834     | 10.196 | 7     |                 |
|                 | Bariar     | " 77 37 32                     | 4 478207  | 30975 | 5.666                      |                                | h.s. 106 41 29 | 4 711940                       | 51516     | 9.757  |       |                 |
| 868             | Gopálkot   | h.s. 56 34 1                   | 4 482277  | 30358 | 5.750                      | Daj Hagdanna Parkot            | h.s. 17 29 13  | 4 208664                       | 16168     | 3.062  | 7     |                 |
|                 | Ahna       | " 60 12 2                      | 4 499239  | 31507 | 5.979                      |                                | " 55 48 48     | 4 648252                       | 44489     | 8.426  |       |                 |
| 869             | Birchua    | " 4 511009                     | 32479     | 6.151 | Bashikanag Gurana Piningag | h.s. 78 15 2                   | 4 586650       | 38606                          | 7.312     | 7      |       |                 |
|                 | Hirap      | h.s. 37 53 38                  | 4 482277  | 30358 |                            | 5.750                          | h.s. 59 38 23  | 4 531789                       | 34024     |        | 6.444 |                 |
| 870             | Ahna       | " 87 31 52                     | 4 693563  | 49381 | 9.333                      | Hagdanna Gurana Piningag       | " 42 6 35      | 4 422279                       | 26441     | 5.008  | 7     |                 |
|                 | Birchua    | " 54 34 30                     | 4 605057  | 40277 | 7.628                      |                                | h.s. 62 42 49  | 4 586650                       | 38606     | 7.312  |       |                 |
| 871             | Kálimat    | h.s. 48 54 58                  | 4 690379  | 49043 | 9.288                      | Hagdanna Gurana Piningag       | h.s. 38 18 46  | 4 430241                       | 26930     | 5.100  | 7     |                 |
|                 | Sungarkot  | h.s. 35 11 31                  | 4 374014  | 37499 | 7.102                      |                                | h.s. 78 58 25  | 4 629759                       | 42637     | 8.075  |       |                 |
| 872             | Binsar     | h.s. 95 33 31                  | 4 811052  | 64722 | 12.258                     | Bashikanag Gurana Hurum        | h.s. 68 24 55  | 4 462757                       | 29024     | 5.497  | 7     |                 |
|                 | Sungarkot  | h.s. 50 39 3                   | 4 690379  | 49043 | 9.288                      |                                | h.s. 53 41 5   | 4 400544                       | 25150     | 4.763  |       |                 |
| 873             | Mulákot    | h.s. 52 47 33                  | 4 703392  | 50512 | 9.557                      | Hagdanna Gurana Hurum          | " 57 54 0      | 4 422279                       | 26441     | 5.008  | 7     |                 |
|                 | Binsar     | h.s. 76 33 24                  | 4 790167  | 61683 | 11.682                     |                                | h.s. 44 16 4   | 4 462757                       | 29024     | 5.497  |       |                 |
| 874             | Balkot     | h.s. 84 20 33                  | 4 747267  | 53881 | 10.584                     | Hagdanna Gurana Hurum          | " 44 16 4      | 4 474269                       | 29024     | 5.497  | 7     |                 |
|                 | Mulákot    | " 84 7 24                      | 4 703392  | 50512 | 9.557                      |                                | " 92 54 2      | 4 629759                       | 42637     | 8.075  |       |                 |

| No. of Triangle | Station        | Corrected Plane Angle | Distance  |          |       | Theodolite used | No. of Triangle | Station                 | Corrected Plane Angle | Distance  |          |       | Theodolite used |
|-----------------|----------------|-----------------------|-----------|----------|-------|-----------------|-----------------|-------------------------|-----------------------|-----------|----------|-------|-----------------|
|                 |                |                       | Log. feet | Feet     | Miles |                 |                 |                         |                       | Log. feet | Feet     | Miles |                 |
| 882             | Binsar         | h.s.                  | 32 45 23  | 4 497255 | 31424 | Inch            | 894             | Alna                    | h.s.                  | 0         | 0        | Inch  |                 |
|                 | Gurana         | "                     | 27 40 19  | 4 430993 | 26971 | "               |                 | Badhangarhi             | "                     | 46 18 55  | 4 543143 | 34926 | "               |
|                 | Rupdeo         | "                     | 119 34 18 | 4 703392 | 50512 | "               |                 | Gwaldam                 | No. 1                 | 116 10 40 | 4 636915 | 43343 | "               |
| 883             | Kokru-ka-danda | h.s.                  | 51 29 44  | 4 407355 | 31424 | "               | 895             | Jagesar                 | h.s.                  | 105 24 23 | 4 701145 | 50251 | Inch            |
|                 | Gurana         | "                     | 52 54 50  | 4 505306 | 32012 | "               |                 | Bashikanag              | "                     | 11 24 8   | 4 013034 | 10305 | "               |
|                 | Rupdeo         | "                     | 75 38 26  | 4 589953 | 38900 | "               |                 | Katadanda               | "                     | 63 11 29  | 4 667655 | 46522 | "               |
| 884             | Kokru-ka-danda | h.s.                  | 86 3 4    | 4 590206 | 38932 | "               | 896             | Binsar                  | h.s.                  | 56 0 2    | 4 701145 | 50251 | "               |
|                 | Rupdeo         | "                     | 38 50 6   | 4 388661 | 24472 | "               |                 | Bashikanag              | "                     | 31 53 42  | 4 505501 | 32026 | "               |
|                 | Sikurkot       | "                     | 55 6 50   | 4 505306 | 32012 | "               |                 | Katadanda               | "                     | 92 6 16   | 4 782275 | 60572 | "               |
| 885             | Alna           | h.s.                  | 41 22 27  | 4 387933 | 24300 | "               | 897             | Jagesar                 | h.s.                  | 15 25 26  | 4 318312 | 20812 | Inch            |
|                 | Magru-ka-danda | "                     | 69 16 55  | 4 537815 | 34500 | "               |                 | Kalimat                 | No. 1                 | 107 35 13 | 4 872634 | 74582 | "               |
|                 | Sikurkot       | "                     | 69 20 38  | 4 537993 | 34514 | "               |                 | Almora                  | "                     | 56 59 11  | 4 816947 | 65007 | "               |
| 886             | Sikurkot       | h.s.                  | 14 30 49  | 4 040779 | 10984 | "               | 898             | Kalimat                 | h.s.                  | 12 54 38  | 3 957142 | 9060  | Inch            |
|                 | Kokru-ka-danda | "                     | 19 25 33  | 4 163685 | 14578 | "               |                 | Almora                  | "                     | 17 58 7   | 4 097250 | 12510 | "               |
|                 | Papi           | "                     | 146 3 38  | 4 388661 | 24472 | "               |                 | Almora, Gorkhigarhi     | "                     | 149 7 15  | 4 318312 | 20812 | "               |
| 887             | Rupdeo         | h.s.                  | 66 37 31  | 4 468855 | 29434 | "               | 899             | Kalimat                 | No. 1                 | 13 53 39  | 3 520603 | 3316  | "               |
|                 | Kokru-ka-danda | "                     | 93 20 31  | 4 505306 | 32012 | "               |                 | Almora, Gorkhigarhi     | "                     | 45 37 58  | 4 019664 | 10463 | "               |
|                 | Papi           | "                     | 93 20 31  | 4 505306 | 32012 | "               |                 | Almora, Monument Staff  | "                     | 121 10 43 | 4 097250 | 12510 | "               |
| 888             | Kokru-ka-danda | h.s.                  | 85 18 54  | 4 188990 | 15452 | "               | 900             | Almora, Gorkhigarhi     | h.s.                  | 55 9 56   | 4 013046 | 10326 | "               |
|                 | Papi           | "                     | 49 34 21  | 4 071957 | 11802 | "               |                 | Kalimat                 | No. 1                 | 28 44 52  | 3 781810 | 6051  | "               |
|                 | Bagesar        | "                     | 45 6 45   | 4 040779 | 10984 | "               |                 | Almora, Beckett's Staff | "                     | 96 5 12   | 4 097250 | 12510 | "               |
| 889             | Birchua        | h.s.                  | 92 8 54   | 4 636914 | 43343 | "               | 901             | Almora, Monument Staff  | h.s.                  | 79 25 53  | 4 013946 | 10326 | "               |
|                 | Alna           | "                     | 43 25 48  | 4 474472 | 29818 | "               |                 | Kalimat                 | No. 1                 | 15 39 43  | 3 452452 | 2834  | "               |
|                 | Badhangarhi    | "                     | 44 25 18  | 4 482277 | 30358 | "               |                 | Almora, Beckett's Staff | "                     | 84 54 54  | 4 019664 | 10463 | "               |
| 890             | Harp           | h.s.                  | 73 7 16   | 4 636914 | 43343 | "               | 902             | Kalimat                 | No. 1                 | 67 41 35  | 3 992709 | 9834  | "               |
|                 | Alna           | "                     | 44 6 4    | 4 498602 | 31521 | "               |                 | Almora, Monument Staff  | "                     | 32 26 21  | 3 735082 | 5701  | "               |
|                 | Badhangarhi    | "                     | 62 46 40  | 4 605057 | 40277 | "               |                 | Kalimat                 | No. 2                 | 79 52 4   | 4 019664 | 10463 | "               |
| 891             | Harp           | h.s.                  | 45 42 10  | 4 491741 | 31027 | "               | 903             | Almora, Gorkhigarhi     | h.s.                  | 72 24 56  | 3 992709 | 9834  | "               |
|                 | Badhangarhi    | "                     | 87 39 5   | 4 636629 | 43314 | "               |                 | Almora, Monument Staff  | "                     | 88 50 2   | 4 013402 | 10313 | "               |
|                 | Gadwalbonga    | "                     | 46 38 45  | 4 498602 | 31521 | "               |                 | Kalimat                 | No. 2                 | 18 45 2   | 3 520603 | 3316  | "               |
| 892             | Gadwalbonga    | h.s.                  | 22 44 16  | 4 244188 | 17546 | "               | 904             | Almora, Gorkhigarhi     | h.s.                  | 9 32 30   | 3 234815 | 1717  | "               |
|                 | Badhangarhi    | "                     | 20 22 39  | 4 198856 | 15807 | "               |                 | Kalimat                 | No. 2                 | 75 4 22   | 4 000414 | 10010 | "               |
|                 | Jauna          | "                     | 136 53 5  | 4 491741 | 31027 | "               |                 | Kalimat                 | No. 3                 | 95 23 8   | 4 013402 | 10313 | "               |
| 893             | Birchua        | h.s.                  | 39 55 32  | 4 244188 | 17546 | "               | 905             | Almora, Monument Staff  | h.s.                  | 9 46 20   | 3 234815 | 1717  | "               |
|                 | Badhangarhi    | "                     | 105 32 10 | 4 298032 | 19862 | "               |                 | Kalimat                 | No. 2                 | 93 49 24  | 4 004084 | 10094 | "               |
|                 | Jauna          | "                     | 105 32 10 | 4 474472 | 29818 | "               |                 | Kalimat                 | No. 3                 | 76 24 10  | 3 992709 | 9834  | "               |

• Deduced base.

NORTH-EAST LONGITUDINAL SERIES.

| No. of Triangle | Station     | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station    | Corrected Plane Angle | Distance  |          |        | No. of Triangle | Inch |
|-----------------|-------------|-----------------------|-----------|----------|-------|-----------------|------------|-----------------------|-----------|----------|--------|-----------------|------|
|                 |             |                       | Log. feet | Feet     | Miles |                 |            |                       | Log. feet | Feet     | Miles  |                 |      |
| 906             | Kankra      | No. 1 h.s.            | 50 22 8   | 4 759177 | 57435 | 10-878          | Shikáni    | h.s.                  | 21 9 28   | 4 153728 | 14313  | 2 711           | 7    |
|                 | Badhangarhi | h.s.                  | 94 18 37  | 4 871362 | 74304 | 14 084          | Dhiola     | h.s.                  | 113 45 39 | 4 550829 | 36203  | 6 874           | "    |
|                 | Khabakhal   | "                     | 35 19 15  | 4 634636 | 43116 | 8 166           | Deobarna   | "                     | 45 4 53   | 4 448397 | 28000  | 5 318           | "    |
| 907             | Nauáí       | h.s.                  | 77 51 59  | 4 759177 | 57435 | 10-878          | Sisákáni   | h.s.                  | 75 22 56  | 4 378778 | 23921  | 4 530           | "    |
|                 | Badhangarhi | "                     | 42 27 48  | 4 568369 | 35661 | 7 512           | Sikálnág   | No. 2                 | 66 34 57  | 4 355738 | 22635  | 4 296           | "    |
|                 | Khabakhal   | "                     | 59 40 13  | 4 705067 | 50707 | 9 604           | Gwáldam    | "                     | 38 2 7    | 4 182752 | 15232  | 2 885           | "    |
| 908             | Chorkharak  | h.s.                  | 55 16 55  | 4 551655 | 35617 | 6 746           | Sikálnág   | h.s.                  | 3 466787  | 2929     | 0 555  | "               | "    |
|                 | Nauáí       | "                     | 56 3 4    | 4 530977 | 33649 | 6 373           | Gwáldam    | No. 2                 | 72 40 32  | 4 36 818 | 23218  | 4 397           | "    |
|                 | Dankarak    | "                     | 62 32 32  | 4 556237 | 35995 | 6 817           | Nimidhar   | "                     | 100 24 23 | 4 378778 | 23921  | 4 530           | "    |
| 909             | Badhangarhi | h.s.                  | 33 23 45  | 4 551655 | 35617 | 6 746           | Gwáldam    | No. 2                 | 49 50 20  | 3 410007 | 2579   | 0 487           | "    |
|                 | Nauáí       | "                     | 18 11 51  | 4 305524 | 20208 | 3 827           | Nimidhar   | h.s.                  | 69 35 20  | 3 498620 | 3152   | 0 597           | "    |
|                 | Dankarak    | "                     | 128 24 24 | 4 705067 | 50707 | 9 604           | Gwáldam    | No. 3                 | 60 34 20  | 3 466787 | 2929   | 0 555           | "    |
| 910             | Kankra      | No. 1 h.s.            | 25 7 50   | 4 354331 | 22613 | 4 283           | Gwanagarh  | h.s.                  | 32 21 27  | 4 914461 | 82122  | 15 553          | 12   |
|                 | Badhangarhi | h.s.                  | 100 47 54 | 4 718 38 | 52303 | 9 906           | Jatropáni  | "                     | 46 12 3   | 5 044344 | 110750 | 20 975          | "    |
|                 | Sisákáni    | "                     |           | 4 634036 | 43116 | 8 166           | Kotidánda  | h.s.                  | 101 26 30 | 5 177227 | 150393 | 28 484          | "    |
| 911             | Dankarak    | h.s.                  | 69 22 16  | 4 388240 | 24448 | 4 030           | Gwanagarh  | h.s.                  | 30 58 44  | 4 946834 | 88478  | 16 757          | "    |
|                 | Badhangarhi | "                     | 50 40 32  | 4 305524 | 20208 | 3 827           | Jatropáni  | "                     | 87 59 10  | 5 234993 | 17188  | 32 536          | "    |
|                 | Sisákáni    | "                     |           | 4 354351 | 22613 | 4 283           | Pikhunta   | h.s.                  | 61 2 6    | 5 177227 | 150393 | 28 484          | "    |
| 912             | Sisákáni    | h.s.                  | 109 34 57 | 4 404329 | 31213 | 5 911           | Kotidánda  | h.s.                  | 74 40 53  | 4 946834 | 88478  | 16 757          | "    |
|                 | Badhangarhi | "                     | 27 22 22  | 4 182752 | 15232 | 2 885           | Jatropáni  | h.s.                  | 41 47 7   | 4 786241 | 61128  | 11 577          | "    |
|                 | Sikálnág    | "                     | 43 2 41   | 4 354351 | 22613 | 4 283           | Pikhunta   | h.s.                  | 63 32 0   | 4 914461 | 82122  | 15 553          | "    |
| 913             | Dankarak    | h.s.                  | 98 8 32   | 4 494329 | 31213 | 5 911           | Kotidánda  | h.s.                  | 43 44 25  | 4 631702 | 42835  | 8 111           | "    |
|                 | Badhangarhi | "                     | 41 59 54  | 4 324226 | 21097 | 3 996           | Pikhunta   | "                     | 55 33 10  | 4 708247 | 51080  | 9 674           | "    |
|                 | Sikálnág    | "                     | 39 51 34  | 4 305524 | 20208 | 3 827           | Argam      | "                     | 80 42 25  | 4 786241 | 61128  | 11 577          | "    |
| 914             | Dankarak    | h.s.                  | 44 22 28  | 4 453690 | 28124 | 5 383           | Pikhunta   | h.s.                  | 50 13 15  | 4 652004 | 44875  | 8 499           | "    |
|                 | Nauáí       | "                     | 74 25 32  | 4 597553 | 39152 | 7 415           | Argam      | "                     | 82 36 20  | 4 762724 | 57906  | 10 967          | "    |
|                 | Panothal    | "                     | 61 12 0   | 4 551655 | 35617 | 6 746           | Vishnugarh | "                     | 47 10 95  | 4 631702 | 42835  | 8 111           | "    |
| 915             | Shikáni     | h.s.                  | 34 19 56  | 4 453690 | 28124 | 5 383           | Pikhunta   | h.s.                  | 30 8 45   | 4 465029 | 29176  | 5 526           | "    |
|                 | Nauáí       | h.s.                  | 40 33 56  | 4 515544 | 32775 | 6 207           | Vishnugarh | "                     | 64 29 37  | 4 710615 | 52434  | 9 031           | 8    |
|                 | Panothal    | h.s.                  | 105 6 8   | 4 687154 | 48658 | 9 216           | Kundhar    | "                     | 85 21 38  | 4 762724 | 57906  | 10 907          | "    |
| 916             | Baldn       | h.s.                  | 44 48 397 | 28080    | 5 318 | Vishnugarh      | h.s.       | 98 55 1               | 4 629097  | 42569    | 8 062  | "               | "    |
|                 | Shikáni     | h.s.                  | 28 3 31   | 4 349560 | 22365 | 4 236           | Kundhar    | "                     | 38 27 57  | 4 428201 | 26804  | 5 077           | "    |
|                 | Dhiola      | h.s.                  | 115 44 35 | 4 631721 | 42827 | 8 111           | Putari     | "                     | 42 37 2   | 4 465029 | 29176  | 5 526           | "    |
| 917             | Panothal    | h.s.                  | 108 30 36 | 4 448397 | 28080 | 5 318           | Vishnugarh | h.s.                  | 25 16 37  | 4 067166 | 11672  | 2 211           | "    |
|                 | Shikáni     | h.s.                  | 38 50 23  | 4 694726 | 49514 | 9 207           | Pikhunta   | "                     | 63 14 20  | 4 321481 | 23521  | 4 455           | "    |
|                 | Dhiola      | h.s.                  |           | 4 575344 | 37773 | 6 207           | Lingara    | "                     | 93 1 34   | 4 428201 | 26804  | 5 077           | "    |

\* Deducted base.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station              | Corrected Plane Angle | Distance  |          |       | Theodolite used | No. of Triangle | Station                  | Corrected Plane Angle | Distance  |          |       | Theodolite used |
|-----------------|----------------------|-----------------------|-----------|----------|-------|-----------------|-----------------|--------------------------|-----------------------|-----------|----------|-------|-----------------|
|                 |                      |                       | Log. feet | Feet     | Miles |                 |                 |                          |                       | Log. feet | Feet     | Miles |                 |
| 980             | Lingara              | h.s.                  | 61 37 20  | 4 260930 | 18236 | Inch            | 942             | Músápáni                 | h.s.                  | 42 51 43  | 3 741441 | 5514  | Inch            |
|                 | Petari               | "                     | 84 6 10   | 4 314225 | 20617 | 8               |                 | Chára                    | "                     | 61 52 57  | 3 854243 | 7149  | 8               |
|                 | Tikdhár              | "                     | 34 16 30  | 4 067166 | 11672 | "               |                 | Bázkúli                  | "                     | 75 15 20  | 3 894241 | 7839  | "               |
| 981             | Lingara              | h.s.                  | 17 9 28   | 4 273262 | 18761 | "               | 943             | Tikdhár                  | h.s.                  | 32 50 26  | 4 177772 | 15058 | "               |
|                 | Tikdhár              | "                     | 143 55 34 | 4 573423 | 37447 | "               |                 | Uniakarak                | "                     | 18 33 32  | 3 946338 | 8838  | "               |
|                 | Parupál              | "                     | 18 54 58  | 4 314225 | 20617 | "               |                 | Barpatná                 | "                     | 128 36 2  | 4 336467 | 21700 | "               |
| 982             | Tikdhár              | h.s.                  | 37 56 20  | 4 128499 | 13443 | "               | 944             | Uniakarak                | h.s.                  | 3 773322  | 5934     | 1 124 | "               |
|                 | Parupál              | "                     | 82 57 47  | 4 336467 | 21700 | "               |                 | Menadugri                | "                     | 26 9 31   | 3 669501 | 4672  | 0 885           |
|                 | Uniakarak            | "                     | 59 5 53   | 4 273262 | 18761 | "               |                 | Susála                   | "                     | 119 47 30 | 3 965041 | 9197  | 1 742           |
| 983             | Parupál              | h.s.                  | 41 1 35   | 3 963641 | 19197 | "               | 945             | Parupál                  | h.s.                  | 41 47 44  | 3 773322 | 5934  | 1 124           |
|                 | Uniakarak            | "                     | 32 36 19  | 3 879934 | 7550  | "               |                 | Menadugri                | "                     | 80 12 35  | 3 943168 | 8773  | 1 662           |
|                 | Menadugri            | "                     | 106 22 6  | 4 128499 | 13443 | "               |                 | Susála                   | "                     | 57 59 41  | 3 877934 | 7550  | 1 430           |
| 984             | Parupál              | h.s.                  | 25 13 0   | 3 908469 | 8100  | "               | 946             | Kotidánda                | h.s.                  | 8 21 36   | 3 871434 | 7438  | 1 409           |
|                 | Uniakarak            | "                     | 109 47 1  | 4 252596 | 17889 | "               |                 | Argam                    | "                     | 84 45 45  | 4 707075 | 50942 | 9 648           |
|                 | Ánádéb               | "                     | 44 59 59  | 4 128499 | 13443 | "               |                 | Tápon                    | No. 1                 | 86 52 39  | 4 708247 | 51680 | 9 674           |
| 985             | Menadugri            | h.s.                  | 46 51 57  | 3 908469 | 8100  | "               | 947             | Kotidánda                | h.s.                  | 4 57 40   | 3 656648 | 4536  | 0 859           |
|                 | Uniakarak            | "                     | 77 10 42  | 4 034326 | 10822 | "               |                 | Argam                    | "                     | 98 9 33   | 4 715316 | 51018 | 9 833           |
|                 | Ánádéb               | "                     | 55 57 21  | 3 963641 | 9197  | "               |                 | Tápon                    | No. 2                 | 76 52 47  | 4 708247 | 51680 | 9 674           |
| 986             | Menadugri            | h.s.                  | 105 22 0  | 4 131147 | 13525 | "               | 948             | Vishnugarh               | h.s.                  | 61 43 36  | 4 337246 | 21739 | 4 117           |
|                 | Uniakarak            | "                     | 33 39 47  | 3 890708 | 7775  | "               |                 | Lingara                  | "                     | 45 50 5   | 4 248875 | 17737 | 3 359           |
|                 | Kúdálpáta Hill Staff | "                     | 44 59 59  | 3 963641 | 9197  | "               |                 | Pándab Chauki Hill Staff | "                     | 76 52 47  | 4 371451 | 23521 | 4 455           |
| 987             | Ánádéb               | h.s.                  | 100 23 49 | 4 131147 | 13525 | "               | 949             | Petari                   | h.s.                  | 101 6 54  | 4 337246 | 21739 | 4 117           |
|                 | Uniakarak            | "                     | 43 30 55  | 3 976271 | 9468  | "               |                 | Lingara                  | "                     | 47 5 29   | 4 210242 | 16227 | 3 673           |
|                 | Kúdálpáta Hill Staff | "                     | 44 59 59  | 3 963641 | 9197  | "               |                 | Pándab Chauki Hill Staff | "                     | 76 52 47  | 4 067166 | 11672 | 2 211           |
| 988             | Ánádéb               | h.s.                  | 60 18 1   | 4 000463 | 10011 | "               | 950             | Vishnugarh               | h.s.                  | 39 23 54  | 4 565633 | 36782 | 6 966           |
|                 | Kúdálpáta Hill Staff | "                     | 4 016961  | 10398    | "     | Pilkhuunta      |                 | "                        | 52 51 2               | 4 664552  | 46190    | 8 748 |                 |
|                 | Chára                | "                     | 55 14 32  | 3 976271 | 9468  | "               |                 | Domban                   | "                     | 87 45 4   | 4 762724 | 57906 | 10 967          |
| 989             | Ánádéb               | h.s.                  | 38 28 7   | 3 894241 | 7839  | "               | 951             | Pilkhuunta               | h.s.                  | 46 32 39  | 4 435419 | 27553 | 5 162           |
|                 | Chára                | "                     | 85 55 14  | 4 099289 | 12560 | "               |                 | Chhntar                  | "                     | 55 1 11   | 4 486008 | 30762 | 5 826           |
|                 | Músápáni             | "                     | 55 36 39  | 4 016961 | 10398 | "               |                 | Domban                   | "                     | 78 26 10  | 4 565633 | 36782 | 6 966           |
| 990             | Chára                | h.s.                  | 54 21 7   | 3 840370 | 6924  | "               | 952             | Chhntar                  | h.s.                  | 47 16 1   | 4 380302 | 24005 | 4 346           |
|                 | Músápáni             | "                     | 58 43 56  | 3 862326 | 7263  | "               |                 | Domban                   | "                     | 76 13 48  | 4 501632 | 31742 | 6 012           |
|                 | Soogra               | "                     | 66 54 57  | 3 894241 | 7839  | "               |                 | Láta                     | "                     | 56 30 11  | 4 435419 | 27553 | 5 162           |
| 991             | Ánádéb               | h.s.                  | 11 2 8    | 3 741441 | 5514  | "               | 953             | Domban                   | h.s.                  | 35 29 13  | 4 194116 | 15636 | 2 961           |
|                 | Chára                | "                     | 147 48 11 | 4 186048 | 15348 | "               |                 | Láta                     | "                     | 81 28 54  | 4 425483 | 20837 | 5 045           |
|                 | Bázkúli              | "                     | 21 9 41   | 4 016961 | 10398 | "               |                 | Sidhár                   | "                     | 63 1 53   | 4 383302 | 24005 | 4 546           |

| No. of Triangle | Station | Corrected Plane Angle | Distance  |       |       | No. of Triangle | Station  | Corrected Plane Angle | Distance  |      |       | No. of Triangle | Station | Corrected Plane Angle | Distance  |      |       | No. of Triangle |        |       |          |      |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |      |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |      |        |       |          |       |       |
|-----------------|---------|-----------------------|-----------|-------|-------|-----------------|----------|-----------------------|-----------|------|-------|-----------------|---------|-----------------------|-----------|------|-------|-----------------|--------|-------|----------|------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|--------|-------|----------|-------|-------|-----|----------|------|----------|-------|-------|-----|--------|-------|----------|-------|-------|------|--------|-------|----------|-------|-------|
|                 |         |                       | Log. feet | Feet  | Miles |                 |          |                       | Log. feet | Feet | Miles |                 |         |                       | Log. feet | Feet | Miles |                 |        |       |          |      |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |      |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |        |       |          |       |       |     |          |      |          |       |       |     |        |       |          |       |       |      |        |       |          |       |       |
| 954             | Láta    | h.s.                  | 4.413176  | 25893 | 4.904 | 966             | Langpiar | h.s.                  | 3.873795  | 7478 | 1.416 | 967             | Rámkuta | h.s.                  | 3.873795  | 7478 | 1.416 | 968             | Bamías | No. 1 | 3.936064 | 8631 | 1.935 | 969 | Langpiar | h.s. | 4.351939 | 22487 | 4.259 | 970 | Bamías | No. 1 | 4.132259 | 13054 | 2.586 | 971 | Goting | No. 1 | 3.936064 | 8631 | 1.935 | 972 | Bamías | No. 1 | 4.102102 | 12650 | 2.396 | 973 | Goting | No. 1 | 4.024971 | 10592 | 2.006 | 974 | Langpiar | h.s. | 4.498446 | 31510 | 5.968 | 975 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 976 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 977 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 978 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 979 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 980 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 981 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 982 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 983 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 984 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 985 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 986 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 987 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 988 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 989 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 990 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 991 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 992 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 993 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 994 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 995 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 996 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 | 997 | Goting | No. 1 | 4.086699 | 12210 | 2.312 | 998 | Langpiar | h.s. | 4.545146 | 35087 | 6.645 | 999 | Dámjan | No. 1 | 4.167502 | 22489 | 4.529 | 1000 | Bamías | No. 1 | 4.084437 | 12146 | 2.300 |



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station     | Corrected Plane Angle | Distance  |          |       | Theodolite used | No. of Triangle | Station | Corrected Plane Angle | Distance  |        |       | Theodolite used |
|-----------------|-------------|-----------------------|-----------|----------|-------|-----------------|-----------------|---------|-----------------------|-----------|--------|-------|-----------------|
|                 |             |                       | Log. feet | Feet     | Miles |                 |                 |         |                       | Log. feet | Feet   | Miles |                 |
| 978             | Fatalpāni   | h.s.                  | 51 24 39  | 4 177997 | 15066 | Inch            | Shikāni         | h.s.    | 32 39 48              | 4 746709  | 55810  | Inch  |                 |
|                 | Ganeshganga | "                     | 100 28 21 | 4 277695 | 18954 | 12              | Khamlek         | h.s.    | 66 34 53              | 4 977221  | 94800  | 12    |                 |
|                 | Kiunglung   | "                     | 28 7 0    | 3 958359 | 9084  | "               | Balchandaāda    | h.s.    | 80 45 19              | 5 008877  | 102065 | "     |                 |
| 979             | Dolu        | h.s.                  | 27 7 40   | 4 177997 | 15066 | "               | Khamlek         | h.s.    | 59 41 30              | 4 722820  | 52823  | "     |                 |
|                 | Gneshganga  | "                     | 136 19 1  | 4 358324 | 22820 | "               | Balchandaāda    | h.s.    | 54 39 19              | 4 697361  | 49815  | "     |                 |
|                 | Kiunglung   | "                     | 3 973808  | 9415     | 1 783 | "               | Khaparehula     | "       | 65 48 11              | 4 746709  | 55810  | "     |                 |
| 980             | Ganeshganga | h.s.                  | 32 0 41   | 4 095933 | 12472 | "               | Khamlek         | h.s.    | 55 53 55              | 4 925346  | 81208  | "     |                 |
|                 | Kiunglung   | "                     | 108 10 10 | 4 349362 | 22354 | "               | Khaparehula     | h.s.    | 94 43 27              | 5 005643  | 101308 | "     |                 |
|                 | Niti        | No. 1                 | 39 49 6   | 4 177997 | 15066 | "               | Dhaji           | h.s.    | 29 20 38              | 4 697361  | 49815  | "     |                 |
| 981             | Kiunglung   | h.s.                  | 20 26 2   | 3 643792 | 4403  | "               | Haganu          | h.s.    | 54 28 40              | 4 674064  | 47311  | "     |                 |
|                 | Niti        | No. 1                 | 4 091432  | 12343    | 2 338 | "               | Bashikanég      | "       | 59 19 1               | 4 688898  | 49992  | "     |                 |
|                 | Niti        | No. 2                 | 81 45 48  | 4 095933 | 12472 | "               | Khamlek         | h.s.    | 66 12 19              | 4 725818  | 53188  | "     |                 |
| 982             | Vishnugarh  | h.s.                  | 4 421119  | 26371    | 4 994 | "               | Bashikanég      | h.s.    | 68 19 11              | 4 674470  | 47257  | "     |                 |
|                 | Chhatar     | "                     | 12 23 57  | 4 326437 | 21205 | "               | Khamlek         | h.s.    | 43 11 45              | 4 541702  | 34810  | "     |                 |
|                 | Joshimath   | "                     | 152 6 48  | 4 664552 | 46190 | "               | Lamkishun       | h.s.    | 68 29 4               | 4 674964  | 47311  | "     |                 |
| 983             | Chotakāna   | h.s.                  | 26 32 37  | 4 267895 | 18531 | "               | Khamlek         | h.s.    | 69 29 56              | 4 712751  | 51612  | "     |                 |
|                 | Kurkutidhār | "                     | 76 28 8   | 4 605480 | 40316 | "               | Lamkishun       | h.s.    | 51 26 56              | 4 634402  | 43093  | "     |                 |
|                 | Sathdunga   | "                     | 76 59 15  | 4 606407 | 40402 | "               | Hania-ka-dhura  | "       | 59 3 8                | 4 674470  | 47257  | "     |                 |
| 984             | Bunga       | h.s.                  | 80 39 59  | 4 267895 | 18531 | "               | Khamlek         | h.s.    | 46 36 39              | 4 571385  | 37272  | "     |                 |
|                 | Kurkutidhār | "                     | 43 15 43  | 4 109586 | 12870 | "               | Hania-ka-dhura  | h.s.    | 76 13 46              | 4 697361  | 49815  | "     |                 |
|                 | Sathdunga   | "                     | 56 4 18   | 4 192624 | 15582 | "               | Khaparehula     | "       | 57 9 35               | 4 634402  | 43093  | "     |                 |
| 985             | Bunga       | h.s.                  | 4 085324  | 12171    | 2 305 | "               | Bambhil         | h.s.    | 98 24 39              | 4 780884  | 60379  | "     |                 |
|                 | Kurkutidhār | "                     | 28 29 42  | 3 880150 | 7588  | "               | Lamkishun       | "       | 43 35 32              | 4 624128  | 42085  | "     |                 |
|                 | Kurkuti     | "                     | 101 34 53 | 4 192624 | 15582 | "               | Iriarikot       | "       | 37 59 49              | 4 574892  | 37574  | "     |                 |
| 986             | Sathdunga   | h.s.                  | 4 085324  | 12171    | 2 305 | "               | Hania-ka-dhura  | h.s.    | 70 25 17              | 4 780884  | 60379  | "     |                 |
|                 | Kurkutidhār | "                     | 14 46 1   | 3 871548 | 7440  | "               | Lamkishun       | "       | 55 55 53              | 4 724972  | 53085  | "     |                 |
|                 | Kurkuti     | "                     | 140 35 18 | 4 267895 | 18531 | "               | Iriarikot       | "       | 53 38 50              | 4 712751  | 51612  | "     |                 |
| 987             | Kiunglung   | h.s.                  | 20 2 24   | 3 637645 | 4342  | "               | Jham            | h.s.    | 60 21 46              | 4 773845  | 59408  | "     |                 |
|                 | Niti        | No. 1                 | 4 096237  | 12472    | 2 364 | "               | Bambhil         | h.s.    | 41 30 42              | 4 656103  | 45300  | "     |                 |
|                 | Niti        | No. 2                 | 79 52 0   | 4 095933 | 12472 | "               | Thakil          | "       | 78 7 32               | 4 823344  | 66887  | "     |                 |
| 988             | Argam       | h.s.                  | 60 10 7   | 4 641244 | 43777 | "               | Dhaji           | h.s.    | 50 39 17              | 4 773845  | 59408  | "     |                 |
|                 | Vishnugarh  | "                     | 57 3 6    | 4 626823 | 42347 | "               | Bambhil         | h.s.    | 48 58 10              | 4 763053  | 57950  | "     |                 |
|                 | Thali       | "                     | 62 40 47  | 4 652004 | 44875 | "               | Thakil          | "       | 80 22 33              | 4 879319  | 75739  | "     |                 |
| 989             | Chhatar     | h.s.                  | 69 25 33  | 4 641244 | 43777 | "               | Khaparehula     | h.s.    | 51 49 48              | 4 676048  | 47429  | "     |                 |
|                 | Vishnugarh  | "                     | 29 31 13  | 4 362478 | 23040 | "               | Balchandaāda    | "       | 67 3 24               | 4 744733  | 55556  | "     |                 |
|                 | Thali       | "                     | 4 664552  | 46190    | 8 748 | "               | Hium            | "       | 61 6 48               | 4 722820  | 52823  | "     |                 |

\* Deduced base.

| No. of Triangle | Station             | Corrected Plane Angle | Distance  |        |        | Theodolite used | No. of Triangle | Station    | Corrected Plane Angle | Distance  |        |       | Theodolite used |
|-----------------|---------------------|-----------------------|-----------|--------|--------|-----------------|-----------------|------------|-----------------------|-----------|--------|-------|-----------------|
|                 |                     |                       | Log. feet | Feet   | Miles  |                 |                 |            |                       | Log. feet | Feet   | Miles |                 |
| 1002            | Balachandanda       | h.s.                  | 4.625050  | 42175  | 7.988  | 1014            | Puningiri       | h.s.       | 4.596688              | 39508     | 7.483  | Inch  |                 |
|                 | Ifum                | "                     | 4.671352  | 46919  | 8.886  |                 | Kanádeo         | "          | 4.564019              | 30096     | 6.950  |       |                 |
|                 | Punyys              | "                     | 4.676048  | 47429  | 8.983  |                 | Maurkot         | "          | 4.748194              | 56001     | 10.606 |       |                 |
| 1003            | Húm                 | h.s.                  | 4.655804  | 45269  | 8.374  | 1015            | Nagarchula      | h.s.       | 4.596688              | 39508     | 7.483  | "     |                 |
|                 | Punyys              | "                     | 4.686423  | 48576  | 9.200  |                 | Kanádeo         | "          | 4.736102              | 54463     | 10.315 |       |                 |
|                 | Athánai             | "                     | 4.625050  | 42175  | 7.988  |                 | Maurkot         | "          | 4.548783              | 35382     | 6.701  |       |                 |
| 1004            | Húm                 | h.s.                  | 4.690798  | 49068  | 9.293  | 1016            | Thákiil         | h.s.       | 4.809833              | 64541     | 12.224 | "     |                 |
|                 | Athánai             | "                     | 4.662646  | 45988  | 8.710  |                 | Jhum            | h.s.       | 4.846849              | 69319     | 13.129 |       |                 |
|                 | Golpha              | "                     | 4.686423  | 48576  | 9.200  |                 | Lujnidhura      | No. 1 h.s. | 4.656103              | 45300     | 8.580  |       |                 |
| 1005            | Húm                 | h.s.                  | 4.557967  | 36138  | 6.844  | 1017            | Nagarchula      | h.s.       | 4.809833              | 64541     | 12.224 | "     |                 |
|                 | Golpha              | "                     | 4.688171  | 48772  | 9.237  |                 | Jhum            | h.s.       | 4.516331              | 32835     | 6.219  |       |                 |
|                 | Chipalkot           | No. 1                 | 4.662646  | 45988  | 8.710  |                 | Lujnidhura      | No. 1 h.s. | 4.551015              | 35594     | 6.736  |       |                 |
| 1006            | Dhaji               | h.s.                  | 4.776444  | 59765  | 11.319 | 1018            | Kanádeo         | h.s.       | 4.687630              | 48711     | 9.226  | "     |                 |
|                 | Khaparchula         | h.s.                  | 5.040005  | 109049 | 20.707 |                 | Nagarchula      | "          | 4.677679              | 47608     | 9.017  |       |                 |
|                 | Chipalkot           | No. 1                 | 4.925346  | 84207  | 15.948 |                 | Tamli           | "          | 4.548783              | 35382     | 6.701  |       |                 |
| 1007            | Thákiil             | h.s.                  | 4.873775  | 74778  | 14.163 | 1019            | Maurkot         | h.s.       | 4.687630              | 48711     | 9.226  | "     |                 |
|                 | Jhum                | h.s.                  | 4.954802  | 90116  | 17.067 |                 | Nagarchula      | "          | 4.281332              | 19113     | 3.620  |       |                 |
|                 | Gorsaknásh          | h.s.                  | 4.656103  | 45300  | 8.580  |                 | Tamli           | "          | 4.736102              | 54463     | 10.315 |       |                 |
| 1008            | Dhaji               | h.s.                  | 4.873775  | 74778  | 14.163 | 1020            | Tamli           | h.s.       | 4.581563              | 38156     | 7.227  | "     |                 |
|                 | Jhum                | h.s.                  | 5.151000  | 114775 | 26.851 |                 | Lujnidhura      | No. 1      | 4.711348              | 51446     | 9.743  |       |                 |
|                 | Gorsaknásh          | h.s.                  | 5.006321  | 101406 | 19.217 |                 | Káimat          | No. 4      | 4.233759              | 17130     | 3.244  |       |                 |
| 1009            | Dhaji               | h.s.                  | 4.640343  | 43686  | 8.274  | 1021            | Nagarchula      | h.s.       | 4.581563              | 38156     | 7.227  | "     |                 |
|                 | Thákiil             | h.s.                  | 4.336781  | 21716  | 4.113  |                 | Lujnidhura      | No. 1      | 4.118408              | 13134     | 2.488  |       |                 |
|                 | Triarikot Hill Mark | h.s.                  | 4.763053  | 57950  | 10.975 |                 | Káimat          | No. 4      | 4.516331              | 32835     | 6.219  |       |                 |
| 1010            | Triarikot Hill Mark | h.s.                  | 4.638749  | 43546  | 8.244  | 1022            | Maurkot         | h.s.       | 4.264294              | 18378     | 3.481  | "     |                 |
|                 | Thákiil             | "                     | 4.355531  | 22674  | 4.294  |                 | Tamli           | "          | 4.388198              | 24445     | 4.630  |       |                 |
|                 | Sheralek            | "                     | 4.640343  | 43686  | 8.274  |                 | Lujnidhura      | No. 2      | 4.281332              | 19113     | 3.620  |       |                 |
| 1011            | Dhaji               | h.s.                  | 4.638749  | 43526  | 8.244  | 1023            | Lujnidhura      | No. 1 h.s. | 3.682896              | 4818      | 0.913  | "     |                 |
|                 | Thákiil             | h.s.                  | 4.244079  | 17542  | 3.322  |                 | Káimat          | No. 4      | 4.600659              | 39871     | 7.551  |       |                 |
|                 | Sheralek            | "                     | 4.763053  | 57950  | 10.975 |                 | Nil             | "          | 4.581563              | 38156     | 7.227  |       |                 |
| 1012            | Kanádeo             | h.s.                  | 4.551015  | 35564  | 6.736  | 1024            | Kanádeo         | h.s.       | 4.200218              | 15857     | 3.003  | "     |                 |
|                 | Jhum                | h.s.                  | 4.548783  | 35382  | 6.701  |                 | Nagarchula      | "          | 4.333361              | 21546     | 4.081  |       |                 |
|                 | Nagarchula          | h.s.                  | 4.675281  | 47346  | 8.967  |                 | Thúladanda      | "          | 4.548783              | 35382     | 6.701  |       |                 |
| 1013            | Thákiil             | h.s.                  | 4.551015  | 35564  | 6.736  | 1025            | Jhum            | h.s.       | 4.660058              | 45715     | 8.658  | "     |                 |
|                 | Jhum                | h.s.                  | 4.599225  | 39804  | 7.551  |                 | Nagarchula      | h.s.       | 4.530754              | 33946     | 6.429  |       |                 |
|                 | Nagarchula          | h.s.                  | 4.656103  | 45300  | 8.580  |                 | Kanádeo         | "          | 4.551015              | 35564     | 6.736  |       |                 |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                           | Corrected Plane Angle                            | Distance                                     |                         |                           | No. of Triangle | Station                       | Corrected Plane Angle                            | Distance                                     |                         |                           | No. of Triangle | Station                       | Corrected Plane Angle                            | Distance                                     |                         |                           | No. of Triangle | Station | Corrected Plane Angle | Distance  |      |       |
|-----------------|-----------------------------------|--------------------------------------------------|----------------------------------------------|-------------------------|---------------------------|-----------------|-------------------------------|--------------------------------------------------|----------------------------------------------|-------------------------|---------------------------|-----------------|-------------------------------|--------------------------------------------------|----------------------------------------------|-------------------------|---------------------------|-----------------|---------|-----------------------|-----------|------|-------|
|                 |                                   |                                                  | Log. feet                                    | Feet                    | Miles                     |                 |                               |                                                  | Log. feet                                    | Feet                    | Miles                     |                 |                               |                                                  | Log. feet                                    | Feet                    | Miles                     |                 |         |                       | Log. feet | Feet | Miles |
| 1026            | Thákił Jhum Sacholi               | h.s. 34 50 35<br>h.s. 82 20 29<br>h.s. 62 48 56  | 4° 46' 38.24<br>4° 70' 30.46<br>4° 65' 6.103 | 29095<br>50471<br>45300 | 5.511<br>9.559<br>8.580   | 12              | Lárikłk Dhaj Dharj            | h.s. 39 42 41<br>h.s. 100 56 2<br>h.s. 39 21 17  | 4° 44' 07.43<br>4° 62' 73.40<br>4° 43' 74.67 | 27589<br>42397<br>27382 | 5.225<br>8.030<br>5.186   | 1088            | Lárikłk Dhaj Dharj            | h.s. 39 42 41<br>h.s. 100 56 2<br>h.s. 39 21 17  | 4° 44' 07.43<br>4° 62' 73.40<br>4° 43' 74.67 | 27589<br>42397<br>27382 | 5.225<br>8.030<br>5.186   | 12              |         |                       |           |      |       |
| 1027            | Kanádeo Jhum Sacholi              | h.s. 29 05 4<br>h.s. 23 6 13<br>h.s. 127 52 53   | 4° 46' 38.24<br>4° 37' 17.72<br>4° 67' 3.281 | 29095<br>23338<br>47346 | 5.511<br>4.458<br>8.907   | "               | Thákił Dharj                  | h.s. 23 48 9<br>h.s. 98 14 4<br>h.s. 57 57 47    | 4° 44' 07.43<br>4° 83' 03.7<br>4° 76' 30.53  | 27589<br>67656<br>57950 | 5.225<br>12.814<br>10.975 | 1089            | Thákił Dharj                  | h.s. 23 48 9<br>h.s. 98 14 4<br>h.s. 57 57 47    | 4° 44' 07.43<br>4° 83' 03.7<br>4° 76' 30.53  | 27589<br>67656<br>57950 | 5.225<br>12.814<br>10.975 | 12              |         |                       |           |      |       |
| 1028            | Lamkiəhun Iriarikot Masurbio      | h.s. 19 36 12<br>h.s. 59 48 18<br>h.s. 100 35 30 | 4° 31' 40.48<br>4° 72' 50.21<br>4° 78' 08.84 | 20609<br>53091<br>60379 | 3.903<br>10.055<br>11.435 | "               | Dharj Thákił Deuli            | h.s. 19 20 33<br>h.s. 26 48 49<br>h.s. 133 41 38 | 4° 49' 44.79<br>4° 62' 54.07<br>4° 83' 03.07 | 31223<br>42209<br>67656 | 5.914<br>7.904<br>12.814  | 1040            | Dharj Thákił Deuli            | h.s. 19 20 33<br>h.s. 26 48 49<br>h.s. 133 41 38 | 4° 49' 44.79<br>4° 62' 54.07<br>4° 83' 03.07 | 31223<br>42209<br>67656 | 5.914<br>7.904<br>12.814  | 12              |         |                       |           |      |       |
| 1029            | Dhaj Iriarikot Masurbio           | h.s. 34 41 18<br>h.s. 76 35 18<br>h.s. 68 43 24  | 4° 31' 40.48<br>4° 54' 68.42<br>4° 52' 8.191 | 20609<br>35224<br>33744 | 3.903<br>6.671<br>6.391   | "               | Negarchula Thákił Deuli       | h.s. 33 24 41<br>h.s. 102 0 12<br>h.s. 44 35 7   | 4° 49' 44.79<br>4° 74' 40.05<br>4° 59' 99.25 | 31223<br>55403<br>39804 | 5.914<br>10.504<br>7.539  | 1041            | Negarchula Thákił Deuli       | h.s. 33 24 41<br>h.s. 102 0 12<br>h.s. 44 35 7   | 4° 49' 44.79<br>4° 74' 40.05<br>4° 59' 99.25 | 31223<br>55403<br>39804 | 5.914<br>10.504<br>7.539  | 12              |         |                       |           |      |       |
| 1080            | Masurbio Iriarikot Kamroli        | h.s. 54 14 35<br>h.s. 23 31 27<br>h.s. 102 13 56 | 4° 23' 31.13<br>3° 92' 3.143<br>4° 31' 40.48 | 17112<br>8417<br>20609  | 3.241<br>1.594<br>3.903   | "               | Deuli Thákił Bhamdona         | h.s. 45 30 17<br>h.s. 50 50 37<br>h.s. 83 39 6   | 4° 35' 04.28<br>4° 38' 66.90<br>4° 49' 44.79 | 22409<br>24361<br>31223 | 4.244<br>4.614<br>5.914   | 1042            | Deuli Thákił Bhamdona         | h.s. 45 30 17<br>h.s. 50 50 37<br>h.s. 83 39 6   | 4° 35' 04.28<br>4° 38' 66.90<br>4° 49' 44.79 | 22409<br>24361<br>31223 | 4.244<br>4.614<br>5.914   | 12              |         |                       |           |      |       |
| 1081            | Dhaj Iriarikot Kamroli            | h.s. 30 14 37<br>h.s. 53 3 51<br>h.s. 96 41 32   | 4° 23' 31.13<br>4° 43' 38.75<br>4° 52' 8.191 | 17112<br>27157<br>33744 | 3.241<br>5.143<br>6.391   | "               | Iriarikot Thákił Bhamdona     | h.s. 27 29 2<br>h.s. 35 3 51<br>h.s. 117 27 7    | 4° 35' 04.28<br>4° 44' 55.42<br>4° 63' 43.75 | 22409<br>27996<br>43090 | 4.244<br>5.283<br>8.101   | 1043            | Iriarikot Thákił Bhamdona     | h.s. 27 29 2<br>h.s. 35 3 51<br>h.s. 117 27 7    | 4° 35' 04.28<br>4° 44' 55.42<br>4° 63' 43.75 | 22409<br>27996<br>43090 | 4.244<br>5.283<br>8.101   | 12              |         |                       |           |      |       |
| 1082            | Dhaj Iriarikot Lori               | h.s. 71 16 39<br>h.s. 50 56 52<br>h.s. 57 46 29  | 4° 57' 23.1<br>4° 49' 10.24<br>4° 52' 8.191  | 37777<br>30076<br>33744 | 7.155<br>5.867<br>6.391   | "               | Lárikłk Dharj Titurtek        | h.s. 21 0 58<br>h.s. 38 36 47<br>h.s. 120 22 15  | 4° 24' 60.91<br>4° 48' 66.69<br>4° 62' 73.40 | 17623<br>30667<br>42397 | 3.338<br>5.808<br>8.030   | 1044            | Lárikłk Dharj Titurtek        | h.s. 21 0 58<br>h.s. 38 36 47<br>h.s. 120 22 15  | 4° 24' 60.91<br>4° 48' 66.69<br>4° 62' 73.40 | 17623<br>30667<br>42397 | 3.338<br>5.808<br>8.030   | 12              |         |                       |           |      |       |
| 1083            | Hania-ke-dhura Iriarikot Lori     | h.s. 43 29 54<br>h.s. 31 47 54<br>h.s. 104 42 12 | 4° 57' 23.1<br>4° 46' 11.85<br>4° 72' 49.72  | 37777<br>28919<br>53085 | 7.155<br>5.477<br>10.054  | 12              | Negarchula Deuli Dhian        | h.s. 7 35 53<br>h.s. 113 45 8<br>h.s. 58 38 59   | 3° 93' 38.52<br>4° 77' 41.08<br>4° 74' 40.05 | 8587<br>59444<br>55403  | 1.626<br>11.238<br>10.504 | 1045            | Negarchula Deuli Dhian        | h.s. 7 35 53<br>h.s. 113 45 8<br>h.s. 58 38 59   | 3° 93' 38.52<br>4° 77' 41.08<br>4° 74' 40.05 | 8587<br>59444<br>55403  | 1.626<br>11.238<br>10.504 | 12              |         |                       |           |      |       |
| 1084            | Kheparchula Hania-ke-dhura Jurung | h.s. 30 59 55<br>h.s. 68 54 40<br>h.s. 80 5 16   | 4° 28' 97.38<br>4° 54' 8.17<br>4° 57' 13.85  | 19487<br>35303<br>37272 | 3.691<br>6.686<br>7.059   | 12              | Dharj Deuli Dhian             | h.s. 11 32 22<br>h.s. 67 58 7<br>h.s. 100 29 31  | 3° 93' 38.52<br>4° 59' 97.99<br>4° 62' 54.07 | 8587<br>39792<br>42209  | 1.626<br>7.536<br>7.994   | 1046            | Dharj Deuli Dhian             | h.s. 11 32 22<br>h.s. 67 58 7<br>h.s. 100 29 31  | 3° 93' 38.52<br>4° 59' 97.99<br>4° 62' 54.07 | 8587<br>39792<br>42209  | 1.626<br>7.536<br>7.994   | 12              |         |                       |           |      |       |
| 1085            | Lori Hania-ke-dhura Jurung        | h.s. 42 4 27<br>h.s. 41 53 6<br>h.s. 96 2 27     | 4° 28' 97.38<br>4° 28' 6.45<br>4° 46' 11.85  | 19487<br>19415<br>28919 | 3.691<br>3.677<br>5.477   | 12              | Deuli Dhian Majackhána        | h.s. 53 1 37<br>h.s. 111 37 14<br>h.s. 15 21 9   | 4° 41' 35.07<br>4° 47' 93.22<br>3° 93' 38.52 | 25912<br>30132<br>8587  | 4.908<br>5.711<br>1.626   | 1047            | Deuli Dhian Majackhána        | h.s. 53 1 37<br>h.s. 111 37 14<br>h.s. 15 21 9   | 4° 41' 35.07<br>4° 47' 93.22<br>3° 93' 38.52 | 25912<br>30132<br>8587  | 4.908<br>5.711<br>1.626   | 12              |         |                       |           |      |       |
| 1086            | Dhaj Lori Lárikłk                 | h.s. 42 0 47<br>h.s. 59 52 57<br>h.s. 78 6 16    | 4° 32' 60.73<br>4° 43' 74.67<br>4° 49' 10.24 | 21187<br>27382<br>30976 | 4.013<br>5.186<br>5.867   | 12              | Kheparchula Jurung Ghanádhura | h.s. 67 37 30<br>h.s. 58 55 24<br>h.s. 54 13 44  | 4° 58' 11.07<br>4° 52' 00.8<br>4° 54' 78.17  | 38116<br>33114<br>35303 | 7.219<br>6.272<br>6.686   | 1048            | Kheparchula Jurung Ghanádhura | h.s. 67 37 30<br>h.s. 58 55 24<br>h.s. 54 13 44  | 4° 58' 11.07<br>4° 52' 00.8<br>4° 54' 78.17  | 38116<br>33114<br>35303 | 7.219<br>6.272<br>6.686   | 12              |         |                       |           |      |       |
| 1087            | Jurung Lori Lárikłk               | h.s. 44 29 5<br>h.s. 95 33 55<br>h.s. 39 57 0    | 4° 32' 60.73<br>4° 47' 84.77<br>4° 28' 6.45  | 21187<br>30094<br>19415 | 4.013<br>5.700<br>3.677   | "               | Lárikłk Jurung Ghanádhura     | h.s. 54 13 44<br>h.s. 39 50 10                   | 4° 58' 11.07<br>4° 47' 84.77                 | 38116<br>46800          | 7.219<br>8.875            | 1049            | Lárikłk Jurung Ghanádhura     | h.s. 54 13 44<br>h.s. 39 50 10                   | 4° 58' 11.07<br>4° 47' 84.77                 | 38116<br>46800          | 7.219<br>8.875            | "               |         |                       |           |      |       |

\* Deduced base.

| No. of Triangle | Station     | Corrected Plane Angle | Distance  |          |       | No. of Triangle | Station       | Corrected Plane Angle | Distance  |          |       | Theodolite |
|-----------------|-------------|-----------------------|-----------|----------|-------|-----------------|---------------|-----------------------|-----------|----------|-------|------------|
|                 |             |                       | Log. feet | Feet     | Miles |                 |               |                       | Log. feet | Feet     | Miles |            |
| 1050            | Jurung      | h.s.                  | 4 531888  | 34932    | 6.445 | 1062            | Minthamb      | h.s.                  | 4 132141  | 13556    | 2.567 | Inch 7     |
|                 | Larilek     | "                     | 4 084337  | 48343    | 9.150 |                 | Pokridhura    | "                     | 4 312906  | 20559    | 3.894 |            |
|                 | Pathar      | "                     | 38 5 34   | 4 478477 | 30094 |                 | 5.700         | Khausa                | "         | 4 222284 | 16083 |            |
| 1051            | Ghanadhura  | h.s.                  | 46 34 23  | 4 531888 | 34032 | 6.445           | Jagesar       | h.s.                  | 43 30 31  | 4 505809 | 32049 | 6.070      |
|                 | Larilek     | "                     | 43 26 16  | 4 508115 | 32219 | 6.102           | Bashikanag    | h.s.                  | 48 31 26  | 4 542545 | 34877 | 6.066      |
|                 | Pathar      | "                     | 89 59 21  | 4 670801 | 46860 | 8.875           | Kaudi         | "                     | 87 58 3   | 4 667655 | 46522 | 8.811      |
| 1052            | Pathar      | h.s.                  | 68 44 6   | 4 546257 | 35177 | 6.662           | Lamkishun     | h.s.                  | 65 40 31  | 4 505809 | 32049 | 6.070      |
|                 | Ghanadhura  | "                     | 52 39 51  | 4 477301 | 30012 | 5.684           | Bashikanag    | "                     | 32 32 29  | 4 276892 | 18919 | 3.583      |
|                 | Minthamb    | "                     | 58 30 3   | 4 508115 | 32219 | 6.102           | Kaudi         | "                     | 81 47 0   | 4 541702 | 34810 | 6.593      |
| 1053            | Larilek     | h.s.                  | 33 28 31  | 4 546257 | 35177 | 6.662           | Lamkishun     | h.s.                  | 74 21 38  | 4 344821 | 22122 | 4.190      |
|                 | Ghanadhura  | "                     | 99 14 14  | 4 798982 | 62948 | 11.922          | Kaudi         | "                     | 50 11 54  | 4 240716 | 17649 | 3.343      |
|                 | Minthamb    | "                     | 47 17 15  | 4 670801 | 46860 | 8.875           | Kol           | "                     | 55 26 28  | 4 276892 | 18919 | 3.583      |
| 1054            | Pathar      | h.s.                  | 33 45 42  | 4 222284 | 16683 | 3.160           | Balkot        | h.s.                  | 4 344821  | 22122    | 4.190 |            |
|                 | Minthamb    | "                     | 57 32 19  | 4 403628 | 25350 | 4.797           | Kandi         | "                     | 83 15 33  | 4 689891 | 48966 | 9.274      |
|                 | Pokridhura  | "                     | 88 41 59  | 4 477301 | 30012 | 5.684           | Kol           | "                     | 70 4 59   | 4 666118 | 46557 | 8.780      |
| 1055            | Larilek     | h.s.                  | 48 45 42  | 4 654056 | 45088 | 8.539           | Hania-kadhura | h.s.                  | 18 8 21   | 4 197621 | 15762 | 2.985      |
|                 | Ghanadhura  | "                     | 79 50 14  | 4 770986 | 59018 | 11.178          | Khamlek       | h.s.                  | 103 31 33 | 4 692190 | 49225 | 9.323      |
|                 | Pokridhura  | "                     | 51 24 4   | 4 670801 | 46860 | 8.875           | Harehandeo    | h.s.                  | 58 20 6   | 4 634402 | 43093 | 8.161      |
| 1056            | Khaparchula | h.s.                  | 38 46 27  | 4 336976 | 21726 | 4.115           | Lamkishun     | h.s.                  | 4 197621  | 15762    | 2.985 |            |
|                 | Ghanadhura  | "                     | 33 52 40  | 4 286412 | 19338 | 3.663           | Khamlek       | h.s.                  | 34 1 37   | 4 547937 | 35313 | 6.688      |
|                 | Sujanbonga  | "                     | 107 20 53 | 4 520008 | 33114 | 6.272           | Harehandeo    | h.s.                  | 131 30 32 | 4 674470 | 47257 | 8.950      |
| 1057            | Sujanbonga  | h.s.                  | 52 58 12  | 4 393350 | 24749 | 4.687           | Khamlek       | h.s.                  | 17 3 11   | 4 354973 | 22645 | 4.289      |
|                 | Ghanadhura  | "                     | 82 32 15  | 4 487078 | 30738 | 5.822           | Lamkishun     | h.s.                  | 20 40 50  | 4 435693 | 27270 | 5.165      |
|                 | Dhapadhura  | "                     | 44 29 33  | 4 330976 | 21726 | 4.115           | Shaulkul      | h.s.                  | 142 15 59 | 4 674470 | 47257 | 8.950      |
| 1058            | Minthamb    | h.s.                  | 44 42 41  | 4 393350 | 24749 | 4.687           | Masurbio      | h.s.                  | 19 37 8   | 4 354973 | 22645 | 4.289      |
|                 | Ghanadhura  | "                     | 45 35 17  | 4 400160 | 25128 | 4.759           | Lamkishun     | "                     | 108 27 27 | 4 860600 | 63974 | 12.116     |
|                 | Dhapadhura  | "                     | 89 42 2   | 4 546257 | 35177 | 6.662           | Shaulkul      | "                     | 51 55 25  | 4 725021 | 53091 | 10.055     |
| 1059            | Sujanbonga  | h.s.                  | 38 10 14  | 4 300927 | 19995 | 3.787           | Punya         | h.s.                  | 4 553216  | 35745    | 6.770 |            |
|                 | Dhapadhura  | "                     | 70 0 59   | 4 482966 | 30406 | 5.759           | Balchandaanda | "                     | 64 59 40  | 4 657067 | 45401 | 8.599      |
|                 | Thakala     | "                     | 71 48 47  | 4 487678 | 30738 | 5.822           | Lahadhura     | "                     | 69 29 1   | 4 671352 | 46919 | 8.886      |
| 1060            | Thakala     | h.s.                  | 29 33 31  | 4 250458 | 17802 | 3.372           | Haglanu       | h.s.                  | 32 30 43  | 4 553216 | 35745 | 6.770      |
|                 | Sujanbonga  | "                     | 27 51 33  | 4 226930 | 16863 | 3.194           | Balchandaanda | "                     | 71 51 22  | 4 860768 | 63199 | 11.969     |
|                 | Dhamngion   | "                     | 122 34 56 | 4 482966 | 30406 | 5.759           | Lahadhura     | "                     | 75 37 55  | 4 869057 | 64425 | 12.202     |
| 1061            | Dhapadhura  | h.s.                  | 34 51 0   | 4 250458 | 17802 | 3.372           | Haglanu       | h.s.                  | 37 46 7   | 4 592005 | 39085 | 7.402      |
|                 | Sujanbonga  | "                     | 79 17 13  | 4 482966 | 30738 | 5.822           | Lahadhura     | "                     | 60 11 45  | 4 743302 | 55373 | 10.487     |
|                 | Dhamngion   | "                     | 79 17 13  | 4 482966 | 30738 | 5.822           | Dhaakuri      | "                     | 82 2 8    | 4 860768 | 63199 | 11.969     |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station        | Corrected Plane Angle |              |       | Distance  |        |       | Theodolite used |
|-----------------|----------------|-----------------------|--------------|-------|-----------|--------|-------|-----------------|
|                 |                | °                     | '            | "     | Log. feet | Feet   | Miles |                 |
| 1074            | Hagdann        | 70 16 50              | 4 8 10 46    | 69350 | 13 134    | 10 201 | Inch  |                 |
|                 | Balchandānda   | 48 43 57              | 4 7 43 30 2  | 55373 | 10 487    | 2 505  | 12    |                 |
|                 | Daukuri        | 60 59 13              | 4 8 09 57    | 64435 | 12 202    | 9 435  | "     |                 |
| 1075            | Shikāni        | 3 42 7                | 4 8 10 46    | 69350 | 13 134    | 10 201 | Inch  |                 |
|                 | Balchandānda   | 16 27 52              | 4 5 38 13 1  | 34525 | 6 539     | 4 894  | "     |                 |
|                 | Daukuri        | 128 50 1              | 4 9 77 22 1  | 94895 | 17 972    | 9 435  | "     |                 |
| 1076            | Lahūrdhura     | 56 9 46               | 4 5 64 12 2  | 36654 | 6 942     | 4 894  | "     |                 |
|                 | Daukuri        | 6 10 31               | 3 6 76 40 1  | 4777  | 0 899     | 6 925  | "     |                 |
|                 | Kurmuria       | 117 39 43             | 4 5 92 00 5  | 39085 | 7 402     | 10 004 | "     |                 |
| 1077            | Hagdann        | 34 2 32               | 4 5 64 12 2  | 36654 | 6 942     | 4 894  | "     |                 |
|                 | Daukuri        | 88 12 39              | 4 8 15 87 4  | 65445 | 12 395    | 5 357  | "     |                 |
|                 | Kurmuria       | 57 44 49              | 4 7 43 30 2  | 55373 | 10 487    | 6 925  | "     |                 |
| 1078            | Lahūrdhura     | 44 13 58              | 4 3 97 38 4  | 24968 | 4 729     | 5 295  | "     |                 |
|                 | Balchandānda   | 48 43 9               | 4 4 29 13    | 26868 | 5 094     | 6 925  | "     |                 |
|                 | Danehar        | 87 2 53               | 4 5 53 21 6  | 35745 | 6 779     | 6 925  | "     |                 |
| 1079            | Hūm            | 31 10 2               | 4 3 97 38 4  | 24968 | 4 729     | 5 295  | "     |                 |
|                 | Balchandānda   | 69 22 32              | 4 6 54 07 5  | 45152 | 8 551     | 6 925  | "     |                 |
|                 | Danehar        | 79 27 26              | 4 6 76 04 8  | 47429 | 8 983     | 6 925  | "     |                 |
| 1080            | Balchandānda   | 49 17 49              | 4 4 37 25 6  | 27369 | 5 185     | 5 295  | "     |                 |
|                 | Lahūrdhura     | 32 38 27              | 4 2 89 41 8  | 19472 | 3 688     | 3 415  | "     |                 |
|                 | Chotri         | 98 3 44               | 4 5 53 21 6  | 35745 | 6 770     | 6 925  | "     |                 |
| 1081            | Kurmuria       | 10 10 19              | 3 7 40 31 4  | 5499  | 1 042     | 6 641  | "     |                 |
|                 | Danehar        | 96 42 10              | 4 4 90 33 8  | 30927 | 5 857     | 8 229  | "     |                 |
|                 | Chotri         | 73 7 31               | 4 4 74 50 2  | 29799 | 5 644     | 4 894  | "     |                 |
| 1082            | Lahūrdhura     | 46 19 29              | 4 2 42 71 9  | 17487 | 3 312     | 6 641  | "     |                 |
|                 | Kurmuria       | 122 21 10             | 4 3 10 15 9  | 20425 | 3 868     | 2 933  | "     |                 |
|                 | Supt           | 11 19 21              | 3 6 76 41 0  | 4747  | 0 899     | 6 925  | "     |                 |
| 1083            | Shikāni        | 30 15 50              | 4 3 96 8 4 4 | 24937 | 4 723     | 3 828  | "     |                 |
|                 | Daukuri        | 13 59 0               | 4 0 77 59 6  | 11956 | 2 264     | 3 702  | "     |                 |
|                 | Khari          | 135 45 10             | 4 5 58 13 1  | 34525 | 6 539     | 2 933  | "     |                 |
| 1084            | Khamlek        | 10 34 6               | 4 2 56 57 9  | 18054 | 3 410     | 3 828  | "     |                 |
|                 | Khaparchhula   | 19 50 0               | 4 5 23 72 5  | 33368 | 6 335     | 5 035  | "     |                 |
|                 | Simalāthā      | 149 35 54             | 4 6 97 36 1  | 49815 | 9 435     | 3 422  | "     |                 |
| 1085            | Khaparchhula   | 34 16 46              | 4 3 22 93 7  | 21055 | 3 984     | 6 352  | "     |                 |
|                 | Hānīn-ka-dhura | 86 22 57              | 4 5 06 84 6  | 32135 | 6 084     | 5 012  | "     |                 |
|                 | Hānchāti       |                       | 4 5 71 38 5  | 37272 | 7 059     | 2 933  | "     |                 |

\* Deduced base. † Not known.

| No. of Triangle | Station                                   | Corrected Plane Angle | Distance                         |                         |                           | No. of Triangle used | Station                         | Corrected Plane Angle | Distance                         |                         |                          | No. of Triangle |
|-----------------|-------------------------------------------|-----------------------|----------------------------------|-------------------------|---------------------------|----------------------|---------------------------------|-----------------------|----------------------------------|-------------------------|--------------------------|-----------------|
|                 |                                           |                       | Log. feet                        | Feet                    | Miles                     |                      |                                 |                       | Log. feet                        | Feet                    | Miles                    |                 |
| 1098            | Khaparchula<br>Balchandanda<br>Dakhol     | h.s.<br>" "<br>" "    | 4 518669<br>4 581434<br>4 722820 | 33012<br>71059<br>52823 | 6.252<br>13.452<br>10.004 | 1110                 | Litla<br>Danghar<br>Girgaon     | h.s.<br>" "<br>" "    | 4 240788<br>4 588225<br>4 606879 | 17410<br>38746<br>40446 | 3.297<br>7.338<br>7.600  | 1110            |
| 1099            | Khaparchula<br>Hania-ka-dhura<br>Pipaltar | h.s.<br>" "<br>" "    | 4 159595<br>4 664640<br>4 571385 | 14441<br>46200<br>37272 | 2.735<br>8.750<br>7.059   | 1111                 | Punya<br>Athausi<br>Dhousi      | h.s.<br>" "<br>" "    | 4 355988<br>4 733971<br>4 655804 | 22698<br>54196<br>45269 | 4.299<br>10.264<br>8.574 | 1111            |
| 1100            | Khamlek<br>Khaparchula<br>Kot             | h.s.<br>" "<br>" "    | 4 829354<br>4 663733<br>4 697361 | 67508<br>46103<br>49815 | 12.786<br>8.732<br>9.435  | 1112                 | Baidhar<br>Deolakt<br>Tomik     | h.s.<br>" "<br>" "    | 4 305956<br>4 241750<br>4 149308 | 20228<br>17448<br>14103 | 3.831<br>3.305<br>2.871  | 1112            |
| 1101            | Balchandanda<br>Hum<br>Bhanis             | h.s.<br>" "<br>" "    | 4 390937<br>4 527604<br>4 676048 | 24600<br>33698<br>47429 | 4.659<br>6.382<br>8.983   | 1113                 | Hum<br>Golpha<br>Tomik          | h.s.<br>" "<br>" "    | 4 303691<br>4 438134<br>4 662646 | 20123<br>27424<br>45988 | 3.811<br>5.194<br>8.710  | 1113            |
| 1102            | Hum<br>Bhanis<br>Dobadhar                 | h.s.<br>" "<br>" "    | 4 579649<br>4 415764<br>4 390937 | 37988<br>26047<br>24600 | 7.195<br>4.933<br>4.659   | 1114                 | Baidhar<br>Dandadhar<br>Jalth   | h.s.<br>" "<br>" "    | 4 079070<br>4 223721<br>4 165981 | 11997<br>16739<br>14655 | 2.272<br>3.170<br>2.776  | 1114            |
| 1108            | Hum<br>Bhanis<br>Baidhar                  | h.s.<br>" "<br>" "    | 4 564129<br>4 422046<br>4 390937 | 36655<br>26477<br>24600 | 6.942<br>5.005<br>4.659   | 1115                 | Dandadhar<br>Jalth<br>Kaithani  | h.s.<br>" "<br>" "    | 3 877897<br>4 276799<br>4 079070 | 7549<br>18915<br>11997  | 1.430<br>3.582<br>2.272  | 1115            |
| 1104            | Baidhar<br>Bhanis<br>Deolakt              | h.s.<br>" "<br>" "    | 4 428939<br>4 149308<br>4 564129 | 26850<br>14103<br>36655 | 5.085<br>2.671<br>6.942   | 1116                 | Jalth<br>Dandadhar<br>Uchheti   | h.s.<br>" "<br>No. 1  | 4 155764<br>3 753882<br>4 079070 | 14314<br>5974<br>11997  | 2.711<br>1.075<br>2.272  | 1116            |
| 1105            | Dobadhar<br>Bhanis<br>Deolakt             | h.s.<br>" "<br>" "    | 4 428939<br>4 147148<br>4 579649 | 26850<br>14033<br>37988 | 5.085<br>2.658<br>7.195   | 1117                 | Baidhar<br>Dandadhar<br>Uchheti | h.s.<br>" "<br>No. 1  | 3 922376<br>4 100733<br>4 079070 | 8363<br>12611<br>11997  | 1.584<br>2.388<br>2.272  | 1117            |
| 1106            | Dobadhar<br>Deolakt<br>Kotalgaon          | h.s.<br>" "<br>" "    | 3 713205<br>4 000039<br>4 147148 | 5167<br>10001<br>14033  | 0.979<br>1.894<br>2.658   | 1118                 | Dandadhar<br>Jalth<br>Uchheti   | h.s.<br>" "<br>No. 2  | 3 841513<br>4 117605<br>4 079070 | 6942<br>13110<br>11997  | 1.315<br>2.483<br>2.272  | 1118            |
| 1107            | Baidhar<br>Deolakt<br>Kotalgaon           | h.s.<br>" "<br>" "    | 3 713205<br>4 033668<br>4 149308 | 5167<br>10806<br>14103  | 0.979<br>2.047<br>2.671   | 1119                 | Dandadhar<br>Jalth<br>Uchheti   | h.s.<br>" "<br>No. 3  | 3 841513<br>4 388807<br>3 753882 | 6942<br>2446<br>5074    | 1.315<br>0.465<br>1.075  | 1119            |
| 1108            | Dobadhar<br>Deolakt<br>Dandadhar          | h.s.<br>" "<br>" "    | 3 928995<br>4 203137<br>4 147148 | 8492<br>15964<br>14033  | 1.608<br>3.023<br>2.658   | 1120                 | Uchheti<br>Jalth<br>Uchheti     | h.s.<br>" "<br>No. 3  | 3 841513<br>4 388807<br>3 753882 | 6942<br>2446<br>5074    | 1.315<br>0.465<br>1.075  | 1120            |
| 1109            | Baidhar<br>Deolakt<br>Dandadhar           | h.s.<br>" "<br>" "    | 3 928995<br>4 165981<br>4 149308 | 8492<br>14055<br>14103  | 1.608<br>2.776<br>2.671   | 1121                 | Tomik<br>Deolakt<br>Forehala    | h.s.<br>" "<br>" "    | 4 220004<br>4 220004<br>4 305956 | 17661<br>16634<br>20228 | 3.231<br>3.231<br>3.831  | 1121            |

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SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                          | Corrected Plane Angle | Distance                         |                                  |                         | No. of Triangle           | Station | Corrected Plane Angle                           | Distance           |                                  |                                  | No. of Triangle         | Station                 | Corrected Plane Angle | Distance  |      |       | Theodolite used |
|-----------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|-------------------------|---------------------------|---------|-------------------------------------------------|--------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------------|-----------|------|-------|-----------------|
|                 |                                  |                       | Log. feet                        | Feet                             | Miles                   |                           |         |                                                 | Log. feet          | Feet                             | Miles                            |                         |                         |                       | Log. feet | Feet | Miles |                 |
| 1122            | Dobadhár<br>Deolakot<br>Porchula | h.s.<br>" "<br>" "    | 44 46 24<br>99 49 31<br>35 24 5  | 4 232004<br>4 377827<br>4 147148 | 17061<br>23869<br>4033  | 3 231<br>4 531<br>2 658   | 1184    | Birjeganj<br>Martoli<br>Martoli                 | h.s.<br>" "<br>" " | 33 57 50<br>48 32 25             | 4 031961<br>4 281078<br>4 159531 | 10764<br>19102<br>14439 | 2 039<br>3 618<br>2 735 | "                     | 12        | Inch |       |                 |
| 1123            | Tomik<br>Porchula<br>Goipua      | h.s.<br>" "<br>" "    | 22 47 30<br>54 7 3               | 4 300948<br>3 900323<br>4 220967 | 19906<br>7933<br>16634  | 3 787<br>1 506<br>3 150   | 1135    | Birjeganj<br>Rálam<br>Naichu-ka-dhura           | h.s.<br>" "<br>" " | 119 8 36<br>16 24 21             | 4 399344<br>4 303411<br>3 909053 | 25081<br>20110<br>8111  | 4 750<br>3 809<br>1 536 | "                     | "         | "    |       |                 |
| 1124            | Ahánsi<br>Dhúndhár               | h.s.<br>" "           | 62 20 43<br>103 57 46            | 3 743214<br>4 316330             | 5536<br>20717           | 1 049<br>3 924            | 1186    | Rálam<br>Naichu-ka-dhura                        | h.s.<br>" "        | 41 13 49                         | 4 399344<br>4 552602<br>4 259335 | 25081<br>35702<br>18169 | 4 750<br>6 762<br>3 441 | "                     | "         | "    |       |                 |
| 1125            | Dobadhár<br>Deolakot<br>Bhowara  | h.s.<br>" "<br>" "    | 29 16 54<br>120 33 59            | 3 913083<br>3 901525             | 8186<br>7971            | 1 550<br>1 510            | 1187    | Rálam<br>Martoli<br>Bampassia                   | h.s.<br>" "<br>" " | 38 15 7<br>109 32 8<br>32 12 45  | 4 416580<br>4 599056<br>4 351581 | 26096<br>39724<br>22469 | 4 942<br>7 524<br>4 255 | "                     | "         | "    |       |                 |
| 1126            | Deolakot<br>Dobadhár<br>Wolthi   | h.s.<br>" "<br>" "    | 27 55 32<br>50 28 24<br>101 36 4 | 3 826658<br>4 043351<br>4 147148 | 6709<br>11050<br>14033  | 1 271<br>2 093<br>2 658   | 1188    | Martoli<br>Bampassia<br>Mápa-ka-dhura Hill Mark | h.s.<br>" "<br>" " | 52 21 17<br>54 40 58             | 4 334690<br>4 347741<br>4 416580 | 21612<br>22271<br>26096 | 4 093<br>4 218<br>4 942 | "                     | "         | "    |       |                 |
| 1127            | Bhowara<br>Dobadhár<br>Wolthi    | h.s.<br>" "<br>" "    | 54 12 36<br>105 28 7             | 3 826658<br>3 458236             | 6709<br>2872            | 1 271<br>0 544            | 1189    | Martoli<br>Bampassia<br>Paunchlu-ka-dhura       | h.s.<br>" "<br>" " | 34 17 56<br>103 32 46<br>42 9 18 | 4 340669<br>4 577515<br>4 416580 | 21911<br>37802<br>26096 | 4 150<br>7 159<br>4 942 | "                     | "         | "    |       |                 |
| 1128            | Punya<br>Ahánsi<br>Rálam         | h.s.<br>" "<br>" "    | 51 7 16<br>90 59 17<br>37 53 27  | 4 758768<br>4 867459<br>4 65804  | 57381<br>73699<br>45269 | 10 868<br>13 958<br>8 574 | 1140    | Bampassia<br>Paunchlu-ka-dhura<br>Milam         | h.s.<br>" "<br>" " | 42 27 2<br>93 12 36<br>44 20 22  | 4 335533<br>4 495597<br>4 340669 | 21160<br>31302<br>21911 | 4 008<br>5 928<br>4 150 | "                     | "         | "    |       |                 |
| 1129            | Ahánsi<br>Rálam<br>Laspa         | h.s.<br>" "<br>" "    | 18 25 36<br>74 57 12<br>80 37 12 | 4 259335<br>4 743373<br>4 758768 | 18169<br>55510<br>57381 | 3 441<br>10 513<br>10 868 | 1141    | Bampassia<br>Paunchlu-ka-dhura<br>Milam         | h.s.<br>" "<br>" " | 36 52 16<br>85 55 26<br>57 12 18 | 4 194236<br>4 414973<br>4 340669 | 15640<br>26000<br>21911 | 2 962<br>4 924<br>4 150 | "                     | "         | "    |       |                 |
| 1130            | Rálam<br>Laspa<br>Martoli        | h.s.<br>" "<br>" "    | 59 19 56<br>70 51 24<br>49 48 40 | 4 310856<br>4 351581<br>4 259335 | 20458<br>22469<br>18169 | 3 875<br>4 255<br>3 441   | 1142    | Milam<br>Mápa-ka-dhura Hill Mark<br>Rauikot     | h.s.<br>" "<br>" " | 151 47 21                        | 4 306557<br>4 122521<br>4 512540 | 20256<br>13259<br>32550 | 3 836<br>2 511<br>6 165 | "                     | "         | "    |       |                 |
| 1131            | Rálam<br>Laspa<br>Birjeganj      | h.s.<br>" "<br>" "    | 65 47 58<br>26 29 23<br>87 42 39 | 4 219732<br>3 909053<br>4 259335 | 16586<br>8111<br>18169  | 3 141<br>1 536<br>3 441   | 1143    | Martoli<br>Mápa-ka-dhura Hill Mark<br>Rauikot   | h.s.<br>" "<br>" " | 34 24 30                         | 4 306557<br>4 554082<br>4 347741 | 20256<br>35816<br>22271 | 3 836<br>6 783<br>4 218 | "                     | "         | "    |       |                 |
| 1132            | Martoli<br>Laspa<br>Birjeganj    | h.s.<br>" "<br>" "    | 44 22 1<br>82 11 40              | 4 219732<br>4 159531             | 16586<br>14439          | 3 141<br>2 735            | 1144    | Milam<br>Paunchlu-ka-dhura<br>Samgong           | h.s.<br>" "<br>" " | 115 57 48<br>28 7 37<br>35 54 35 | 4 379756<br>4 099375<br>4 194236 | 23975<br>12571<br>15640 | 4 541<br>2 381<br>2 962 | "                     | "         | "    |       |                 |
| 1133            | Rálam<br>Martoli<br>Martoli      | h.s.<br>" "<br>" "    | 23 16 53<br>101 7 24<br>55 35 43 | 4 031061<br>4 426856<br>4 351581 | 10764<br>26721<br>22469 | 2 039<br>5 061<br>4 255   | 1145    | Milam<br>Paunchlu-ka-dhura<br>Samgong           | h.s.<br>" "<br>" " | 83 20 42<br>35 24 47<br>61 14 31 | 4 379756<br>4 145721<br>4 325523 | 23975<br>13697<br>21160 | 4 541<br>2 649<br>4 008 | "                     | "         | "    |       |                 |

\* Deduced base.

| No. of Triangle | Station                                    | Corrected Plane Angle<br>° ' " | Distance                                     |                                 |                         | Theodolite used | No. of Triangle                            | Station                      | Corrected Plane Angle<br>° ' "    | Distance                         |                         |                         | Theodolite used |
|-----------------|--------------------------------------------|--------------------------------|----------------------------------------------|---------------------------------|-------------------------|-----------------|--------------------------------------------|------------------------------|-----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------|
|                 |                                            |                                | Log. feet                                    | Feet                            | Miles                   |                 |                                            |                              |                                   | Log. feet                        | Feet                    | Miles                   |                 |
| 1146            | Sangong<br>Milam<br>Milam                  | h.s.<br>No. 2<br>" s.          | 3.816913<br>4.164575<br>4.099375             | 6560<br>14507<br>12571          | 1.242<br>2.748<br>2.381 | 1158            | Bamlás<br>Bamlás<br>Bamlás                 | No. 2 h.s.<br>No. 3<br>No. 4 | 59 7 56<br>89 35 12               | 3.679129<br>3.897429<br>3.963751 | 4777<br>7896<br>9199    | 0.905<br>1.496<br>1.742 |                 |
| 1147            | Ránikot<br>Milam<br>Milam                  | h.s.<br>No. 2<br>" s.          | 3.816913<br>3.838809<br>4.122321             | 6560<br>6899<br>13259           | 1.242<br>1.307<br>2.511 | 1159            | Shillong<br>Bamlás<br>Bamlás               | No. 1 h.s.<br>No. 5<br>No. 5 | 27 21 33<br>105 16 10<br>47 22 17 | 4.050558<br>4.372601<br>4.254945 | 11235<br>23583<br>17986 | 2.128<br>4.466<br>3.407 |                 |
| 1148            | Milam<br>Shillong                          | No. 1 h.s.<br>" "              | 4.426163<br>4.359311                         | 26679<br>22872                  | 5.053<br>4.332          | 1160            | Bamlás<br>Bamlás<br>Bamlás                 | No. 2 h.s.<br>No. 3<br>No. 5 | 66 4 24<br>65 28 9<br>48 27 27    | 4.050558<br>4.048497<br>3.963751 | 11235<br>11181<br>9199  | 2.128<br>2.118<br>1.742 |                 |
| 1149            | Sangong<br>Milam<br>Shillong               | h.s.<br>No. 1<br>No. 2         | 4.273133<br>4.238909<br>4.145721             | 18756<br>17337<br>13987         | 3.552<br>3.283<br>2.649 | 1161            | Bamlás<br>Bamlás<br>Kianguir               | No. 3 h.s.<br>No. 5<br>"     | 70 52 17<br>83 57 32<br>25 9 51   | 4.397284<br>4.49537<br>4.050558  | 24962<br>26275<br>11235 | 4.728<br>4.976<br>2.128 |                 |
| 1150            | Shillong<br>Milam<br>Shillong              | No. 1 h.s.<br>No. 1<br>No. 2   | 4.273133<br>4.027393<br>4.359311             | 18756<br>10651<br>22872         | 3.552<br>2.017<br>4.332 | 1162            | Bamlás<br>Kianguir<br>Chitichu             | No. 5 h.s.<br>" "<br>No. 1   | 93 35 12<br>35 55 31<br>50 49 17  | 4.507030<br>4.272811<br>4.397284 | 32139<br>18742<br>24962 | 6.087<br>3.550<br>4.728 |                 |
| 1151            | Shillong<br>Shillong<br>Buldanga           | No. 1 h.s.<br>No. 2<br>"       | 3.798534<br>3.009241<br>4.31564              | 6288<br>8114<br>10651           | 1.191<br>1.537<br>2.017 | 1163            | Bamlás<br>Chitichu<br>Kungri Bingri        | No. 5 h.s.<br>No. 1<br>"     | 45 43 0<br>87 47 36<br>46 29 34   | 4.267150<br>4.411958<br>4.272811 | 18499<br>25821<br>18742 | 3.504<br>4.890<br>3.550 |                 |
| 1152            | Shillong<br>Shillong<br>Bamlás             | No. 2 h.s.<br>No. 1<br>No. 2   | 4.093614<br>4.093614<br>4.328040             | 12495<br>21283<br>10651         | 2.350<br>4.031<br>2.017 | 1164            | Chitichu<br>Kungri Bingri<br>Chanambaniali | No. 1 h.s.<br>" "<br>No. 1   | 90 57 39<br>58 22 24<br>30 39 57  | 4.559494<br>4.469731<br>4.267150 | 36265<br>36884<br>18499 | 6.868<br>5.849<br>3.504 |                 |
| 1153            | Buldanga<br>Shillong<br>Shillong<br>Bamlás | h.s.<br>No. 1<br>No. 2         | 4.093614<br>4.093614<br>4.198746<br>3.909241 | 12495<br>21283<br>15803<br>8114 | 2.350<br>2.993<br>1.537 | 1165            | Chanambaniali<br>Kungri Bingri<br>Chitichu | No. 1 h.s.<br>" "<br>No. 2   | 30 50 27<br>30 16 35<br>118 52 58 | 4.327008<br>4.319761<br>4.559494 | 21233<br>26881<br>36265 | 4.021<br>3.955<br>6.868 |                 |
| 1154            | Sangong<br>Shillong<br>Sitpáni             | h.s.<br>No. 2<br>"             | 3.696346<br>4.334226<br>4.338969             | 4970<br>21589<br>17337          | 0.941<br>3.189<br>3.283 | 1166            | Chitichu<br>Kungri Bingri<br>Chitichu      | No. 1 h.s.<br>No. 2<br>No. 2 | 49 42 17<br>88 38 59<br>41 38 44  | 4.327008<br>4.444521<br>4.267150 | 21233<br>27831<br>18499 | 4.021<br>5.271<br>3.504 |                 |
| 1155            | Bamlás<br>Shillong<br>Sitpáni              | No. 2 h.s.<br>No. 2<br>"       | 3.696346<br>4.226342<br>4.328040             | 4970<br>16840<br>21283          | 0.941<br>3.189<br>4.031 | 1167            | Chanambaniali<br>Chitichu<br>Chaidu        | No. 1 h.s.<br>No. 2<br>No. 1 | 57 1 17<br>90 51 58<br>32 6 45    | 4.517887<br>4.594140<br>4.319761 | 32952<br>39277<br>26881 | 6.241<br>7.439<br>3.955 |                 |
| 1156            | Shillong<br>Bamlás<br>Bamlás               | No. 2 h.s.<br>No. 1<br>No. 3   | 4.254945<br>3.063731<br>4.093614             | 17986<br>9199<br>12495          | 3.407<br>1.742<br>2.350 | 1168            | Kungri Bingri<br>Chanambaniali<br>Chaidu   | h.s.<br>No. 1<br>No. 2       | 52 50 11<br>54 7 26               | 4.480217<br>4.87444<br>4.559494  | 30215<br>30732<br>36265 | 5.722<br>5.818<br>6.868 |                 |
| 1157            | Buldanga<br>Shillong<br>Bamlás             | h.s.<br>No. 1<br>No. 3         | 4.254945<br>3.063731<br>4.093614             | 17986<br>9199<br>12495          | 3.407<br>1.742<br>2.350 | 1169            | Chaidu<br>Chanambaniali<br>Chaidu          | No. 1 h.s.<br>No. 1<br>No. 2 | 49 51 35<br>49 51 35<br>96 24 7   | 4.480217<br>4.319761<br>4.594140 | 30215<br>26881<br>39277 | 5.722<br>4.157<br>7.439 |                 |



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                  | Corrected Plane Angle   | Distance                        |                                  |                         | No. of Triangle         | Station | Corrected Plane Angle                   | Distance                             |                       |                                  | No. of Triangle         | Station                   | Corrected Plane Angle | Distance                          |                                      |                      | No. of Triangle                  | Station                 | Corrected Plane Angle     | Distance |                                   |                                      | No. of Triangle      | Station                          | Corrected Plane Angle   | Distance                  |      |                            | No. of Triangle                      | Station                        | Corrected Plane Angle            | Distance                |                         |       | No. of Triangle              | Station                              | Corrected Plane Angle             | Distance                         |                         |                         | No. of Triangle | Station                        | Corrected Plane Angle                | Distance                         |                                  |                         |                         |      |                                |                                      |                                  |                                  |                         |                         |      |                               |                          |                                 |                                  |                         |                          |      |                               |                          |                                |                                  |                         |                          |      |                                 |                                      |                                  |                                  |                         |                         |      |                                 |                                      |                                  |                                  |                         |                         |      |                              |                                      |                                  |                                  |                         |                          |
|-----------------|--------------------------|-------------------------|---------------------------------|----------------------------------|-------------------------|-------------------------|---------|-----------------------------------------|--------------------------------------|-----------------------|----------------------------------|-------------------------|---------------------------|-----------------------|-----------------------------------|--------------------------------------|----------------------|----------------------------------|-------------------------|---------------------------|----------|-----------------------------------|--------------------------------------|----------------------|----------------------------------|-------------------------|---------------------------|------|----------------------------|--------------------------------------|--------------------------------|----------------------------------|-------------------------|-------------------------|-------|------------------------------|--------------------------------------|-----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------|--------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|------|--------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|------|-------------------------------|--------------------------|---------------------------------|----------------------------------|-------------------------|--------------------------|------|-------------------------------|--------------------------|--------------------------------|----------------------------------|-------------------------|--------------------------|------|---------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|------|---------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|------|------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------|--------------------------|
|                 |                          |                         | Log feet                        | Feet                             | Miles                   |                         |         |                                         | Log feet                             | Feet                  | Miles                            |                         |                           |                       | Log feet                          | Feet                                 | Miles                |                                  |                         |                           | Log feet | Feet                              | Miles                                |                      |                                  |                         | Log feet                  | Feet | Miles                      |                                      |                                |                                  | Log feet                | Feet                    | Miles |                              |                                      |                                   | Log feet                         | Feet                    | Miles                   |                 |                                |                                      |                                  |                                  |                         |                         |      |                                |                                      |                                  |                                  |                         |                         |      |                               |                          |                                 |                                  |                         |                          |      |                               |                          |                                |                                  |                         |                          |      |                                 |                                      |                                  |                                  |                         |                         |      |                                 |                                      |                                  |                                  |                         |                         |      |                              |                                      |                                  |                                  |                         |                          |
| 1170            | Chaidu<br>Chaidu<br>Sami | No. 1 h.s.<br>No. 2 " " | 73 57 17<br>68 57 28<br>37 5 15 | 4 543865<br>4 531151<br>4 341464 | 34984<br>33974<br>21951 | 6.626<br>6.435<br>4.157 | 1182    | Glátámémín<br>Chilamkúrkur<br>Gompachín | No. 1 h.s.<br>No. 1 " "<br>No. 1 " " | 101 34 42<br>59 58 46 | 4 349454<br>4 840380<br>4 786729 | 22359<br>69240<br>61197 | 4.235<br>13.114<br>11.590 | 1183                  | Sámi<br>Chilamkúrkur<br>Gompachín | No. 1 h.s.<br>No. 1 " "<br>No. 1 " " | 108 56 6<br>51 45 59 | 4 349454<br>4 806133<br>4 725437 | 22359<br>63993<br>53142 | 4.235<br>12.120<br>10.065 | 1184     | Sámi<br>Chilamkúrkur<br>Gompachín | No. 1 h.s.<br>No. 1 " "<br>No. 2 " " | 106 31 5<br>52 40 24 | 4 375496<br>4 806661<br>4 725437 | 23741<br>64071<br>53142 | 4.496<br>12.135<br>10.065 | 1185 | Húm<br>Golpha<br>Chipalkot | No. 1 h.s.<br>No. 2 " "<br>No. 2 " " | 44 46 57<br>52 6 15<br>83 6 48 | 4 513621<br>4 562939<br>4 662646 | 22630<br>36554<br>45988 | 6.180<br>6.023<br>8.710 | 1186  | Golpha<br>Chipalkot<br>Balsi | No. 2 h.s.<br>No. 1 " "<br>No. 1 " " | 113 13 36<br>27 32 42<br>39 13 42 | 4 675913<br>4 377081<br>4 513621 | 47415<br>23861<br>22630 | 8.980<br>4.519<br>6.180 | 1187            | Chipalkot<br>Balsi<br>Sukadhár | No. 2 h.s.<br>No. 1 " "<br>No. 1 " " | 50 33 55<br>44 29 55<br>84 56 10 | 4 565425<br>4 522263<br>4 675913 | 36764<br>33363<br>47415 | 6.963<br>6.319<br>8.980 | 1188 | Chipalkot<br>Sukadhár<br>Balsi | No. 2 h.s.<br>No. 2 " "<br>No. 2 " " | 48 10 23<br>87 26 22<br>44 23 15 | 4 559722<br>4 670037<br>4 522263 | 35540<br>47647<br>33363 | 6.731<br>9.024<br>6.319 | 1189 | Balsi<br>Sukadhár<br>Relakota | No. 1 h.s.<br>" "<br>" " | 87 56 15<br>49 4 16<br>42 59 29 | 4 731430<br>4 609960<br>4 565425 | 53880<br>40734<br>36764 | 10.205<br>7.715<br>6.963 | 1190 | Balsi<br>Sukadhár<br>Relakota | No. 2 h.s.<br>" "<br>" " | 92 11 55<br>46 34 4<br>41 14 1 | 4 731430<br>4 592799<br>4 550722 | 53880<br>39156<br>35340 | 10.205<br>7.416<br>6.731 | 1191 | Sukadhár<br>Balsi<br>Patilbhura | No. 2 h.s.<br>No. 2 " "<br>No. 2 " " | 86 13 19<br>25 55 16<br>67 51 25 | 4 583051<br>4 224609<br>4 550722 | 38287<br>16773<br>35340 | 7.351<br>3.177<br>6.731 | 1192 | Relakota<br>Balsi<br>Patilbhura | No. 2 h.s.<br>No. 2 " "<br>No. 2 " " | 55 52 35<br>66 16 39<br>57 50 46 | 4 583051<br>4 626770<br>4 592799 | 38287<br>42342<br>39156 | 7.351<br>8.019<br>7.416 | 1193 | Balsi<br>Relakota<br>Baculek | No. 1 h.s.<br>No. 1 " "<br>No. 1 " " | 21 25 32<br>124 9 17<br>34 25 11 | 4 420359<br>4 775499<br>4 609960 | 26324<br>59035<br>40734 | 4.986<br>11.594<br>7.715 |

\* Not known.

| No. of Triangle | Station                                 | Corrected Plane Angle  |                        | Distance  |          |       | No. of Triangle | Station                                           | Corrected Plane Angle           |      | Distance  |          |       | No. of Triangle | Station | Corrected Plane Angle |          | Distance  |       |        | Thodolite used |                |       |
|-----------------|-----------------------------------------|------------------------|------------------------|-----------|----------|-------|-----------------|---------------------------------------------------|---------------------------------|------|-----------|----------|-------|-----------------|---------|-----------------------|----------|-----------|-------|--------|----------------|----------------|-------|
|                 |                                         | °                      | '                      | Log. feet | Feet     | Miles |                 |                                                   | °                               | '    | Log. feet | Feet     | Miles |                 |         | °                     | '        | Log. feet | Feet  | Miles  |                | Thodolite used |       |
| 1184            | Rekakota<br>Barbalek<br>Sumdiar         | h.s.                   | h.s.                   | 39 16 8   | 4 284923 | 19272 | 1206            | Tadang<br>Khangla<br>Yangchham Hill Staff         | h.s.                            | h.s. | 25 44 7   | 4 150215 | 14132 | 12              | Inch 7  | 138 36 27             | 4 332853 | 21521     | 2 977 | 4 076  | 3 943684       | 8784           | 1 664 |
| 1185            | Barbalek<br>Sumdiar<br>Nirpauia         | h.s.                   | h.s.                   | 33 56 12  | 4 187273 | 15391 | 1207            | Khangla<br>Doti<br>Chachalla                      | h.s.                            | h.s. | 49 29 30  | 4 304702 | 20170 | 7               | "       | 115 40 17             | 4 378577 | 23910     | 3 820 | 4 528  | 3 832068       | 6793           | 1 287 |
| 1186            | Nirpauia<br>Sumdiar<br>Nirpauia         | No. 1<br>h.s.          | No. 1<br>h.s.          | 95 9 34   | 4 282286 | 19155 | 1208            | Doti<br>Chachalla<br>Nisu                         | h.s.                            | h.s. | 21 28 22  | 3 906466 | 8062  | 12              | "       | 44 50 34              | 4 191205 | 15531     | 1 527 | 2 942  | 4 304702       | 20170          | 3 820 |
| 1187            | Barbalek<br>Sumdiar<br>Nirpauia         | h.s.                   | h.s.                   | 54 44 18  | 4 282286 | 19155 | 1209            | Doti<br>Yangchham Hill Staff                      | h.s.                            | h.s. | 14 39 14  | 4 151200 | 14164 | 7               | "       | 70 1 36               | 4 343376 | 22048     | 2 683 | 4 042  | 4 284923       | 19272          | 1 431 |
| 1188            | Nirpauia<br>Nirpauia<br>Shulek          | No. 1<br>No. 2<br>h.s. | No. 1<br>No. 2<br>h.s. | 62 5 33   | 4 603575 | 40143 | 1210            | Yangchham Hill Staff<br>Kálapáni<br>Kálapáni      | No. 1<br>No. 2<br>h.s.          | h.s. | 137 54 6  | 4 352018 | 22491 | 12              | "       | 12 51 4               | 4 004438 | 10103     | 1 871 | 4 800  | 3 994606       | 9879           | 2 683 |
| 1189            | Nirpauia<br>Shulek<br>Elpadhura         | No. 1<br>h.s.          | No. 1<br>h.s.          | 7 15 55   | 3 744137 | 5548  | 1211            | Kálapáni<br>Kálapáni<br>Kálapáni                  | No. 2<br>No. 1<br>No. 3<br>h.s. | h.s. | 136 46 46 | 4 152534 | 14208 | "               | "       | 83 48 14              | 4 639628 | 43614     | 2 691 | 1 003  | 4 642097       | 43863          | 8 307 |
| 1200            | Shulek<br>Elpadhura<br>Tadang           | h.s.                   | h.s.                   | 88 55 51  | 4 642097 | 43863 | 1212            | Yangchham Hill Staff<br>Kálapáni<br>Kálapáni      | No. 1<br>No. 3<br>h.s.          | h.s. | 28 26 0   | 3 994606 | 9879  | "               | "       | 101 15 7              | 4 205985 | 16669     | 2 691 | 5 222  | 4 205985       | 16669          | 2 683 |
| 1201            | Elpadhura<br>Tadang<br>Gagla Hill Staff | h.s.                   | h.s.                   | 21 6 43   | 3 781882 | 6052  | 1213            | Lingara<br>Tukdiar<br>Badripath Temple            | h.s.                            | h.s. | 9 52 24   | 3 982516 | 9605  | "               | "       | 58 57 17              | 4 147273 | 14937     | 1 819 | 5 538  | 4 121318       | 13223          | 3 905 |
| 1202            | Shialek<br>Tadang<br>Gagla Hill Staff   | h.s.                   | h.s.                   | 25 20 1   | 3 781882 | 6052  | 1214            | Ringalbanj<br>Kálasila<br>Madmaheshwar Hill Staff | h.s.                            | h.s. | 9 12 33   | 4 550070 | 35487 | "               | "       | 19 47 36              | 3 744137 | 5548      | 6 721 | 18 054 | 4 147273       | 14937          | 3 905 |
| 1203            | Tadang<br>Gagla Hill Staff<br>Khangla   | h.s.                   | h.s.                   | 34 46 4   | 3 711169 | 5142  | 1215            | Mandani<br>Kálasila<br>Madmaheshwar Hill Staff    | h.s.                            | h.s. | 139 41 3  | 4 550070 | 35487 | "               | "       | 71 41 54              | 4 128009 | 13428     | 6 721 | 3 051  | 4 335212       | 21638          | 4 098 |
| 1204            | Tadang<br>Khangla<br>Doti               | h.s.                   | h.s.                   | 22 22 29  | 3 832668 | 6793  | 1216            | Mandani<br>Kálasila<br>Khamstoli Hill Staff       | h.s.                            | h.s. | 50 18 55  | 4 407423 | 25522 | "               | "       | 42 9 4                | 3 781882 | 6052      | 4 819 | 6 287  | 4 407423       | 25522          | 4 098 |
| 1205            | Doti<br>Khangla<br>Yangchham Hill Staff | h.s.                   | h.s.                   | 160 7 38  | 4 502115 | 14132 | 1217            | Kálasila<br>Khamstoli Hill Staff                  | h.s.                            | h.s. | 41 35 32  | 4 407423 | 25522 | "               | "       | 128 8 20              | 4 147236 | 14026     | 4 819 | 5 839  | 4 502115       | 14132          | 4 098 |

| No of Triangle           | Station                 | Corrected Plane Angle<br>° ' " | Distance     |       |        | Inch | No of Triangle | Station              | Corrected Plane Angle<br>° ' " | Distance     |        |        | Inch |
|--------------------------|-------------------------|--------------------------------|--------------|-------|--------|------|----------------|----------------------|--------------------------------|--------------|--------|--------|------|
|                          |                         |                                | Log. feet    | Feet  | Miles  |      |                |                      |                                | Log. feet    | Feet   | Miles  |      |
| 1218                     | Mandani                 | h.s.                           | 4° 55' 01.55 | 36237 | 6.863  | 12   | 1228           | Pipra                | s.                             | 4° 33' 56.0  | 21556  | 4.083  |      |
|                          | Pāwālgarh               | "                              | 4° 66' 40.09 | 46133 | 8.737  | "    |                | Narainpur            | "                              | 4° 168' 6.93 | 20123  | 5.523  |      |
|                          | Gaurikund Hill Staff    | "                              | 4° 75' 70.64 | 57150 | 10.825 | "    |                | Madho Mark           | "                              | 3° 935' 20.5 | 8614   | 1.631  |      |
| 1219                     | Ringalbanj              | h.s.                           | 4° 55' 91.55 | 36237 | 6.863  | "    | 1229           | Barar                | h.s.                           | 4° 03' 10.88 | 10742  | 2.035  |      |
|                          | Pāwālgarh               | "                              | 4° 900' 38.7 | 79504 | 15.058 | "    |                | Sohoria              | s.                             | 4° 506' 7.82 | 32120  | 6.083  |      |
|                          | Gaurikund Hill Staff    | "                              | 4° 643' 52.1 | 44007 | 8.335  | "    |                | Bawāngarhi           | "                              | 4° 381' 20.6 | 24055  | 4.550  |      |
| 1220                     | Donno. XII              |                                | 4° 416' 23.4 | 26076 | 4.939  | 24   | 1230           | Madho Mark           |                                | 4° 03' 10.88 | 10742  | 2.035  |      |
|                          | Kaimkhera, XIV          |                                | 4° 620' 55.4 | 41759 | 7.909  | "    |                | Sohoria              | s.                             | 4° 151' 10.7 | 14163  | 2.683  |      |
|                          | Pilibit Masjid N. Minar |                                | 4° 769' 8.33 | 58862 | 11.148 | "    |                | Bawāngarhi           | "                              | 4° 207' 80.2 | 16136  | 3.056  |      |
| 1221                     | Donno. XII              |                                | 4° 415' 90.3 | 26061 | 4.936  | "    | 1231           | Bawāngarhi           | s.                             | 4° 119' 59.6 | 24445  | 4.930  |      |
|                          | Kaimkhera, XIV          |                                | 4° 621' 6.8  | 41846 | 7.925  | "    |                | Sohoria              | "                              | 4° 236' 4.56 | 17237  | 3.265  |      |
|                          | Pilibit Masjid S. Minar |                                | 4° 769' 8.33 | 58862 | 11.148 | "    |                | Baruamathi Hill Tree | "                              | 4° 031' 08.8 | 10742  | 2.035  |      |
| <b>GANDAK RIVER</b>      |                         |                                |              |       |        |      |                |                      |                                |              |        |        |      |
| <b>SECONDARY SERIES.</b> |                         |                                |              |       |        |      |                |                      |                                |              |        |        |      |
| 1222                     | Bajra, LXXVIII          |                                | 4° 626' 60.6 | 42326 | 8.016  | 12   | 1232           | Madho Mark           | s.                             | 3° 970' 80.6 | 9350   | 1.771  |      |
|                          | Bahua, LXXVI            |                                | 4° 824' 80.9 | 66805 | 12.652 | "    |                | Bawāngarhi           | s.                             | 4° 269' 96.3 | 18019  | 3.526  |      |
|                          | Barar                   | h.s.                           | 4° 671' 13.7 | 46896 | 8.882  | "    |                | Rāmpurua             | "                              | 4° 151' 10.7 | 14163  | 2.683  |      |
| 1223                     | Barar                   | h.s.                           | 4° 316' 66.8 | 20733 | 3.927  | "    | 1233           | Baruamathi Hill Tree | s.                             | 3° 970' 80.6 | 9350   | 1.771  |      |
|                          | Bahua, LXXVI            |                                | 4° 401' 24.0 | 25191 | 4.771  | "    |                | Bawāngarhi           | s.                             | 4° 183' 15.7 | 15316  | 2.901  |      |
|                          | Kataia                  | s.                             | 4° 626' 60.6 | 42326 | 8.016  | "    |                | Rāmpurua             | "                              | 4° 236' 4.56 | 17237  | 3.265  |      |
| 1224                     | Barar                   | h.s.                           | 3° 856' 14.1 | 7180  | 1.360  | "    | 1234           | Baruamathi Hill Tree | s.                             | 4° 027' 82.9 | 10662  | 2.019  |      |
|                          | Kataia                  | s.                             | 4° 325' 9.8  | 21181 | 4.012  | "    |                | Rāmpurua             | s.                             | 4° 1990' 44  | 15814  | 2.995  |      |
|                          | Pipra                   | "                              | 4° 401' 24.0 | 25191 | 4.771  | "    |                | Thuāri               | "                              | 4° 183' 15.7 | 15316  | 2.901  |      |
| 1225                     | Barar                   | h.s.                           | 3° 935' 20.5 | 8614  | 1.631  | "    | 1235           | Baruamathi Hill Tree | s.                             | 3° 740' 10.0 | 5497   | 1.041  |      |
|                          | Pipra                   | s.                             | 4° 315' 01.1 | 20654 | 3.912  | "    |                | Bhaurāni             | "                              | 4° 073' 22.4 | 11837  | 2.242  |      |
|                          | Narainpur               | "                              | 4° 325' 9.8  | 21181 | 4.012  | "    |                |                      |                                | 4° 1990' 44  | 15814  | 2.995  |      |
| 1226                     | Barar                   | h.s.                           | 3° 883' 32.8 | 7644  | 1.448  | "    | 1236           | Bajra, LXXVIII       |                                | 4° 935' 38.8 | 86176  | 16.321 |      |
|                          | Narainpur               | s.                             | 4° 381' 20.6 | 24055 | 4.556  | "    |                | Rāmnagar, LXX        |                                | 4° 920' 66.1 | 83303  | 15.777 |      |
|                          | Sohoria                 | "                              | 4° 315' 01.1 | 20654 | 3.912  | "    |                | Someshwar Fort       | h.s.                           | 4° 786' 99.8 | 61235  | 11.597 |      |
| 1227                     | Sohoria                 | s.                             | 4° 333' 56.0 | 21556 | 4.083  | "    | 1237           | Tarharwa, LXXII      |                                | 4° 056' 24   | 86176  | 16.321 |      |
|                          | Narainpur               | "                              | 4° 207' 80.2 | 16136 | 3.056  | "    |                | Rāmnagar, LXX        |                                | 5° 069' 20.8 | 122863 | 23.258 |      |
|                          | Madho Mark              | "                              | 3° 883' 32.8 | 7644  | 1.448  | "    |                | Someshwar Fort       | h.s.                           | 4° 791' 86.2 | 61024  | 11.728 |      |

**SOMESHWAR  
SECONDARY SERIES.**

\* Deduced base.

| No. of Triangle | Station       | Corrected Plane Angle |       | Distance     |        |        | No. of Triangle | Station         | Corrected Plane Angle |          | Distance     |        |       | No. of Triangle | Station       | Corrected Plane Angle |              | Distance  |              |              |       |
|-----------------|---------------|-----------------------|-------|--------------|--------|--------|-----------------|-----------------|-----------------------|----------|--------------|--------|-------|-----------------|---------------|-----------------------|--------------|-----------|--------------|--------------|-------|
|                 |               | °                     | '     | Log. feet    | Feet   | Miles  |                 |                 | °                     | '        | Log. feet    | Feet   | Miles |                 |               | °                     | '            | Log. feet | Feet         | Miles        |       |
| 1238            | Bājra, LXVIII | 61                    | 37 10 | 4° 11' 13.36 | 81534  | 15.442 | 1250            | Rámngar, LXX    | 25                    | 25 19    | 4° 57' 6.905 | 37749  | 12    | h.s.            | 7.149         | 1250                  | Rámngar, LXX | 25        | 25 19        | 4° 57' 6.905 | 37749 |
|                 | Rámngar, LXX  | 77                    | 1 19  | 4° 05' 37.10 | 90305  | 17.103 |                 | Somehwar Fort   | 76                    | 3 45     | 4° 93' 11.74 | 85344  |       | 16.164          | Somehwar Fort |                       | 76           | 3 45      | 4° 93' 11.74 | 85344        |       |
|                 | Somehwar      | 41                    | 21 31 | 4° 78' 6.998 | 61235  | 11.597 |                 | Mandawa         | 78                    | 31 16    | 4° 93' 33.88 | 86176  |       | 16.321          | Mandawa       |                       | 78           | 31 16     | 4° 93' 33.88 | 86176        |       |
| 1239            | Somehwar Fort | 68                    | 10 17 | 4° 9' 11.336 | 81534  | 15.442 | 1251            | Tarharwa, LXXII | 16                    | 2 22     | 4° 57' 6.905 | 37740  | 5     | 7.149           | 1251          | Tarharwa, LXXII       | 16           | 2 22      | 4° 57' 6.905 | 37740        |       |
|                 | Rámngar, LXX  | 10                    | 41 22 | 4° 21' 19.58 | 16591  | 3.086  |                 | Somehwar Fort   | 47                    | 58 0     | 5° 06' 37.1  | 101478 |       | 19.219          |               | Somehwar Fort         | 47           | 58 0      | 5° 06' 37.1  | 101478       |       |
| 1240            | Somehwar      | 101                   | 8 21  | 4° 93' 33.88 | 86176  | 16.321 | 1252            | Mandawa         | 123                   | 2 56     | 5° 08' 20.8  | 122803 | 23    | 3.558           | 1252          | Mandawa               | 123          | 2 56      | 5° 08' 20.8  | 122803       |       |
|                 | Balua, LXVI   | 48                    | 1 32  | 4° 9' 16.788 | 82563  | 15.637 |                 | Somehwar Fort   | 32                    | 16 59    | 4° 96' 19.52 | 91612  |       | 17.351          |               | Somehwar Fort         | 32           | 16 59     | 4° 96' 19.52 | 91612        |       |
| 1241            | Somehwar Fort | 45                    | 30 29 | 4° 89' 8.42  | 79221  | 15.004 | 1253            | Deochili Peak   | 4                     | 85 48 39 | 4° 85' 48.39 | 71588  | 13    | 5.58            | 1253          | Deochili Peak         | 4            | 85 48 39  | 4° 85' 48.39 | 71588        |       |
|                 | Naurungia     | 86                    | 27 59 | 5° 04' 47.14 | 110844 | 20.993 |                 | Harba East      | 123                   | 2 56     | 5° 15' 7.678 | 143773 |       | 27.430          |               | Harba East            | 123          | 2 56      | 5° 15' 7.678 | 143773       |       |
| 1242            | Bājra, LXVIII | 55                    | 28 42 | 4° 9' 16.788 | 82563  | 15.637 | 1254            | Harba West      | 100                   | 53 31    | 4° 85' 68.46 | 71919  | 13    | 6.21            | 1254          | Harba West            | 100          | 53 31     | 4° 85' 68.46 | 71919        |       |
|                 | Somehwar Fort | 88                    | 17 24 | 4° 96' 89.55 | 93101  | 17.633 |                 | Somehwar Fort   | 1                     | 17 48    | 3° 21' 01.09 | 1657   |       | 0.314           |               | Somehwar Fort         | 1            | 17 48     | 3° 21' 01.09 | 1657         |       |
| 1243            | Naurungia     | 56                    | 13 54 | 4° 92' 56.61 | 83303  | 15.777 | 1255            | Harba West      | 85                    | 32 49    | 5° 02' 59.01 | 106167 | 20    | 10.7            | 1255          | Harba West            | 85           | 32 49     | 5° 02' 59.01 | 106167       |       |
|                 | Somehwar Fort | 67                    | 45 45 | 4° 96' 89.59 | 91382  | 17.397 |                 | Deochili Peak   | 33                    | 34 47    | 4° 96' 76.68 | 92812  |       | 17.578          |               | Deochili Peak         | 33           | 34 47     | 4° 96' 76.68 | 92812        |       |
| 1244            | Rámngar, LXX  | 73                    | 23 25 | 4° 97' 50.14 | 94605  | 17.918 | 1256            | Harba West      | 121                   | 2 52     | 5° 15' 7.678 | 143773 | 27    | 4.30            | 1256          | Harba West            | 121          | 2 52      | 5° 15' 7.678 | 143773       |       |
|                 | Kumkarna      | 66                    | 17 8  | 4° 93' 33.88 | 86176  | 16.321 |                 | Somehwar Fort   | 58                    | 53 46    | 4° 95' 98.95 | 91179  |       | 17.269          |               | Somehwar Fort         | 58           | 53 46     | 4° 95' 98.95 | 91179        |       |
| 1245            | Somehwar Fort | 37                    | 34 46 | 4° 75' 89.55 | 57403  | 10.872 | 1257            | Katáha          | 85                    | 32 49    | 5° 02' 59.01 | 106167 | 20    | 10.7            | 1257          | Katáha                | 85           | 32 49     | 5° 02' 59.01 | 106167       |       |
|                 | Rámngar, LXX  | 66                    | 17 8  | 4° 93' 33.88 | 86176  | 16.321 |                 | Somehwar Fort   | 74                    | 23 9     | 4° 95' 98.95 | 91179  |       | 17.269          |               | Somehwar Fort         | 74           | 23 9      | 4° 95' 98.95 | 91179        |       |
| 1246            | Kumkarna      | 80                    | 18 57 | 5° 00' 43.2  | 101026 | 19.134 | 1258            | Somehwar Fort   | 28                    | 3 36     | 4° 49' 58.7  | 31593  | 5     | 9.84            | 1258          | Somehwar Fort         | 28           | 3 36      | 4° 49' 58.7  | 31593        |       |
|                 | Bājra, LXVIII | 72                    | 27 10 | 4° 98' 99.72 | 97717  | 18.507 |                 | Harba West      | 126                   | 26 15    | 4° 73' 26.52 | 54932  |       | 10.333          |               | Harba West            | 126          | 26 15     | 4° 73' 26.52 | 54932        |       |
| 1247            | Balua, LXVI   | 65                    | 20 30 | 5° 00' 43.2  | 101026 | 19.134 | 1259            | Parsauni East   | 90                    | 33 21    | 4° 49' 58.7  | 31593  | 5     | 9.84            | 1259          | Parsauni East         | 90           | 33 21     | 4° 49' 58.7  | 31593        |       |
|                 | Somehwar Fort | 28                    | 59 38 | 4° 73' 44.6  | 53882  | 10.205 |                 | Somehwar Fort   | 35                    | 48 34    | 4° 48' 06.19 | 30243  |       | 5.728           |               | Somehwar Fort         | 35           | 48 34     | 4° 48' 06.19 | 30243        |       |
| 1248            | Balua         | 67                    | 41 7  | 4° 95' 61.89 | 90404  | 17.122 | 1260            | Katáha          | 110                   | 10 45    | 4° 68' 59.00 | 48518  | 9     | 1.89            | 1260          | Katáha                | 110          | 10 45     | 4° 68' 59.00 | 48518        |       |
|                 | Somehwar Fort | 21                    | 43 51 | 4° 55' 84.86 | 36181  | 6.853  |                 | Parsauni West   | 73                    | 10 49    | 4° 48' 06.19 | 30243  |       | 5.728           |               | Parsauni West         | 73           | 10 49     | 4° 48' 06.19 | 30243        |       |
| 1249            | Bājra, LXVIII | 105                   | 52 28 | 4° 95' 61.89 | 90404  | 17.122 | 1261            | Somehwar Fort   | 34                    | 6 53     | 4° 24' 85.02 | 17222  | 3     | 3.56            | 1261          | Somehwar Fort         | 34           | 6 53      | 4° 24' 85.02 | 17222        |       |
|                 | Yamowli       | 11                    | 42 45 | 4° 28' 05.73 | 19080  | 3.614  |                 | Katáha          | 54                    | 52 42    | 4° 41' 23.71 | 28645  |       | 4.895           |               | Katáha                | 54           | 52 42     | 4° 41' 23.71 | 28645        |       |
| 1249            | Somehwar Fort | 102                   | 40 28 | 5° 30' 07.61 | 199876 | 37.855 | 1261            | Parsauni West   | 91                    | 0 45     | 4° 49' 58.7  | 31593  | 5     | 9.84            | 1261          | Parsauni West         | 91           | 0 45      | 4° 49' 58.7  | 31593        |       |
|                 | Bājra, LXVIII | 44                    | 34 13 | 5° 04' 47.14 | 110844 | 20.993 |                 | Somehwar Fort   | 34                    | 6 53     | 4° 24' 85.02 | 17222  |       | 3.56            |               | Somehwar Fort         | 34           | 6 53      | 4° 24' 85.02 | 17222        |       |
| 1249            | Yamowli       | 11                    | 42 45 | 4° 28' 05.73 | 19080  | 3.614  | 1261            | Bikna Thori     | 54                    | 52 42    | 4° 41' 23.71 | 28645  | 4     | 8.95            | 1261          | Bikna Thori           | 54           | 52 42     | 4° 41' 23.71 | 28645        |       |
|                 | Somehwar Fort | 102                   | 40 28 | 5° 30' 07.61 | 199876 | 37.855 |                 | Parsauni West   | 91                    | 0 45     | 4° 49' 58.7  | 31593  |       | 5.984           |               | Parsauni West         | 91           | 0 45      | 4° 49' 58.7  | 31593        |       |
| 1249            | Balua, LXVI   | 60                    | 53 55 | 5° 30' 07.61 | 199876 | 37.855 | 1261            | Parsauni West   | 34                    | 22 33    | 4° 24' 85.02 | 17222  | 3     | 3.56            | 1261          | Parsauni West         | 34           | 22 33     | 4° 24' 85.02 | 17222        |       |
|                 | Deochili Peak | 90                    | 55 19 | 5° 35' 91.12 | 228224 | 43.319 |                 | Katáha          | 71                    | 8 23     | 4° 48' 06.19 | 30243  |       | 5.728           |               | Katáha                | 71           | 8 23      | 4° 48' 06.19 | 30243        |       |
| 1249            | Deochili Peak | 90                    | 55 19 | 5° 35' 91.12 | 228224 | 43.319 | 1261            | Bikna Thori     | 74                    | 26 53    | 4° 49' 58.7  | 31593  | 5     | 9.84            | 1261          | Bikna Thori           | 74           | 26 53     | 4° 49' 58.7  | 31593        |       |
|                 | Deochili Peak | 90                    | 55 19 | 5° 35' 91.12 | 228224 | 43.319 |                 | Parsauni West   | 34                    | 22 33    | 4° 24' 85.02 | 17222  |       | 3.56            |               | Parsauni West         | 34           | 22 33     | 4° 24' 85.02 | 17222        |       |

| No. of Triangle   | Station                                                             | Pictorial Sketch | Corrected Plane Angle             | Distance  |        |        | No. of Triangle | Station                                                       | Corrected Plane Angle             | Distance  |        |        | Theodolite       |
|-------------------|---------------------------------------------------------------------|------------------|-----------------------------------|-----------|--------|--------|-----------------|---------------------------------------------------------------|-----------------------------------|-----------|--------|--------|------------------|
|                   |                                                                     |                  |                                   | Log. feet | Feet   | Miles  |                 |                                                               |                                   | Log. feet | Feet   | Miles  |                  |
| 1262              | Harha West<br>Balua, LXXVI<br>H 13 Peak                             | h.s.             | 110 59 4<br>37 29 22              | 5 287174  | 193720 | 36.689 | 1272            | Senchal<br>Tonglu<br>Darjeeling, Birch Hill                   | 50 45 1<br>23 1 48<br>106 13 11   | 4 757106  | 57174  | 10.828 | Inch<br>18<br>12 |
|                   |                                                                     |                  |                                   | 5 101319  | 126276 | 23.916 |                 |                                                               |                                   | 4 466647  | 28883  | 5.470  |                  |
|                   |                                                                     |                  |                                   | 5 035385  | 108489 | 20.547 |                 |                                                               |                                   | 4 850594  | 70891  | 13.440 |                  |
| 1263              | Naurangia<br>Balua, LXXVI<br>H 13 Peak                              | h.s.             | 135 40 0<br>27 43 39              | 5 287174  | 193720 | 36.689 | 1273            | Darjeeling<br>Tonglu<br>Tiger Hill                            | 101 12 2<br>16 45 51              | 4 830897  | 67748  | 12.831 | 36<br>12         |
|                   |                                                                     |                  |                                   | 5 110504  | 128974 | 24.427 |                 |                                                               |                                   | 4 290293  | 10920  | 3.773  |                  |
|                   |                                                                     |                  |                                   | 4 898342  | 79221  | 15.004 |                 |                                                               |                                   | 4 785325  | 69999  | 11.553 |                  |
| 1264              | H 13 Peak<br>Naurangia<br>Tribeni                                   | h.s.             | 65 20 7<br>100 11 0               | 4 515453  | 32768  | 6.206  | 1274            | Darjeeling<br>Darjeeling, Birch Hill<br>Tiger Hill            | 147 16 37<br>25 35 13             | 4 396789  | 24934  | 4.722  | 36<br>18         |
|                   |                                                                     |                  |                                   | 5 075851  | 119083 | 22.554 |                 |                                                               |                                   | 4 299293  | 19920  | 3.773  |                  |
|                   |                                                                     |                  |                                   | 5 110504  | 128974 | 24.427 |                 |                                                               |                                   | 3 758145  | 5730   | 1.085  |                  |
| 1265              | Deochili Peak<br>Naurangia<br>Tribeni                               | h.s.             | 115 23 14<br>52 14 21             | 4 515453  | 32768  | 6.206  | 1275            | Tonglu<br>Darjeeling, Birch Hill<br>Tiger Hill                | 20 54 13<br>104 11 50             | 4 396789  | 24934  | 4.722  | 12<br>18         |
|                   |                                                                     |                  |                                   | 5 140355  | 138151 | 26.165 |                 |                                                               |                                   | 4 830897  | 67748  | 12.831 |                  |
|                   |                                                                     |                  |                                   | 5 082402  | 120893 | 22.896 |                 |                                                               |                                   | 4 757196  | 57174  | 10.828 |                  |
| 1266              | Tarlara, LXXII<br>Naonangari, LXXI<br>Chandkigar Hill Mark (helio.) | h.s.             | 74 59 7<br>31 17 45               | 4 748630  | 56057  | 10.617 | 1276            | Darjeeling, Birch Hill<br>Tonglu<br>Darjeeling Observatory    | 130 23 27<br>4 3 20<br>45 33 13   | 4 785306  | 60997  | 11.552 | 12               |
|                   |                                                                     |                  |                                   | 4 479265  | 30148  | 5.710  |                 |                                                               |                                   | 3 753120  | 5664   | 1.073  |                  |
|                   |                                                                     |                  |                                   | 4 745941  | 55711  | 10.551 |                 |                                                               |                                   | 4 757196  | 57174  | 10.828 |                  |
| DARJEELING        |                                                                     |                  |                                   |           |        |        |                 |                                                               |                                   |           |        |        |                  |
| SECONDARY SERIES. |                                                                     |                  |                                   |           |        |        |                 |                                                               |                                   |           |        |        |                  |
| 1267              | Thakurganj, CXX<br>Dumdangi, CXXIII<br>Tonglu                       | h.s.             | 72 18 33<br>92 47 12<br>14 54 15  | 5 329209  | 213407 | 40.418 | 1277            | Tiger Hill<br>Tonglu<br>Darjeeling Observatory                | 62 4 38<br>16 50 53<br>101 4 29   | 4 785306  | 60997  | 11.552 | 10.819<br>12     |
|                   |                                                                     |                  |                                   | 5 349734  | 223735 | 42.374 |                 |                                                               |                                   | 4 301211  | 20008  | 3.789  |                  |
|                   |                                                                     |                  |                                   | 4 760324  | 57613  | 10.912 |                 |                                                               |                                   | 4 396789  | 24934  | 4.722  |                  |
| 1268              | Dumdangi, CXXIII<br>Tonglu<br>Senchal                               | h.s.             | 18 51 12<br>57 44 52<br>103 23 56 | 4 850594  | 70891  | 13.426 | 1279            | Tiger Hill<br>Tonglu<br>Sandakphu                             | 11 26 52<br>147 38 3<br>20 55 5   | 4 575895  | 37661  | 7.133  | 10.818<br>12     |
|                   |                                                                     |                  |                                   | 5 268414  | 185530 | 35.138 |                 |                                                               |                                   | 5 006803  | 101570 | 19.339 |                  |
|                   |                                                                     |                  |                                   | 5 329209  | 213407 | 40.418 |                 |                                                               |                                   | 4 830897  | 67748  | 12.831 |                  |
| 1269              | Thakurganj, CXX<br>Tonglu<br>Senchal                                | h.s.             | 18 28 9<br>72 39 7<br>88 52 44    | 4 850594  | 70891  | 13.426 | 1280            | Darjeeling Observatory<br>Tonglu<br>Sandakphu                 | 18 25 28<br>130 47 10<br>30 47 22 | 4 575895  | 37661  | 7.133  | 10.818<br>12     |
|                   |                                                                     |                  |                                   | 5 329209  | 213407 | 40.418 |                 |                                                               |                                   | 4 955318  | 90223  | 17.088 |                  |
|                   |                                                                     |                  |                                   | 5 349734  | 223735 | 42.374 |                 |                                                               |                                   | 4 785306  | 60997  | 11.552 |                  |
| 1270              | Tonglu<br>Senchal<br>Darjeeling                                     | h.s.             | 18 53 26<br>56 17 13<br>104 49 21 | 4 375517  | 23742  | 4.497  | 1281            | Darjeeling Observatory<br>Tonglu<br>Suberkum                  | 34 6 44<br>106 38 2               | 4 732889  | 54062  | 10.339 | 5<br>12.818      |
|                   |                                                                     |                  |                                   | 4 785325  | 60999  | 11.553 |                 |                                                               |                                   | 4 965504  | 92364  | 17.493 |                  |
|                   |                                                                     |                  |                                   | 4 850594  | 70891  | 13.426 |                 |                                                               |                                   | 4 785306  | 60997  | 11.552 |                  |
| 1271              | Darjeeling<br>Tonglu<br>Darjeeling, Birch Hill                      | h.s.             | 46 4 35<br>4 8 22<br>129 47 3     | 4 757196  | 57174  | 10.828 | 1282            | Sandakphu<br>Tonglu<br>Suberkum                               | 117 48 39<br>24 9 8<br>38 2 13    | 4 732889  | 54062  | 10.339 | 12.818<br>12     |
|                   |                                                                     |                  |                                   | 3 758145  | 60999  | 11.553 |                 |                                                               |                                   | 4 398090  | 25009  | 4.736  |                  |
|                   |                                                                     |                  |                                   | 4 785325  | 70891  | 13.426 |                 |                                                               |                                   | 4 575895  | 37661  | 7.133  |                  |
| 1271              | Darjeeling<br>Tonglu<br>Darjeeling, Birch Hill                      | h.s.             | 46 4 35<br>4 8 22<br>129 47 3     | 4 757196  | 57174  | 10.828 | 1283            | Tiger Hill<br>Darjeeling Observatory<br>Darjeeling, Jalapahar | 35 26 15<br>34 51 59<br>109 41 46 | 4 090682  | 12322  | 2.334  | 10<br>12.818     |
|                   |                                                                     |                  |                                   | 3 758145  | 60999  | 11.553 |                 |                                                               |                                   | 4 084535  | 12149  | 2.301  |                  |
|                   |                                                                     |                  |                                   | 4 785325  | 70891  | 13.426 |                 |                                                               |                                   | 4 301211  | 20008  | 3.789  |                  |

\* Deduced base.

| No. of Triangle | Station                        | Corrected Plane Angle | Distance  |       |             | No. of Triangle | Station                    | Corrected Plane Angle | Distance  |       |             | No. of Triangle | Station | Corrected Plane Angle | Distance  |      |       | Theodolite used |
|-----------------|--------------------------------|-----------------------|-----------|-------|-------------|-----------------|----------------------------|-----------------------|-----------|-------|-------------|-----------------|---------|-----------------------|-----------|------|-------|-----------------|
|                 |                                |                       | Log. feet | Feet  | Miles       |                 |                            |                       | Log. feet | Feet  | Miles       |                 |         |                       | Log. feet | Feet | Miles |                 |
| 1284            | Senchal No. 1 h.s.             | 28 23 50              | 4 090682  | 12322 | 2 334 08 10 | 1296            | Phugarhi h.s.              | 69 11 55              | 4 334723  | 21613 | 4 093       | 10              |         |                       |           |      |       |                 |
|                 | Darjeeling Observatory "       | 38 28 58              | 4 207443  | 16123 | 3 054 12 10 |                 | Kurseong "                 | 13 19 58              | 3 726868  | 5332  | 1 010       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling, Jalapahar "        | 113 7 12              | 4 377096  | 33828 | 4 513 10 08 |                 | Tinglung "                 | 97 28 7               | 4 360296  | 22924 | 4 342       |                 |         |                       |           |      |       |                 |
| 1285            | Darjeeling, Jalapahar h.s.     | 89 25 8               | 4 912305  | 81753 | 15 484 12   | 1297            | Kurseong h.s.              | 132 36 18             | 4 580151  | 38032 | 7 203       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling Observatory No. 2 " | 81 54 46              | 4 908187  | 80944 | 15 330 "    |                 | Tinglung "                 | 22 40 7               | 4 299163  | 19014 | 3 772       |                 |         |                       |           |      |       |                 |
|                 | Sandakphu "                    | 2 42 35               | 4 912305  | 81753 | 2 334 "     |                 | Selim "                    | 24 43 35              | 4 334723  | 21613 | 4 093       |                 |         |                       |           |      |       |                 |
| 1286            | Sandakphu No. 1 h.s.           | 24 22 35              | 4 912305  | 81753 | 15 484 5    | 1298            | Senchal No. 2 h.s.         | 37 3 15               | 4 427079  | 26735 | 5 063       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling Observatory No. 2 " | 2 43 12               | 3 973123  | 9460  | 1 780 12    |                 | Senchal No. 1 "            | 129 59 31             | 4 531377  | 33992 | 6 438       |                 |         |                       |           |      |       |                 |
|                 | Sandakphu "                    | 152 54 13             | 4 955318  | 90223 | 17 088 5    |                 | Mahaklaram "               | 12 57 14              | 3 997043  | 9946  | 1 884       |                 |         |                       |           |      |       |                 |
| 1287            | Tonglu h.s.                    | 34 55 50              | 4 458517  | 28742 | 5 444 12    | 1299            | Senchal No. 1 h.s.         | 42 27 28              | 4 447517  | 28023 | 5 907       |                 |         |                       |           |      |       |                 |
|                 | Sandakphu No. 1 "              | 13 40 59              | 4 074603  | 11874 | 2 249 5     |                 | Mahaklaram "               | 97 27 1               | 4 614501  | 41162 | 7 796       |                 |         |                       |           |      |       |                 |
|                 | Jongmat "                      | 131 23 11             | 4 575895  | 37661 | 7 133 "     |                 | Sitong "                   | 4 42 70 9             | 26735     | 5 063 |             |                 |         |                       |           |      |       |                 |
| 1288            | Tiger Hill h.s.                | 11 49 19              | 3 810402  | 6463  | 1 224 10    | 1300            | Sitong h.s.                | 79 14 26              | 4 374189  | 23069 | 4 483       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling Observatory No. 1 " | 27 32 44              | 4 163990  | 14588 | 2 785 6     |                 | Mahaklaram "               | 56 11 19              | 4 447517  | 28023 | 5 907       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling, Mount Vernon "     | 140 37 57             | 4 301211  | 20008 | 3 789 12 00 |                 | Selim "                    | 49 24 7               | 3 976352  | 9470  | 1 794       |                 |         |                       |           |      |       |                 |
| 1289            | Senchal No. 1 h.s.             | 10 21 24              | 3 810402  | 6463  | 1 224 10    | 1301            | Margaret's Hope No. 1 h.s. | 37 49 13              | 3 883536  | 7648  | 1 448       |                 |         |                       |           |      |       |                 |
|                 | Darjeeling Observatory No. 1 " | 31 9 43               | 4 269548  | 18601 | 3 523 10    |                 | Hope Town No. 1 "          | 92 46 40              | 4 095432  | 12458 | 2 359 10 06 |                 |         |                       |           |      |       |                 |
|                 | Darjeeling, Mount Vernon "     | 138 28 53             | 4 377596  | 23828 | 4 513 12    |                 | Sonada "                   | 49 24 7               | 3 976352  | 9470  | 1 794       |                 |         |                       |           |      |       |                 |
| 1290            | Darjeeling Observatory h.s.    | 21 4 7                | 3 997643  | 9946  | 1 884 6     | 1302            | Senchal No. 2 h.s.         | 19 48 27              | 3 883536  | 7648  | 1 448       |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 1 "                | 38 23 23              | 4 235059  | 17181 | 3 254 10 08 |                 | Hope Town No. 1 "          | 40 41 41              | 4 167782  | 14716 | 2 787 10 06 |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 2 "                | 120 32 30             | 4 377596  | 23828 | 4 513 10    |                 | Sonada "                   | 119 29 52             | 4 293221  | 19644 | 3 720       |                 |         |                       |           |      |       |                 |
| 1291            | Tiger Hill h.s.                | 146 46 58             | 3 997643  | 9946  | 1 884 "     | 1303            | Margaret's Hope No. 1 h.s. | 48 30 41              | 3 974351  | 9427  | 1 785 10 06 |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 1 "                | 20 17 24              | 3 799553  | 6296  | 1 192 10 06 |                 | Sonada No. 2 "             | 49 37 5               | 3 981627  | 9586  | 1 816 10    |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 2 "                | 12 55 38              | 3 608701  | 4062  | 0 769 10    |                 | Hope Town "                | 81 52 14              | 4 095432  | 12458 | 2 359       |                 |         |                       |           |      |       |                 |
| 1292            | Senchal No. 1 h.s.             | 80 34 3               | 4 293221  | 19644 | 3 720 6     | 1304            | Tinglung h.s.              | 23 49 37              | 3 943416  | 8778  | 1 663       |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 2 "                | 69 28 3               | 4 270529  | 18648 | 3 532 10    |                 | Kurseong "                 | 60 14 1               | 4 275609  | 18863 | 3 573       |                 |         |                       |           |      |       |                 |
|                 | Hope Town No. 1 "              | 29 57 54              | 3 997643  | 9946  | 1 884 10 06 |                 | Darbinjhora "              | 95 56 22              | 4 334723  | 21613 | 4 093       |                 |         |                       |           |      |       |                 |
| 1293            | Hope Town No. 1 h.s.           | 133 28 21             | 4 432115  | 27047 | 5 123 "     | 1305            | Phugarhi h.s.              | 22 23 14              | 3 943416  | 8778  | 1 663       |                 |         |                       |           |      |       |                 |
|                 | Senchal No. 2 "                | 14 43 12              | 3 976352  | 9470  | 1 794 10    |                 | Kurseong "                 | 73 33 59              | 4 344531  | 22107 | 4 187       |                 |         |                       |           |      |       |                 |
|                 | Margaret's Hope No. 1 "        | 31 48 27              | 4 293221  | 19644 | 3 720 6     |                 | Darbinjhora "              | 84 2 47               | 4 360296  | 22924 | 4 342       |                 |         |                       |           |      |       |                 |
| 1294            | Senchal No. 2 h.s.             | 27 41 9               | 4 563865  | 36632 | 6 938 10    | 1308            | Tinglung h.s.              | 94 4 1                | 4 651021  | 44774 | 8 480       |                 |         |                       |           |      |       |                 |
|                 | Margaret's Hope No. 1 "        | 132 15 6              | 4 766112  | 59360 | 11 053 "    |                 | Selim "                    | 28 0 52               | 4 33931   | 20853 | 3 993       |                 |         |                       |           |      |       |                 |
|                 | Phugarhi "                     | 20 3 45               | 4 432115  | 27047 | 5 123 "     |                 | Lohagarhi "                | 57 55 7               | 4 580151  | 38032 | 7 203       |                 |         |                       |           |      |       |                 |
| 1295            | Margaret's Hope No. 1 h.s.     | 35 21 12              | 4 360296  | 22924 | 4 342 "     | 1307            | Darbinjhora h.s.           | 135 43 42             | 4 651021  | 44774 | 8 480       |                 |         |                       |           |      |       |                 |
|                 | Phugarhi "                     | 33 15 24              | 4 325213  | 21145 | 4 005 "     |                 | Selim "                    | 26 52 30              | 4 482310  | 28994 | 5 491       |                 |         |                       |           |      |       |                 |
|                 | Kurseong "                     | 112 23 24             | 4 563865  | 36632 | 6 938 "     |                 | Lohagarhi "                | 4 282777              | 10177     | 3 031 |             |                 |         |                       |           |      |       |                 |

— THEODOLITE USED

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                         | Corrected Plane Angle | Distance  |        |        | Theodolite used |
|-----------------|---------------------------------|-----------------------|-----------|--------|--------|-----------------|
|                 |                                 |                       | Log. feet | Feet   | Miles  |                 |
| 1308            | Durbijnhora                     | h.s.                  | 4.246289  | 17631  | 3.339  | Inch<br>6       |
|                 | Tingling                        | "                     | 4.278644  | 18995  | 3.598  |                 |
|                 | Chenga                          | "                     | 4.275609  | 18863  | 3.573  |                 |
| 1309            | Lohagarhi                       | h.s.                  | 4.246289  | 17631  | 3.339  | "               |
|                 | Tingling                        | "                     | 4.027251  | 16648  | 2.017  |                 |
|                 | Chenga                          | "                     | 4.323931  | 21083  | 3.993  |                 |
| 1310            | Kuseong                         | h.s.                  | 4.425694  | 26650  | 5.047  | "               |
|                 | Tingling                        | "                     | 4.356351  | 22719  | 4.303  |                 |
|                 | Gardhura                        | "                     | 4.334723  | 21613  | 4.093  |                 |
| 1311            | Selim                           | h.s.                  | 4.425694  | 26650  | 5.047  | "               |
|                 | Tingling                        | "                     | 4.323341  | 21054  | 3.988  |                 |
|                 | Gardhura                        | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1312            | Tingling                        | h.s.                  | 4.791132  | 61820  | 11.708 | "               |
|                 | Selim                           | "                     | 4.941995  | 87497  | 16.571 |                 |
|                 | Siliguri By. Str. Mark (hello.) | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1313            | Lohagarhi                       | h.s.                  | 4.165297  | 14632  | 2.771  | "               |
|                 | Chenga                          | "                     | 3.841699  | 6945   | 1.315  |                 |
|                 | Morapur                         | "                     | 4.027251  | 16648  | 2.017  |                 |
| 1314            | Tingling                        | h.s.                  | 4.803373  | 63588  | 12.043 | "               |
|                 | Selim                           | "                     | 4.935547  | 80208  | 16.327 |                 |
|                 | Siliguri                        | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1315            | Tingling                        | h.s.                  | 4.758329  | 61423  | 11.633 | "               |
|                 | Selim                           | "                     | 4.850039  | 70801  | 13.409 |                 |
|                 | Bagdogra                        | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1316            | Tingling                        | h.s.                  | 4.982497  | 96050  | 18.191 | "               |
|                 | Selim                           | "                     | 5.026830  | 106373 | 20.146 |                 |
|                 | Phausideva                      | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1317            | Tingling                        | h.s.                  | 4.848226  | 70506  | 13.353 | "               |
|                 | Selim                           | "                     | 4.732859  | 56006  | 10.721 |                 |
|                 | Nuksarbari                      | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1318            | Tingling                        | h.s.                  | 4.996189  | 99126  | 18.774 | "               |
|                 | Selim                           | "                     | 4.931526  | 85413  | 16.177 |                 |
|                 | Batasai Hât                     | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1319            | Tingling                        | h.s.                  | 5.059796  | 114761 | 21.635 | "               |
|                 | Selim                           | "                     | 5.017786  | 104180 | 19.731 |                 |
|                 | Khorbari                        | "                     | 4.580151  | 38032  | 7.203  |                 |
| 1320            | Hope Town                       | No. 1 h.s.            | 4.090742  | 12324  | 2.334  | "               |
|                 | Sonada                          | "                     | 4.201054  | 15887  | 3.009  |                 |
|                 | Rangbul                         | "                     | 3.883536  | 7648   | 1.448  |                 |
| 1321            | Hope Town                       | No. 2 h.s.            | 4.090742  | 12324  | 2.334  | "               |
|                 | Sonada                          | "                     | 4.232473  | 17079  | 3.235  |                 |
|                 | Rangbul                         | "                     | 3.974351  | 9427   | 1.785  |                 |
| 1322            | Rangbul                         | h.s.                  | 4.207842  | 16138  | 3.056  | "               |
|                 | Sonada                          | "                     | 4.078187  | 11073  | 2.268  |                 |
|                 | Duteria                         | "                     | 4.090742  | 12324  | 2.334  |                 |
| 1323            | Hope Town                       | No. 1 h.s.            | 4.207842  | 16138  | 3.056  | "               |
|                 | Sonada                          | "                     | 4.126279  | 13375  | 2.533  |                 |
|                 | Duteria                         | "                     | 3.883536  | 7648   | 1.448  |                 |
| 1324            | Hope Town                       | No. 2 h.s.            | 3.992648  | 9832   | 1.862  | "               |
|                 | Rangbul                         | "                     | 4.144582  | 13950  | 2.642  |                 |
|                 | Duteria                         | "                     | 4.232473  | 17079  | 3.235  |                 |
| 1325            | Hope Town                       | No. 1 h.s.            | 3.992648  | 9832   | 1.862  | "               |
|                 | Rangbul                         | "                     | 4.139214  | 13779  | 2.610  |                 |
|                 | Duteria                         | "                     | 4.201054  | 15887  | 3.009  |                 |
| 1326            | Duteria                         | No. 1 h.s.            | 4.299203  | 19016  | 3.772  | "               |
|                 | Rangbul                         | "                     | 4.058781  | 11449  | 2.168  |                 |
|                 | Pubong                          | "                     | 4.078187  | 11073  | 2.268  |                 |
| 1327            | Duteria                         | No. 2 h.s.            | 4.299203  | 19016  | 3.772  | "               |
|                 | Rangbul                         | "                     | 4.079065  | 11997  | 2.272  |                 |
|                 | Pubong                          | "                     | 3.992648  | 9832   | 1.862  |                 |
| 1328            | Duteria                         | No. 1 h.s.            | 4.183311  | 15322  | 2.902  | "               |
|                 | Pubong                          | "                     | 4.230853  | 17016  | 3.223  |                 |
|                 | Râni Chuten                     | "                     | 4.058781  | 11449  | 2.168  |                 |
| 1329            | Rangbul                         | h.s.                  | 4.183311  | 15322  | 2.902  | "               |
|                 | Pubong                          | "                     | 4.462159  | 28984  | 5.489  |                 |
|                 | Râni Chuten                     | "                     | 4.299203  | 19916  | 3.772  |                 |
| 1380            | Kurseong                        | h.s.                  | 4.359872  | 22902  | 4.338  | "               |
|                 | Margaret's Hope                 | No. 1                 | 4.263148  | 18329  | 3.472  |                 |
|                 | Marma                           | "                     | 4.325213  | 21145  | 4.005  |                 |
| 1381            | Hope Town                       | No. 1 h.s.            | 4.359872  | 22902  | 4.338  | "               |
|                 | Margaret's Hope                 | No. 1                 | 4.385459  | 24292  | 4.601  |                 |
|                 | Marma                           | "                     | 3.976352  | 9470   | 1.794  |                 |

| No. of Triangle | Station         | Corrected Plane Angle<br>° ' " | Distance  |       |       | No. of Triangle | Station    | Corrected Plane Angle<br>° ' " | Distance  |       |        | Theodolite used |
|-----------------|-----------------|--------------------------------|-----------|-------|-------|-----------------|------------|--------------------------------|-----------|-------|--------|-----------------|
|                 |                 |                                | Log. feet | Feet  | Miles |                 |            |                                | Log. feet | Feet  | Miles  |                 |
| 1332            | Lohagarhi       | h.s.                           | 3.766717  | 5844  | 1.107 | 1344            | Pubong     | h.s.                           | 3.859562  | 7237  | 1.371  | Inch            |
|                 | Tingling        | "                              | 4.363352  | 23086 | 4.372 |                 | Duteria    | No. 1                          | 3.802013  | 6339  | 1.201  |                 |
|                 | Phubsering      | "                              | 4.323931  | 21083 | 3.993 |                 | Tungsoong  | "                              | 4.058781  | 11449 | 2.168  |                 |
| 1333            | Phugarhi        | h.s.                           | 3.766717  | 5844  | 1.107 | 1345            | Selim      | h.s.                           | 4.508469  | 32245 | 6.107  | 10              |
|                 | Tingling        | "                              | 3.965099  | 9241  | 1.750 |                 | Mahaldram  | "                              | 4.469150  | 29454 | 5.579  |                 |
|                 | Phubsering      | "                              | 3.726868  | 5332  | 1.010 |                 | Latpanchor | No. 1                          | 4.374189  | 23669 | 4.483  |                 |
| 1334            | Phubsering      | h.s.                           | 4.222854  | 16821 | 3.186 | 1346            | Sitong     | h.s.                           | 4.508469  | 32245 | 6.107  | 6               |
|                 | Tingling        | "                              | 4.243861  | 17533 | 3.321 |                 | Mahaldram  | "                              | 4.011537  | 10269 | 1.945  |                 |
|                 | Meng            | "                              | 3.766717  | 5844  | 1.107 |                 | Latpanchor | No. 1                          | 4.447517  | 28523 | 5.307  |                 |
| 1335            | Kurseong        | h.s.                           | 4.222854  | 16821 | 3.186 | 1347            | Sitong     | h.s.                           | 4.285099  | 19280 | 3.651  | "               |
|                 | Tingling        | "                              | 4.366051  | 23230 | 4.400 |                 | Latpanchor | No. 1                          | 4.360292  | 22024 | 4.342  |                 |
|                 | Meng            | "                              | 4.334723  | 21613 | 4.093 |                 | Geabdat    | "                              | 4.011537  | 10269 | 1.945  |                 |
| 1336            | Kurseong        | h.s.                           | 4.278014  | 18968 | 3.592 | 1348            | Senchal    | h.s.                           | 4.667827  | 46540 | 8.814  | "               |
|                 | Marna           | "                              | 4.385066  | 24300 | 4.602 |                 | Sitong     | "                              | 4.580226  | 38039 | 7.204  |                 |
|                 | Hope Town       | No. 3                          | 4.263148  | 18329 | 3.472 |                 | Mangwa     | "                              | 4.614501  | 41162 | 7.796  |                 |
| 1337            | Margaret's Hope | No. 1                          | 4.278014  | 18968 | 3.592 | 1349            | Geabdat    | h.s.                           | 4.667827  | 46540 | 8.814  | "               |
|                 | Marna           | "                              | 3.028778  | 8488  | 1.668 |                 | Sitong     | "                              | 4.761095  | 57689 | 10.926 |                 |
|                 | Hope Town       | No. 3                          | 4.064351  | 22902 | 4.338 |                 | Mangwa     | "                              | 4.360292  | 22924 | 4.342  |                 |
| 1338            | Margaret's Hope | No. 1                          | 4.059044  | 11456 | 2.170 | 1350            | Geabdat    | h.s.                           | 3.971443  | 9364  | 1.773  | "               |
|                 | Kurseong        | "                              | 4.070142  | 11753 | 2.220 |                 | Sitong     | "                              | 4.353647  | 22576 | 4.570  |                 |
|                 | Dhobijhora      | "                              | 4.325213  | 21145 | 4.005 |                 | Seudim     | "                              | 4.360292  | 22924 | 4.342  |                 |
| 1339            | Dhobijhora      | h.s.                           | 4.084574  | 12150 | 2.301 | 1351            | Latpanchor | No. 1                          | 3.971443  | 9364  | 1.773  | "               |
|                 | Margaret's Hope | No. 1                          | 3.648388  | 4452  | 0.843 |                 | Sitong     | "                              | 4.254865  | 17983 | 3.406  |                 |
|                 | Dow Hill        | "                              | 4.070142  | 11753 | 2.226 |                 | Seudim     | "                              | 4.011537  | 10269 | 1.945  |                 |
| 1340            | Kurseong        | h.s.                           | 4.084574  | 12150 | 2.301 | 1352            | Seudim     | h.s.                           | 3.991476  | 9806  | 1.857  | "               |
|                 | Margaret's Hope | No. 1                          | 4.181387  | 15296 | 2.897 |                 | Sitong     | "                              | 4.222361  | 16686 | 3.160  |                 |
|                 | Dow Hill        | "                              | 4.325213  | 21145 | 4.005 |                 | Latpanchor | No. 2                          | 3.971443  | 9364  | 1.773  |                 |
| 1341            | Kurseong        | h.s.                           | 3.940238  | 8714  | 1.651 | 1353            | Geabdat    | h.s.                           | 3.991476  | 9806  | 1.857  | "               |
|                 | Dhobijhora      | "                              | 4.285578  | 16054 | 3.041 |                 | Sitong     | "                              | 4.241126  | 17423 | 3.300  |                 |
|                 | Margaret's Hope | No. 2                          | 4.059044  | 11456 | 2.170 |                 | Latpanchor | No. 2                          | 4.360292  | 22924 | 4.342  |                 |
| 1342            | Margaret's Hope | No. 1                          | 3.940238  | 8714  | 1.651 | 1354            | Sitong     | h.s.                           | 4.210966  | 16254 | 3.079  | "               |
|                 | Dhobijhora      | "                              | 3.745558  | 5566  | 1.054 |                 | Geabdat    | "                              | 4.331074  | 21433 | 4.059  |                 |
|                 | Margaret's Hope | No. 2                          | 4.070142  | 11753 | 2.226 |                 | Gboramara  | "                              | 4.360292  | 22924 | 4.342  |                 |
| 1343            | Rangbul         | h.s.                           | 3.850562  | 7237  | 1.371 | 1355            | Latpanchor | No. 1                          | 4.210966  | 16254 | 3.079  | "               |
|                 | Duteria         | "                              | 4.343433  | 18262 | 3.573 |                 | Geabdat    | "                              | 4.068760  | 11715 | 2.219  |                 |
|                 | Tungsoong       | "                              | 4.078887  | 11973 | 2.268 |                 | Ghoramara  | "                              | 4.285099  | 19280 | 3.651  |                 |



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangles | Station                | Corrected Plane Angle | Distance  |          |       | No. of Triangles | Station     | Corrected Plane Angle | Distance  |           |        | No. of Triangles |
|------------------|------------------------|-----------------------|-----------|----------|-------|------------------|-------------|-----------------------|-----------|-----------|--------|------------------|
|                  |                        |                       | Log. feet | Feet     | Miles |                  |             |                       | Log. feet | Feet      | Miles  |                  |
| 1356             | Latpanchor             | No. 1 h.s.            | 40 25 44  | 3 916687 | 8254  | 1 563            | Tonglu      | "                     | 25 28 33  | 4 864978  | 73279  | 13 879           |
|                  | Ghoramara              | "                     | 72 35 2   | 4 084394 | 12145 | 2 300            | Darjeeling  | Observatory           | 433 32 40 | 5 091620  | 123487 | 23 388           |
|                  | Jojilling              | No. 1                 | 66 59 14  | 4 068760 | 11715 | 2 219            | Tendong     | "                     | 20 58 47  | 4 785306  | 60997  | 11 552           |
| 1357             | Sitong                 | h.s.                  | 21 41 55  | 3 916687 | 8254  | 1 563            | Sandakphu   | No. 1 h.s.            | 28 40 17  | 4 864978  | 73279  | 13 879           |
|                  | Ghoramara              | "                     | 84 37 3   | 4 340995 | 22233 | 4 211            | Darjeeling  | Observatory           | 115 7 12  | 5 140782  | 138287 | 26 191           |
|                  | Jojilling              | No. 1                 | 73 41 22  | 4 331074 | 21433 | 4 059            | Tendong     | "                     | 4 955318  | 90223     | 17 088 |                  |
| 1358             | Jojilling              | No. 1 h.s.            | 86 55 1   | 3 943401 | 8778  | 1 663            | Senchal     | No. 1 h.s.            | 81 17 30  | 4 890786  | 77765  | 14 728           |
|                  | Ghoramara              | "                     | 24 9 27   | 3 550394 | 3601  | 0 682            | Darjeeling  | Observatory           | 81 4 39   | 4 890534  | 77720  | 14 720           |
|                  | Jojilling              | No. 2                 | 69 44 42  | 3 916687 | 8254  | 1 563            | Deolo       | "                     | 17 37 51  | 4 377096  | 23228  | 4 513            |
| 1359             | Latpanchor             | No. 1 h.s.            | 96 44 29  | 4 188700 | 15442 | 2 925            | Tendong     | h.s.                  | 74 14 13  | 4 890786  | 77765  | 14 728           |
|                  | Ghoramara              | "                     | 48 53 20  | 4 068760 | 11715 | 2 219            | Darjeeling  | Observatory           | 40 41 13  | 4 721632  | 52678  | 9 977            |
|                  | Jojilling              | No. 2                 | 87 2 0    | 3 814993 | 6531  | 1 237            | Deolo       | "                     | 65 4 34   | 4 864978  | 73279  | 13 879           |
| 1360             | Jojilling              | No. 2 h.s.            | 59 33 36  | 3 751163 | 5039  | 1 068            | Tendong     | h.s.                  | 34 38 51  | 4 798511  | 62880  | 11 909           |
|                  | Jojilling              | No. 1                 | 33 24 24  | 3 550394 | 3601  | 0 682            | Darjeeling  | Observatory           | 41 29 40  | 4 864978  | 73279  | 13 879           |
|                  | Bandartak              | "                     | 11 17 31  | 3 814993 | 6531  | 1 237            | Chumsering  | "                     | 15 13 55  | 4 890786  | 77765  | 14 728           |
| 1361             | Latpanchor             | No. 1 h.s.            | 147 21 19 | 4 350966 | 17993 | 3 468            | Deolo       | h.s.                  | 158 43 43 | 5 030932  | 107382 | 20 338           |
|                  | Jojilling              | No. 1                 | 21 21 10  | 4 084394 | 12145 | 2 300            | Darjeeling  | Observatory           | 6 2 22    | 4 493351  | 31142  | 5 898            |
|                  | Bandartak              | "                     | 43 34 45  | 3 943401 | 8778  | 1 663            | Chumsering  | "                     | 21 57 53  | 4 568995  | 37068  | 7 020            |
| 1362             | Jojilling              | No. 2 h.s.            | 51 49 49  | 4 000481 | 10011 | 1 896            | Deolo       | h.s.                  | 106 20 32 | 4 078171  | 95098  | 18 011           |
|                  | Ghoramara              | "                     | 84 35 26  | 4 103019 | 12657 | 2 401            | Songchonglu | "                     | 51 41 35  | 4 890786  | 77765  | 14 728           |
|                  | Ghoramara Nadi         | "                     | 43 34 45  | 3 943401 | 8778  | 1 663            | Chumsering  | "                     | 94 55 45  | 4 702607  | 50421  | 9 549            |
| 1363             | Geabdat                | h.s.                  | 93 8 52   | 4 291198 | 19552 | 3 703            | Deolo       | "                     | 37 58 43  | 4 493351  | 31142  | 5 898            |
|                  | Ghoramara              | "                     | 56 6 20   | 4 210966 | 16254 | 3 079            | Songchonglu | "                     | 48 52 36  | 4 446268  | 27043  | 5 292            |
|                  | Ghoramara Nadi         | "                     | 63 9 38   | 4 337162 | 21735 | 4 117            | Songchonglu | h.s.                  | 38 57 55  | 4 367850  | 23226  | 4 418            |
| 1364             | Tiger Hill             | h.s.                  | 55 13 26  | 4 301211 | 20068 | 3 789            | Deolo       | "                     | 92 9 29   | 4 568995  | 37068  | 7 020            |
|                  | Darjeeling Observatory | "                     | 56 15 44  | 4 337162 | 21735 | 4 117            | Saipur      | "                     | 56 11 54  | 4 446268  | 27043  | 5 292            |
|                  | Tukdah                 | "                     | 57 59 57  | 4 345670 | 22165 | 4 198            | Chumsering  | h.s.                  | 55 57 50  | 4 445073  | 27866  | 5 878            |
| 1365             | Senchal                | No. 1 h.s.            | 65 44 19  | 4 377096 | 23228 | 4 513            | Deolo       | "                     | 67 50 16  | 4 493351  | 31142  | 5 898            |
|                  | Darjeeling Observatory | "                     | 56 15 44  | 4 337162 | 21735 | 4 117            | Saipur      | "                     | 80 24 48  | 4 509793  | 32344  | 6 126            |
|                  | Tukdah                 | "                     | 57 59 57  | 4 345670 | 22165 | 4 198            | Songchonglu | h.s.                  | 54 15 35  | 4 425282  | 26625  | 5 043            |
| 1366             | Seudim                 | h.s.                  | 23 24 49  | 4 125955 | 13364 | 2 531            | Nimlu       | "                     | 45 19 37  | 4 367850  | 23226  | 4 418            |
|                  | Sitong                 | "                     | 16 10 8   | 3 971443 | 9364  | 1 773            | Chumsering  | "                     | 35 20 27  | 4 509793  | 32344  | 6 126            |
|                  | Mongpu Rock            | "                     | 31 13 14  | 4 497373 | 31432 | 5 953            | Deolo       | h.s.                  | 103 8 11  | 4 7336019 | 54453  | 10 313           |
| 1367             | Tukdah                 | h.s.                  | 128 5 20  | 4 678768 | 47727 | 9 039            | Nimlu       | "                     | 41 31 22  | 4 508995  | 37068  | 7 020            |
|                  | Sitong                 | "                     | 87 2 0    | 3 814993 | 6531  | 1 237            | Deolo       | h.s.                  | 35 20 27  | 4 509793  | 32344  | 6 126            |
|                  | Mongpu Rock            | "                     | 128 5 20  | 4 678768 | 47727 | 9 039            | Nimlu       | "                     | 103 8 11  | 4 7336019 | 54453  | 10 313           |

\* Deduced base.

| Triangle | Station            | Corrected Plane Angle | Distance  |          |       | Theodolite used | No. of Triangle | Station             | Corrected Plane Angle | Distance  |          |       | Theodolite used |
|----------|--------------------|-----------------------|-----------|----------|-------|-----------------|-----------------|---------------------|-----------------------|-----------|----------|-------|-----------------|
|          |                    |                       | Log. feet | Feet     | Miles |                 |                 |                     |                       | Log. feet | Feet     | Miles |                 |
| 1380     | Saihur             | h.s.                  | 46 40 20  | 4 417547 | 26155 | Inch            | 1389            | Songchonglu         | h.s.                  | 71 28 1   | 4 440798 | Inch  |                 |
|          | Songchonglu        | "                     | 92 52 40  | 4 555201 | 35909 | 6               |                 | Saihur              | "                     | "         | 4 378641 | 23913 | 6               |
|          | Pumongzong         | "                     | 40 27 0   | 4 367850 | 23326 | 6               |                 | Singsa              | "                     | 53 16 38  | 4 367850 | 23326 | "               |
| 1381     | Nimlu              | h.s.                  | 53 53 16  | 4 417547 | 26155 | 12.82           | 1393            | Songchonglu         | h.s.                  | 9 56 48   | 3 656297 | 4328  | "               |
|          | Songchonglu        | "                     | 38 37 5   | 4 305481 | 20206 | 12.86           |                 | Singsa              | "                     | 97 25 43  | 4 395264 | 24846 | "               |
|          | Pumongzong         | "                     | 87 29 39  | 4 509793 | 32344 | 6               |                 | Longsol             | "                     | 72 37 29  | 4 378641 | 23913 | "               |
| 1382     | Songchonglu        | h.s.                  | 4 361173  | 22971    | 4 350 | 1394            | Saihur          | h.s.                | 3 636297              | 4328      | 0 820    | "     |                 |
|          | Deolo              | "                     | 63 22 51  | 4 528194 | 33744 |                 | 6 391           | Singsa              | "                     | 44 9 5    | 4 392211 | 24072 | "               |
|          | Rinkinpong         | "                     | 79 7 56   | 4 568995 | 37068 |                 | 12              | Longsol             | "                     | 128 49 48 | 4 440798 | 27593 | "               |
| 1383     | Saihur             | h.s.                  | 4 361173  | 22971    | 4 350 | 1395            | Nimlu           | h.s.                | 88 38 33              | 4 326916  | 21228    | "     |                 |
|          | Deolo              | "                     | 102 20 46 | 4 599730 | 39786 |                 | 12.86           | Pumongzong          | "                     | 19 15 40  | 3 845385 | 7005  | "               |
|          | Rinkinpong         | "                     | 43 19 15  | 4 446268 | 27943 |                 | 12              | Nimju               | "                     | 72 5 47   | 4 305481 | 20206 | "               |
| 1384     | Deolo              | h.s.                  | 31 59 26  | 4 532389 | 34071 | 6 453           | 1396            | Nimlu               | h.s.                  | 110 26 12 | 4 504440 | 31948 | "               |
|          | Rinkinpong         | "                     | 127 4 58  | 4 710170 | 51306 | 9 717           |                 | Pumongzong          | "                     | 33 13 2   | 4 271307 | 18077 | "               |
|          | Yongri             | "                     | 4 361173  | 22971    | 4 350 | 6               |                 | Daling Fort         | "                     | 36 20 46  | 4 305481 | 20206 | "               |
| 1385     | Songchonglu        | h.s.                  | 4 532389  | 34071    | 6 453 | 1397            | Nimju           | h.s.                | 141 45 25             | 4 504440  | 31948    | "     |                 |
|          | Rinkinpong         | "                     | 47 57 2   | 4 440245 | 27558 |                 | 5 219           | Pumongzong          | "                     | 13 57 22  | 4 005080 | 12448 | "               |
|          | Yongri             | "                     | 65 24 9   | 4 528194 | 33744 |                 | 6 391           | Daling Fort         | "                     | 24 17 13  | 4 326916 | 21228 | "               |
| 1386     | Nimlu              | h.s.                  | 4 013264  | 10310    | 1 953 | 1398            | Nimlu           | h.s.                | 18 50 20              | 3 780462  | 6032     | "     |                 |
|          | Pumongzong         | "                     | 78 17 11  | 4 316730 | 20736 |                 | 3 027           | Daling Fort         | "                     | 72 13 36  | 4 250143 | 17789 | "               |
|          | Lethidhar          | "                     | 72 34 48  | 4 305481 | 20206 |                 | 3 827           | Daling              | "                     | 88 56 4   | 4 271307 | 18077 | "               |
| 1387     | Pumongzong         | h.s.                  | 110 43 13 | 4 371043 | 23409 | 4 451           | 1399            | Pumongzong          | h.s.                  | 3 780462  | 6032     | 1 142 | "               |
|          | Lethidhar          | "                     | 45 3 5    | 4 249958 | 17781 | 3 368           |                 | Daling Fort         | "                     | 35 52 50  | 4 436009 | 27290 | "               |
|          | Bhir               | "                     | 24 13 42  | 4 013264 | 10310 | 1 953           |                 | Daling              | "                     | 136 40 34 | 4 504440 | 31948 | "               |
| 1388     | Nimlu              | h.s.                  | 4 124329  | 13315    | 2 522 | 1400            | Daling Fort     | h.s.                | 45 5 31               | 3 708845  | 5115     | "     |                 |
|          | Bhir               | "                     | 95 59 20  | 4 617342 | 41433 |                 | 7 847           | Daling              | "                     | 78 16 12  | 3 840490 | 7071  | "               |
|          | Lethi River        | 8.                    | 65 22 20  | 4 578299 | 37870 |                 | 7 172           | Sakkatak            | "                     | 56 38 17  | 3 780462 | 6032  | "               |
| 1389     | Deolo              | h.s.                  | 17 34 16  | 4 382060 | 24102 | 4 565           | 1401            | Daling Fort         | h.s.                  | 91 35 57  | 3 903380 | 8005  | "               |
|          | Rinkinpong         | "                     | 145 42 28 | 4 653040 | 44982 | 8 519           |                 | Daling              | "                     | 39 31 56  | 3 707356 | 5097  | "               |
|          | Nazzeokh Hill Mark | "                     | 4 361173  | 22971    | 4 350 | 4 350           |                 | Samsingam Hill Mark | "                     | 102 42 16 | 3 903380 | 8005  | "               |
| 1390     | Yongri             | h.s.                  | 34 25 33  | 4 382060 | 24102 | 4 565           | 1402            | Sakkatak            | h.s.                  | 38 44 16  | 3 903380 | 8005  | "               |
|          | Rinkinpong         | "                     | 18 37 3   | 4 134039 | 13616 | 2 579           |                 | Daling              | "                     | 33 71 051 | 5135     | 0 973 | "               |
|          | Nazzeokh Hill Mark | "                     | 4 532389  | 34071    | 6 453 | 6 453           |                 | Samsingam Hill Mark | "                     | 3 708845  | 5115     | 0 969 | "               |
| 1391     | Pumongzong         | h.s.                  | 25 31 26  | 4 440798 | 27593 | 5 226           | 1403            | Samsingam Hill Mark | h.s.                  | 41 2 11   | 3 956015 | 9037  | "               |
|          | Saihur             | "                     | 3 980356  | 9558     | 1 810 | 6 801           |                 | Daling              | "                     | 60 17 43  | 3 903380 | 8005  | "               |
|          | Singsa             | "                     | 4 555201  | 35909    | 6 801 | "               |                 | Nim                 | "                     | 1 712     | 1 712    | "     |                 |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                            | Corrected Plane Angle |           |          | Distance  |       |       | No. of Triangle used | No. of Triangle                      | Station        | Corrected Plane Angle |          |       | Distance  |       |           | No. of Triangle used | No. of Triangle | Station | Corrected Plane Angle |          |       | Distance  |       |       | No. of Triangle used | No. of Triangle |
|-----------------|------------------------------------|-----------------------|-----------|----------|-----------|-------|-------|----------------------|--------------------------------------|----------------|-----------------------|----------|-------|-----------|-------|-----------|----------------------|-----------------|---------|-----------------------|----------|-------|-----------|-------|-------|----------------------|-----------------|
|                 |                                    | °                     | '         | "        | Log. feet | Feet  | Miles |                      |                                      |                | Log. feet             | Feet     | Miles | Log. feet | Feet  | Miles     |                      |                 |         | Log. feet             | Feet     | Miles | Log. feet | Feet  | Miles |                      |                 |
| 1404            | Daling Fort<br>Daling<br>Nim       | h.s.                  | 62 57 16  | 3 956015 | 9037      | 1 712 | 0     | 1416                 | Pumongzong<br>Nimlu<br>Chamaigson    | h.s.           | 38 17 51              | 4 388479 | 24161 | 7         | 6 633 | 110 54 35 | 4 566880             | 36871           | 6 983   | 30 47 34              | 4 305481 | 20206 | 6         | 3 827 |       |                      |                 |
| 1405            | Daling<br>Nimlu<br>Sillbong        | h.s.                  | 15 25 59  | 3 676235 | 4745      | 0 899 | 0     | 1417                 | Pumongzong<br>Nimlu<br>Chamaigson    | h.s.           | 95 59 8               | 4 507477 | 39580 | 1         | 6 059 | 78 30 16  | 4 242369             | 17789           | 7 496   | 30 30 45              | 4 305481 | 20206 | 6         | 3 827 |       |                      |                 |
| 1406            | Daling Fort<br>Nimlu<br>Sillbong   | h.s.                  | 14 7 11   | 3 676235 | 4745      | 0 899 | 0     | 1418                 | Singsa<br>Nimlu<br>Chamaigson        | h.s.           | 50 15 24              | 4 505040 | 31992 | 1         | 6 059 | 59 39 56  | 4 224993             | 16788           | 7 243   | 16 32 27              | 4 073547 | 11845 | 6         | 2 243 |       |                      |                 |
| 1407            | Nimlu<br>Longsol<br>Nok            | h.s.                  | 77 57 17  | 3 998061 | 9956      | 1 886 | 0     | 1419                 | Chamaigson<br>Chamaigson<br>Tempu La | h.s.           | 70 44 41              | 4 288222 | 19419 | 1         | 3 678 | 54 44 44  | 3 919738             | 8313            | 3 820   | 30 34 48              | 4 019719 | 10465 | 6         | 1 982 |       |                      |                 |
| 1408            | Longsol<br>Nimlu<br>Pongril Upper  | h.s.                  | 59 16 43  | 3 919211 | 8303      | 1 572 | 0     | 1420                 | Singsa<br>Pumongzong<br>Pagriangbong | h.s.           | 79 10 10              | 3 979205 | 9532  | 1         | 1 805 | 59 23 45  | 3 919738             | 8313            | 0 654   | 20 50 8               | 3 538079 | 3452  | 6         | 0 880 |       |                      |                 |
| 1409            | Nok<br>Nimlu<br>Pongril Upper      | h.s.                  | 101 17 14 | 3 910211 | 8303      | 1 572 | 0     | 1421                 | Pagriangbong<br>Singsa<br>Deotharim  | h.s.           | 43 31 19              | 3 505114 | 3200  | 0         | 0 606 | 62 5 1    | 3 873965             | 7481            | 0 654   | 47 58 50              | 3 538079 | 3452  | 6         | 0 880 |       |                      |                 |
| 1410            | Samsingam Hill Mark<br>Nim<br>Nim  | No. 1<br>No. 2        | 120 51 3  | 3 881180 | 7606      | 1 441 | 1     | 1422                 | Nimlu<br>Singsa<br>Deotharim         | h.s.           | 51 4 19               | 4 006248 | 10145 | 1         | 1 921 | 43 4 28   | 3 781825             | 6051            | 2 243   | 114 43 29             | 4 073547 | 11845 | 6         | 2 243 |       |                      |                 |
| 1411            | Daling Fort<br>Nim<br>Nim          | No. 1<br>No. 2        | 144 40 9  | 4 082575 | 12094     | 2 291 | 1     | 1423                 | Chamaigson<br>Mo Chu                 | No. 1<br>No. 2 | 68 30 11              | 4 458595 | 28747 | 5         | 5 445 | 144 40 9  | 4 082575             | 12094           | 5 849   | 19 47 51              | 4 019719 | 10465 | 6         | 1 982 |       |                      |                 |
| 1412            | Nimlu<br>Longsol<br>Pongril Lower  | h.s.                  | 56 52 14  | 3 871572 | 7440      | 1 409 | 1     | 1424                 | Tempu La<br>Chamaigson<br>Mo Chu     | h.s.           | 142 58 23             | 4 458595 | 28747 | 5         | 5 445 | 69 20 6   | 3 919738             | 8313            | 2 038   | 24 0 10               | 4 288222 | 19419 | 6         | 3 678 |       |                      |                 |
| 1413            | Singsa<br>Pumongzong<br>Gorubathan | h.s.                  | 70 36 21  | 4 439602 | 27517     | 5 212 | 2     | 1425                 | Tempu La<br>Mo Chu<br>Komai          | h.s.           | 85 0 15               | 4 174743 | 14953 | 2         | 2 152 | 19 7 30   | 3 980356             | 9558            | 2 832   | 45 47 2               | 4 031742 | 10758 | 6         | 2 038 |       |                      |                 |
| 1414            | Nimlu<br>Pumongzong<br>Gorubathan  | h.s.                  | 68 14 56  | 4 439602 | 27517     | 5 212 | 2     | 1426                 | Chamaigson<br>Mo Chu<br>Komai        | No. 1<br>No. 2 | 80 47 56              | 4 493535 | 31150 | 2         | 2 152 | 68 44 56  | 4 441095             | 27012           | 5 901   | 78 5 44               | 4 489717 | 30883 | 6         | 5 849 |       |                      |                 |
| 1415            | Gorubathan<br>Nimlu<br>Chamaigson  | h.s.                  | 59 51 44  | 4 388479 | 24461     | 6 633 | 2     | 1427                 | Tempu La<br>Mo Chu<br>Mo Chu         | h.s.           | 101 32 40             | 4 463629 | 29082 | 2         | 5 508 | 49 51 44  | 4 388479             | 24461           | 6 244   | 18 38 49              | 4 031742 | 10758 | 6         | 2 038 |       |                      |                 |

\* Deduced base.

| No. of Triangle | Station                                         | Corrected Plane Angle<br>° ' " | Distance                         |                                     |                           | Theodolite used   | No. of Triangle                                      | Station                  | Corrected Plane Angle<br>° ' "   | Distance                            |                           |                   | Theodolite used            |
|-----------------|-------------------------------------------------|--------------------------------|----------------------------------|-------------------------------------|---------------------------|-------------------|------------------------------------------------------|--------------------------|----------------------------------|-------------------------------------|---------------------------|-------------------|----------------------------|
|                 |                                                 |                                | Log. feet                        | Feet                                | Miles                     |                   |                                                      |                          |                                  | Log. feet                           | Feet                      | Miles             |                            |
| 1428            | Mo Chu<br>Tempu La<br>Komai                     | h.s.<br>" "<br>" "             | 97 11 30<br>35 6 41<br>47 41 49  | 4' 159318<br>3' 922542<br>4' 031742 | 14432<br>8366<br>10758    | 6<br>" "<br>" "   | Darjeeling Observatory<br>Tonglu<br>Phallut          | h.s.<br>" "<br>" "       | 41 16 55<br>103 2 48<br>35 40 17 | 4' 838026<br>5' 008179<br>4' 785306 | 69012<br>101901<br>60997  | 12<br>12<br>5     | Inch<br>s.s.12<br>s.s.12   |
| 1429            | Chamaigson<br>Tempu La<br>Komai                 | No. 2<br>" "<br>" "            | 107 51 42<br>42 11 39            | 4' 439047<br>4' 288222              | 27519<br>19419            | " "<br>" "<br>" " | Darjeeling Observatory<br>Singalla                   | h.s.<br>" "<br>" "       | 57 2 36<br>87 6 4<br>35 51 20    | 5' 021075<br>5' 096714<br>4' 864978 | 104972<br>124944<br>73279 | 4<br>12<br>12     | s.s.12<br>s.s.12<br>s.s.12 |
| 1430            | Deolo<br>Sairhur<br>Nimkhu                      | h.s.<br>" "<br>" "             | 15 12 9<br>132 16 49<br>32 31 2  | 4' 134531<br>4' 584968<br>4' 446268 | 13631<br>38459<br>27943   | 12<br>6<br>" "    | Tonglu<br>Darjeeling Observatory<br>Singalla         | h.s.<br>" "<br>" "       | 98 28 34<br>46 26 36<br>35 4 50  | 5' 021075<br>4' 885998<br>4' 785306 | 104972<br>76913<br>60997  | 4<br>3<br>3       | " "<br>s.s.12<br>" "       |
| 1431            | Chumnering<br>Sairhur<br>Nimkhu                 | h.s.<br>" "<br>" "             | 29 13 13<br>64 26 33<br>86 20 14 | 4' 134531<br>4' 401242<br>4' 445073 | 13631<br>25101<br>27866   | " "<br>" "<br>" " | Tendong<br>Tonglu<br>Singalla                        | h.s.<br>" "<br>" "       | 36 3 49<br>73 0 1<br>70 56 10    | 4' 885998<br>5' 096714<br>5' 091620 | 76913<br>124944<br>123487 | 5<br>12<br>s.s.12 | " "<br>s.s.12<br>s.s.12    |
| 1432            | Daling Fort<br>Daling<br>Tanglangpong Hill Mark | h.s.<br>" "<br>" "             | 31 55 28<br>112 24 48            | 3' 738081<br>3' 985676<br>3' 780462 | 5471<br>9505<br>6032      | " "<br>" "<br>" " | Deolo<br>Darjeeling Observatory<br>Chakung           | h.s.<br>" "<br>" "       | 25 44 9<br>85 26 4<br>85 20 4    | 4' 558552<br>4' 919308<br>4' 890786 | 36187<br>83061<br>77765   | 3<br>3<br>3       | 5<br>s.s.12<br>s.s.12      |
| 1433            | Sakkatak<br>Daling<br>Tanglangpong Hill Mark    | h.s.<br>" "<br>" "             | 79 10 51<br>34 8 36              | 3' 738081<br>3' 495038<br>3' 708845 | 5471<br>3126<br>5115      | " "<br>" "<br>" " | Tonglu<br>Darjeeling Observatory<br>Chakung          | h.s.<br>" "<br>" "       | 30 57 50<br>88 53 49             | 4' 558552<br>4' 817088<br>4' 785306 | 36187<br>70321<br>60997   | 5<br>12<br>5      | 5<br>s.s.12<br>s.s.12      |
| 1434            | Daling Fort<br>Daling<br>Peshagam Hill Mark     | h.s.<br>" "<br>" "             | 108 7 23<br>37 54 46             | 4' 011205<br>3' 821797<br>3' 780402 | 10261<br>6634<br>6032     | " "<br>" "<br>" " | Tendong<br>Darjeeling Observatory<br>Kiuchinpuung    | h.s.<br>" "<br>" "       | 62 18 44<br>37 40 28             | 4' 818794<br>4' 657774<br>4' 864978 | 65886<br>45475<br>73279   | 5<br>12<br>7      | 5<br>12<br>5               |
| 1435            | Nim<br>Daling Fort<br>Peshagam Hill Mark        | No. 1 h.s.<br>" "<br>" "       | 40 9 19<br>100 52 2              | 4' 011205<br>4' 193880<br>4' 000400 | 10261<br>15687<br>10009   | " "<br>" "<br>" " | Moinam<br>Darjeeling Observatory<br>Runchinpuung     | h.s.<br>" "<br>" "       | 133 59 44                        | 4' 818794<br>4' 742300<br>5' 047580 | 65886<br>53246<br>111578  | 5<br>12<br>5      | 5<br>12<br>5               |
| 1436            | Pongril Upper<br>Piangling Hill Staff           | h.s.<br>" "<br>" "             | 92 28 59<br>56 9 21              | 4' 211291<br>4' 131067<br>3' 928061 | 16266<br>13523<br>8473    | " "<br>" "<br>" " | Darjeeling Observatory<br>Tonglu<br>Lintse Monastery | h.s.<br>" "<br>" "       | 93 56 12<br>37 46 48             | 4' 911283<br>4' 699508<br>4' 785306 | 81523<br>50062<br>60997   | 12<br>12<br>2     | s.s.12<br>s.s.12<br>s.s.12 |
| 1437            | Tonglu<br>Tendong<br>Moinam                     | h.s.<br>" "<br>" "             | 16 23 23<br>115 7 30<br>48 29 7  | 4' 667773<br>5' 174095<br>5' 091620 | 46534<br>149312<br>123487 | 12<br>5<br>12     | Chakung<br>Tonglu<br>Lintse Monastery                | h.s.<br>" "<br>" "       | 137 40 49<br>6 48 58             | 4' 911283<br>4' 157484<br>4' 847088 | 81523<br>14371<br>70321   | 5<br>12<br>12     | 5<br>12<br>12              |
| 1438            | Darjeeling Observatory<br>Tendong<br>Moinam     | h.s.<br>" "<br>" "             | 16 48 28<br>136 6 17<br>27 5 15  | 4' 667773<br>5' 047580<br>4' 864978 | 46534<br>111578<br>73279  | 5<br>" "<br>" "   | Senehal<br>Tonglu<br>Kiroong                         | No. 1 h.s.<br>" "<br>" " | 89 54 8<br>67 27 58              | 5' 265312<br>5' 20862<br>4' 505094  | 184226<br>70162<br>70891  | 12<br>" "<br>" "  | 12<br>" "<br>" "           |
| 1439            | Sandakphu<br>Tanglu<br>Phallut                  | No. 1 h.s.<br>" "<br>" "       | 126 5 43<br>27 44 22<br>26 9 55  | 4' 838026<br>4' 594368<br>4' 573893 | 69012<br>37553<br>37661   | 12<br>6<br>6      | Darjeeling Observatory<br>Tonglu<br>Kiroong          | h.s.<br>" "<br>" "       | 113 53 8<br>47 57 20             | 4' 838026<br>5' 298352<br>4' 785306 | 184226<br>58883<br>60997  | 12<br>" "<br>" "  | 12<br>" "<br>" "           |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                      | Connected Plane Angle |           | Distance  |        | No. of Triangle | Station                                             | No. of Triangle | Distance  |           | No. of Triangle | Station | Connected Plane Angle |           | Distance  |       | No. of Triangle | Station                                             | No. of Triangle | Station | Distance  |          | No. of Triangle | Station | No. of Triangle |           |       |
|-----------------|----------------------------------------------|-----------------------|-----------|-----------|--------|-----------------|-----------------------------------------------------|-----------------|-----------|-----------|-----------------|---------|-----------------------|-----------|-----------|-------|-----------------|-----------------------------------------------------|-----------------|---------|-----------|----------|-----------------|---------|-----------------|-----------|-------|
|                 |                                              | °                     | '         | Log. Feet | Feet   |                 |                                                     |                 | Log. Feet | Feet      |                 |         | Log. Feet             | Feet      | Log. Feet | Feet  |                 |                                                     |                 |         | Log. Feet | Feet     |                 |         |                 | Log. Feet | Feet  |
| 1452            | Singalila Darjeeling Observatory Kangrang La | h.s.                  | 18 0 35   | 5'192924  | 155938 | 1464            | Kirsong Tenglong Lenkabui                           | 1464            | h.s.      | 20 21 25  | 4'327305        | 21247   | h.s.                  | 20 21 25  | 4'327305  | 21247 | 1464            | Kirsong Tenglong Lenkabui                           | 1464            | h.s.    | 20 21 25  | 4'327305 | 21247           | h.s.    | 20 21 25        | 4'327305  | 21247 |
| 1453            | Sandakphu Darjeeling Observatory Kangrang La | No. 1 h.s.            | 30 2 47   | 4'811705  | 64819  | 1465            | Monnam Tenglong Pemionchi Monastery                 | 1465            | h.s.      | 83 9 50   | 4'793806        | 62202   | h.s.                  | 83 9 50   | 4'793806  | 62202 | 1465            | Monnam Tenglong Pemionchi Monastery                 | 1465            | h.s.    | 83 9 50   | 4'793806 | 62202           | h.s.    | 83 9 50         | 4'793806  | 62202 |
| 1454            | Darjeeling Observatory Singalila Lampheram   | h.s.                  | 109 41 54 | 5'090602  | 123223 | 1466            | Darjeeling Observatory Tenglong Pemionchi Monastery | 1466            | h.s.      | 41 28 33  | 4'793806        | 62202   | h.s.                  | 41 28 33  | 4'793806  | 62202 | 1466            | Darjeeling Observatory Tenglong Pemionchi Monastery | 1466            | h.s.    | 41 28 33  | 4'793806 | 62202           | h.s.    | 41 28 33        | 4'793806  | 62202 |
| 1455            | Kangrang La Singalila Lampheram              | h.s.                  | 53 19 30  | 5'021075  | 104972 | 1467            | Deolo Darjeeling Observatory Kangit                 | 1467            | h.s.      | 15 40 37  | 4'442896        | 27727   | h.s.                  | 15 40 37  | 4'442896  | 27727 | 1467            | Deolo Darjeeling Observatory Kangit                 | 1467            | h.s.    | 15 40 37  | 4'442896 | 27727           | h.s.    | 15 40 37        | 4'442896  | 27727 |
| 1456            | Tonglu Sandakphu Phaltak La                  | No. 1 h.s.            | 36 47 51  | 4'575895  | 37661  | 1468            | Chakung Darjeeling Observatory Rangit               | 1468            | h.s.      | 51 44 4   | 4'406975        | 28905   | h.s.                  | 51 44 4   | 4'406975  | 28905 | 1468            | Chakung Darjeeling Observatory Rangit               | 1468            | h.s.    | 51 44 4   | 4'406975 | 28905           | h.s.    | 51 44 4         | 4'406975  | 28905 |
| 1457            | Phallat Sandakphu Phaltak La                 | h.s.                  | 52 33 48  | 4'599368  | 39753  | 1469            | Tiger Hill Tenglong Kalimpong                       | 1469            | h.s.      | 40 10 58  | 4'746482        | 55780   | h.s.                  | 40 10 58  | 4'746482  | 55780 | 1469            | Tiger Hill Tenglong Kalimpong                       | 1469            | h.s.    | 40 10 58  | 4'746482 | 55780           | h.s.    | 40 10 58        | 4'746482  | 55780 |
| 1458            | Lampheram Kangrang La Dniu La                | h.s.                  | 67 25 35  | 4'516011  | 32810  | 1470            | Deolo Tenglong Kalimpong                            | 1470            | h.s.      | 94 35 24  | 4'746482        | 55780   | h.s.                  | 94 35 24  | 4'746482  | 55780 | 1470            | Deolo Tenglong Kalimpong                            | 1470            | h.s.    | 94 35 24  | 4'746482 | 55780           | h.s.    | 94 35 24        | 4'746482  | 55780 |
| 1459            | Kangrang La Lampheram Pongmerong             | h.s.                  | 57 21 27  | 4'510011  | 32810  | 1471            | Chamsaring Darjeeling Observatory Tenglong Churten  | 1471            | h.s.      | 41 28 58  | 4'864876        | 73262   | h.s.                  | 41 28 58  | 4'864876  | 73262 | 1471            | Chamsaring Darjeeling Observatory Tenglong Churten  | 1471            | h.s.    | 41 28 58  | 4'864876 | 73262           | h.s.    | 41 28 58        | 4'864876  | 73262 |
| 1460            | Dniu La Lampheram Pongmerong                 | h.s.                  | 66 51 38  | 4'496798  | 31391  | 1472            | Deolo Darjeeling Observatory Tenglong Churten       | 1472            | h.s.      | 65 3 12   | 4'864876        | 73262   | h.s.                  | 65 3 12   | 4'864876  | 73262 | 1472            | Deolo Darjeeling Observatory Tenglong Churten       | 1472            | h.s.    | 65 3 12   | 4'864876 | 73262           | h.s.    | 65 3 12         | 4'864876  | 73262 |
| 1461            | Dniu La Lampheram Pongmerong Kabur           | h.s.                  | 83 55 48  | 4'530781  | 33945  | 1473            | Chakung Siltuvak Namchi Monastery                   | 1473            | h.s.      | 95 56 25  | 4'095792        | 12468   | h.s.                  | 95 56 25  | 4'095792  | 12468 | 1473            | Chakung Siltuvak Namchi Monastery                   | 1473            | h.s.    | 95 56 25  | 4'095792 | 12468           | h.s.    | 95 56 25        | 4'095792  | 12468 |
| 1462            | Lampheram Kirsong Tenglong                   | h.s.                  | 26 53 33  | 4'216146  | 16659  | 1474            | Deolo Chamsaring Chedam Hill Mark                   | 1474            | h.s.      | 137 29 44 | 4'751749        | 56461   | h.s.                  | 137 29 44 | 4'751749  | 56461 | 1474            | Deolo Chamsaring Chedam Hill Mark                   | 1474            | h.s.    | 137 29 44 | 4'751749 | 56461           | h.s.    | 137 29 44       | 4'751749  | 56461 |
| 1463            | Tendong Kirsong Longjong                     | h.s.                  | 130 5 21  | 5'077361  | 119198 | 1475            | Kirsong Senan Monastery                             | 1475            | h.s.      | 58 8 35   | 4'735320        | 54365   | h.s.                  | 58 8 35   | 4'735320  | 54365 | 1475            | Kirsong Senan Monastery                             | 1475            | h.s.    | 58 8 35   | 4'735320 | 54365           | h.s.    | 58 8 35         | 4'735320  | 54365 |

\* Deduced base.

| Triangle No. | Station                                        | Corrected Plane Angle        | Distance  |        |        | Theodolite used    |
|--------------|------------------------------------------------|------------------------------|-----------|--------|--------|--------------------|
|              |                                                |                              | Log. feet | Feet   | Miles  |                    |
| 1476         | Phugathi<br>Tinglung<br>Marna Bungalow         | h.s.<br>116 11 0<br>48 25 15 | 4 255806  | 18022  | 3.113  | Inch<br>5          |
|              |                                                |                              | 4 176751  | 15023  | 2.845  |                    |
|              |                                                |                              | 3 726868  | 5332   | 1.010  |                    |
| 1477         | Songchonglu<br>Deolo<br>Khamnung               | h.s.<br>" "<br>" "           | 4 682300  | 48117  | 9.113  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 673493  | 47151  | 8.930  |                    |
|              |                                                |                              | 4 568995  | 37068  | 7.020  |                    |
| 1478         | Chumsering<br>Deolo<br>Khamnung                | h.s.<br>" "<br>" "           | 4 682300  | 48117  | 9.113  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 412674  | 25863  | 4.898  |                    |
|              |                                                |                              | 4 493351  | 31142  | 5.898  |                    |
| 1479         | Nimlu<br>Deolo<br>Khamnung                     | h.s.<br>" "<br>" "           | 4 682300  | 48117  | 9.113  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 440482  | 27573  | 5.222  |                    |
|              |                                                |                              | 4 730019  | 54453  | 10.313 |                    |
| 1480         | Nimlu<br>Khamnung<br>Sathi La                  | h.s.<br>" "<br>" "           | 4 491762  | 31029  | 5.877  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 678052  | 47649  | 9.024  |                    |
|              |                                                |                              | 4 440482  | 27573  | 5.222  |                    |
| 1481         | Songchonglu<br>Khamnung<br>Sathi La            | h.s.<br>" "<br>" "           | 4 491762  | 31029  | 5.877  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 879171  | 75713  | 14.340 |                    |
|              |                                                |                              | 4 673493  | 47151  | 8.930  |                    |
| 1482         | Chumsering<br>Khamnung<br>Richi La             | h.s.<br>" "<br>" "           | 4 496684  | 31382  | 5.944  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 710143  | 51903  | 9.716  |                    |
|              |                                                |                              | 4 412674  | 25863  | 4.898  |                    |
| 1483         | Sandakphu<br>Tiger Hill<br>Lingtu              | No. 1<br>" "<br>" "          | 5 284756  | 192644 | 36.486 | h.s.<br>" "<br>" " |
|              |                                                |                              | 5 423522  | 265169 | 50.221 |                    |
|              |                                                |                              | 5 008805  | 101579 | 19.239 |                    |
| 1484         | Darjeeling Observatory<br>Tiger Hill<br>Lingtu | h.s.<br>" "<br>" "           | 5 284756  | 192644 | 36.486 | h.s.<br>" "<br>" " |
|              |                                                |                              | 5 275340  | 188512 | 35.703 |                    |
|              |                                                |                              | 4 301211  | 20008  | 3.789  |                    |
| 1485         | Richi La<br>Chumsering<br>Lingtu               | h.s.<br>" "<br>" "           | 4 922498  | 83656  | 15.844 | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 739227  | 54850  | 10.389 |                    |
|              |                                                |                              | 4 710143  | 51903  | 9.716  |                    |
| 1486         | Khamnung<br>Chumsering<br>Lingtu               | h.s.<br>" "<br>" "           | 4 922498  | 83656  | 15.844 | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 892605  | 78092  | 14.780 |                    |
|              |                                                |                              | 4 412674  | 25863  | 4.898  |                    |
| 1487         | Deolo<br>Chumsering<br>Risum                   | h.s.<br>" "<br>" "           | 4 142107  | 13871  | 2.627  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 503431  | 31142  | 5.898  |                    |
|              |                                                |                              | 4 503431  | 31142  | 5.898  |                    |
| 1488         | Rinkinpong<br>Chumsering<br>Risum              | h.s.<br>" "<br>No. 1         | 4 142107  | 13871  | 2.627  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 707091  | 59044  | 9.648  |                    |
|              |                                                |                              | 4 725656  | 53169  | 10.070 |                    |
| 1489         | Chumsering<br>Risum<br>Rhenok                  | h.s.<br>" "<br>" "           | 4 591378  | 39046  | 7.395  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 539897  | 34665  | 6.565  |                    |
|              |                                                |                              | 4 142107  | 13871  | 2.627  |                    |
| 1490         | Chumsering<br>Risum<br>Padanglu Hill Mark      | h.s.<br>" "<br>No. 1         | 4 056433  | 11388  | 2.157  | h.s.<br>" "<br>" " |
|              |                                                |                              | 3 613218  | 4104   | 0.777  |                    |
|              |                                                |                              | 4 142107  | 13871  | 2.627  |                    |
| 1491         | Rhenok<br>Risum<br>Padanglu Hill Mark          | h.s.<br>" "<br>No. 1         | 4 056433  | 11388  | 2.157  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 580258  | 38042  | 7.205  |                    |
|              |                                                |                              | 4 591578  | 39046  | 7.395  |                    |
| 1492         | Risum<br>Rhenok<br>Damsong                     | h.s.<br>" "<br>" "           | 4 494298  | 31210  | 5.911  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 158672  | 14410  | 2.729  |                    |
|              |                                                |                              | 4 591578  | 39046  | 7.395  |                    |
| 1493         | Khamnung<br>Rhenok<br>Damsong                  | h.s.<br>" "<br>" "           | 4 494298  | 31210  | 5.911  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 385353  | 24286  | 4.600  |                    |
|              |                                                |                              | 4 525662  | 33548  | 6.354  |                    |
| 1494         | Nimlu<br>Khamnung<br>Pankasari                 | h.s.<br>" "<br>" "           | 4 175943  | 14995  | 2.840  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 440482  | 27573  | 5.222  |                    |
|              |                                                |                              | 4 440482  | 27573  | 5.222  |                    |
| 1495         | Sathi La<br>Khamnung<br>Pankasari              | h.s.<br>" "<br>" "           | 4 175943  | 14995  | 2.840  | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 317293  | 20793  | 3.932  |                    |
|              |                                                |                              | 4 491762  | 31029  | 5.877  |                    |
| 1496         | Chumsering<br>Richi La<br>Gyi-mo-chi           | h.s.<br>" "<br>" "           | 4 874452  | 74895  | 14.185 | h.s.<br>" "<br>" " |
|              |                                                |                              | 5 059575  | 114703 | 21.724 |                    |
|              |                                                |                              | 4 710143  | 51903  | 9.716  |                    |
| 1497         | Lingtu<br>Richi La<br>Gyi-mo-chi               | h.s.<br>" "<br>" "           | 4 874452  | 74895  | 14.185 | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 543444  | 34950  | 6.619  |                    |
|              |                                                |                              | 4 739227  | 54856  | 10.389 |                    |
| 1498         | Chumsering<br>Lingtu<br>Simungpuchhi           | h.s.<br>" "<br>" "           | 4 813435  | 65078  | 12.395 | h.s.<br>" "<br>" " |
|              |                                                |                              | 5 124562  | 133218 | 25.231 |                    |
|              |                                                |                              | 4 922498  | 83656  | 15.844 |                    |
| 1499         | Gyi-mo-chi<br>Lingtu<br>Simungpuchhi           | h.s.<br>" "<br>" "           | 4 813435  | 65078  | 12.395 | h.s.<br>" "<br>" " |
|              |                                                |                              | 4 854327  | 71503  | 13.542 |                    |
|              |                                                |                              | 4 543444  | 34950  | 6.619  |                    |

continued next

SECONDARY TRIANGULATION. TRIANGLES.

| No of Triangle | Station       | Corrected Plane Angle | Distance  |       |        | No of Triangle | Station           | Corrected Plane Angle | Distance  |          |        | Theodolite used |   |
|----------------|---------------|-----------------------|-----------|-------|--------|----------------|-------------------|-----------------------|-----------|----------|--------|-----------------|---|
|                |               |                       | Log. feet | Feet  | Miles  |                |                   |                       | Log. feet | Feet     | Miles  |                 |   |
| 1500           | Simungpehurbi | h.s.                  | 4.609201  | 50037 | 9.477  | 1506           | Chukarchi         | h.s.                  | 4.451968  | 28312    | 5.362  | Inch            |   |
|                | Lingtu        | "                     | 4.635713  | 42223 | 8.186  |                | Gyi-mo-chi        | "                     | 4.177572  | 15051    | 2.851  |                 |   |
|                | Jandorhi      | "                     | 4.813435  | 65078 | 12.325 |                | Pembringo         | "                     | 4.630154  | 42673    | 8.082  |                 |   |
| 1501           | Gyi-mo-chi    | h.s.                  | 4.609291  | 50037 | 9.477  | 1507           | Tiger Hill        | h.s.                  | 5.379535  | 239627   | 45.384 | 10212           |   |
|                | Lingtu        | "                     | 4.541799  | 34818 | 6.594  |                | Tonglu            | "                     | 5.316030  | 207458   | 39.291 |                 |   |
|                | Jandorhi      | "                     | 4.543444  | 34950 | 6.619  |                | Endong            | "                     | 4.830897  | 67748    | 12.831 |                 |   |
| 1502           | Gyi-mo-chi    | h.s.                  | 4.682993  | 48194 | 9.128  | 1508           | Songchonglu       | h.s.                  | 4.204030  | 15997    | 3.030  | "               |   |
|                | Lingtu        | "                     | 4.630154  | 42673 | 8.082  |                | Khampung          | "                     | 4.601897  | 39985    | 7.573  |                 |   |
|                | Chukarchi     | "                     | 4.543444  | 34950 | 6.619  |                | Risum             | No. 2                 | 4.073493  | 47151    | 8.930  |                 |   |
| 1503           | Jandorhi      | h.s.                  | 4.682993  | 48194 | 9.128  | 1509           | Sathi La          | h.s.                  | 8.2233    | 4.204030 | 15997  | 3.030           | " |
|                | Lingtu        | "                     | 4.116918  | 13089 | 2.479  |                | Khampung          | "                     | 4.663159  | 40043    | 8.720  |                 |   |
|                | Chukarchi     | "                     | 4.699291  | 50037 | 9.477  |                | Risum             | No. 2                 | 4.491762  | 31029    | 5.877  |                 |   |
| 1504           | Gyi-mo-chi    | h.s.                  | 4.776559  | 59780 | 11.322 | 1510           | Lingtu            | h.s.                  | 4.189357  | 15465    | 2.929  | 5               |   |
|                | Lingtu        | "                     | 4.415257  | 26017 | 4.927  |                | Rhenok            | "                     | 4.635872  | 43239    | 8.189  |                 |   |
|                | Senchel La    | "                     | 4.543444  | 34950 | 6.619  |                | Lingpui Monastery | "                     | 4.690977  | 49088    | 9.297  |                 |   |
| 1505           | Gyi-mo-chi    | h.s.                  | 4.214965  | 16405 | 3.107  | 1511           | Chumsering        | h.s.                  | 18.4329   | 4.189357 | 15465  | 2.929           | " |
|                | Senchel La    | "                     | 4.407940  | 25582 | 4.845  |                | Rhenok            | "                     | 4.639188  | 43570    | 8.252  |                 |   |
|                | Merug La      | "                     | 4.415257  | 26017 | 4.927  |                | Lingpui Monastery | "                     | 4.539897  | 34665    | 6.565  |                 |   |

\* Deduced base.

J. ECCLES,  
In charge of Computing Office.

June, 1908.

## NORTH-EAST LONGITUDINAL SERIES.

AZIMUTHS OF SURROUNDING STATIONS AND POINTS AT PRINCIPAL,  
PRINCIPAL-AUXILIARY AND SECONDARY STATIONS.

The following table contains, in the first column, the name of each Principal, Principal-Auxiliary, or Secondary Station, at which azimuths of surrounding Points have been measured; immediately followed by those azimuths. The second column contains the number of the triangle which gives the distance between the Station and the Point. The azimuths are reckoned from South round by West through 360°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>*Adálákánta h.s.</b>                             |                                 | <b>Airah h.s.</b>                                   |                                 |
| Pireh h.s. 10 17 17                                 | 303                             | Ranchana h.s. 163 3 21                              | 541                             |
| Bisone " 313 44 58                                  | 306                             | Baidhura " 213 4 36                                 | 540                             |
| Ráj Bonga " 326 7 59                                | 303                             | Badhra " 302 1 47                                   | 540                             |
| <b>Adgaon h.s.</b>                                  |                                 | <b>Airideo h.s.</b>                                 |                                 |
| Nisania h.s. 225 28 34                              | 597                             | Lamdhár h.s. 42 25 0                                | 607                             |
| Manbhodevi " 260 43 2                               | 596                             | Garril " 53 35 11                                   | 609                             |
| Kapoli " 342 14 58                                  | 596                             | Pinkot " 85 38 31                                   | 606                             |
| <b>Aiartoli No. 1 h.s.</b>                          |                                 | Bhadrkot " 146 53 5                                 | 606                             |
| Aiartoli No. 2 h.s. 28 17 37                        | 802                             | Gopálkot " 156 27 17                                | 785                             |
| Alna " 40 22 17                                     | 799                             | Akwa " 214 12 27                                    | 784                             |
| Choursan No. 4 " 247 4 42                           | 808                             | Sungarkot h.s. 224 40 3                             | 609                             |
| Choursan No. 3 " 284 46 53                          | 807                             | Gorkhagarhi h.s. 245 48 47                          | 571                             |
| Choursan No. 2 " 298 23 35                          | 804                             | Sonargarhi " 299 34 29                              | 703                             |
| Choursan No. 1 " 318 59 57                          | 801                             | Kálmát No. 1 " 321 51 27                            | 608                             |
| Akwa " 344 13 11                                    | 799                             | Pansu " 353 13 13                                   | 701                             |
| Baijuáth " 355 50 35                                | 800                             | <b>Akali h.s.</b>                                   |                                 |
| <b>Aiartoli No. 2 h.s.</b>                          |                                 | Ringori h.s. 175 32 53                              | 581                             |
| Aiartoli No. 1 h.s. 208 17 29                       | 802                             | Ghungti, IV 215 15 52                               | 581                             |
| Choursan No. 1 " 280 59 6                           | 802                             | Chitaur " 259 54 25                                 | 582                             |
| Baijuáth " 341 32 22                                | 803                             | <b>Akwa h.s.</b>                                    |                                 |
|                                                     |                                 | Airideo h.s. 34 14 47                               | 784                             |
|                                                     |                                 | Bhadrkot " 87 50 7                                  | 784                             |
|                                                     |                                 | Gopálkot " 94 51 49                                 | 785                             |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Akwa h.s.—(Contd.)</b>                           |                                 | <b>Ambári h.s.</b>                                  |                                 |
| Kausani h.s. 100 47 37                              | 797                             | Dehra Dún Base-line W. End, (VIII)* 4 34 26         | 137                             |
| Alna " 144 12 28                                    | 786                             | Rádarpur s. 29 10 12                                | 139                             |
| Aiartoli No. 1 " 164 14 9                           | 799                             | Mihúnwála " 102 52 32                               | 141                             |
| Magru-ka-dánda " 206 13 25                          | 787                             | Sídh Tiba h.s. 130 0 8                              | 140                             |
| Kálimat No. 1 " 358 1 41                            | 797                             | Sherpur " 179 17 17                                 | 204                             |
|                                                     |                                 | Kotra " 303 12 48                                   | 137                             |
|                                                     |                                 | Sárna " 323 39 3                                    | 138                             |
|                                                     |                                 | Rájawála Bungalow " 350 54 48                       | 161                             |
| <b>Alimajari h.s.</b>                               |                                 | <b>Ambwála h.s.</b>                                 |                                 |
| Dudatoli h.s. 1 29 27                               | 571                             | Kálapahár h.s. 32 36 18                             | 341                             |
| Paudubri " 116 53 20                                | 571                             | Chándipahár, LIV † 52 47 46                         | 342                             |
| Bani Tál " 288 57 47                                | 570                             | Bhímgora " 100 24 29                                | 341                             |
| Sulidánda " 303 47 55                               | 570                             |                                                     |                                 |
| <b>Almora h.s.</b>                                  |                                 | <b>Ameli No. 1 h.s.</b>                             |                                 |
| Almora, Gorkhigarhi h.s. 176 40 15                  | 898                             | Chándkot h.s. 49 11 11                              | 474                             |
| Kálimat No. 1 " 194 38 22                           | 897                             | Ránigarh, II h.s. 111 33 50                         | 483                             |
| Jagesar h.s. 251 37 33                              | 897                             | Manda h.s. 148 22 13                                | 482                             |
|                                                     |                                 | Piplimath " 187 44 10                               | 476                             |
|                                                     |                                 | Panjing " 242 27 56                                 | 475                             |
|                                                     |                                 | Devitonk h.s. 308 34 17                             | 474                             |
| <b>Almora, Beckett's Staff h.s.</b>                 |                                 | <b>Ameli No. 2 h.s.</b>                             |                                 |
| Almora, Gorkhigarhi h.s. 82 43 26                   | 900                             | Chatargarhi h.s. 2 45 31                            | 551                             |
| Almora, Monument Staff " 93 53 44                   | 901                             | Chándkot " 44 53 44                                 | 551                             |
| Kálimat No. 1 " 178 48 38                           | 900                             | Manda " 148 46 41                                   | 552                             |
|                                                     |                                 | Piplimath " 192 12 38                               | 552                             |
| <b>Almora, Gorkhigarhi h.s.</b>                     |                                 | <b>Amsoť, (XI)*</b>                                 |                                 |
| Kálimat No. 3 h.s. 171 13 29                        | 904                             | Rámpur s. 168 58 44                                 | 147                             |
| Kálimat No. 2 " 180 45 59                           | 903                             | Rámpur Mandi " 170 43 37                            | 160                             |
| Kálimat No. 1 " 207 32 57                           | 898                             | Dhálipur " 181 22 54                                | 158                             |
| Almora, Monument Staff " 253 10 55                  | 899                             | Dhakraáni " 207 14 9                                | 147                             |
| Almora, Beckett's Staff " 262 42 53                 | 900                             |                                                     |                                 |
| Almora " 356 40 12                                  | 898                             | <b>Amwa, LXXXIII</b>                                |                                 |
|                                                     |                                 | Musaba, LXXXX 99 47 50.24                           | 89                              |
| <b>Almora, Monument Staff h.s.</b>                  |                                 | Sinaria, LXXXII 175 32 22.19                        | 89                              |
| Almora, Gorkhigarhi h.s. 73 11 12                   | 899                             | Bulákipur, LXXXIV 239 28 17.27                      | 90                              |
| Kálimat No. 3 " 152 14 54                           | 905                             | Madanpur, LXXXV 298 15 0.67                         | 91                              |
| Kálimat No. 2 " 162 1 14                            | 902                             |                                                     |                                 |
| Kálimat No. 1 " 194 27 35                           | 899                             | <b>Ánúdeb h.s.</b>                                  |                                 |
| Almora, Beckett's Staff " 273 53 28                 | 901                             | Pariapál h.s. 40 39 30                              | 934                             |
|                                                     |                                 | Menadugri " 51 36 52                                | 935                             |
| <b>Alna h.s.</b>                                    |                                 | Kúdalpáta Hill Staff " 96 3 20                      | 937                             |
| Gopáلكot h.s. 45 48 30                              | 786                             | Músapáni h.s. 117 53 14                             | 939                             |
| Birchua " 106 0 32                                  | 865                             | Bázkúli " 145 19 13                                 | 941                             |
| Budhangarhi " 149 26 20                             | 889                             | Chúra " 156 21 21                                   | 938                             |
| Gwáldam No. 1 " 166 56 45                           | 894                             | Unikarak " 355 39 31                                | 934                             |
| Harap " 193 32 24                                   | 788                             |                                                     |                                 |
| Aiartoli No. 1 " 220 21 28                          | 799                             |                                                     |                                 |
| Magru-ka-dánda " 261 59 25                          | 787                             |                                                     |                                 |
| Bajinath " 265 1 42                                 | 800                             |                                                     |                                 |
| Sikurkot " 303 21 52                                | 885                             |                                                     |                                 |
| Akwa " 324 10 41                                    | 786                             |                                                     |                                 |
| Kausani " 359 39 31                                 | 798                             |                                                     |                                 |

\* These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24<sup>a</sup>—30.  
 † This station appertains to the Great Arc Meridional Series—Section 24<sup>a</sup>—30<sup>b</sup>.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Anárkali, XXXVII</b>                             |                                 | <b>Atária, XI</b>                                   |                                 |
| Masi, XXXV                                          | 99 34 29'55                     | Sisgarh, X                                          | 110 46 26'81                    |
| Atkouawa, XXXVI                                     | 148 31 41'33                    | Baheri, IX                                          | 182 13 17'74                    |
| Dadaura, XXXVIII                                    | 218 22 47'74                    | Donao, XII                                          | 234 25 51'06                    |
| Tilakpur, XXXIX                                     | 289 43 40'87                    | Kaliánpur, XIII                                     | 289 51 35'33                    |
| <b>Angaila No. 1 h.s.</b>                           |                                 | <b>Athánsi h.s.</b>                                 |                                 |
| Dehra Dún Base-line E. End (IX)*                    | 29 34 51                        | Húm                                                 | h.s. 18 16 6                    |
| Sháhpur                                             | s. 50 9 48                      | Punya                                               | " 71 32 15                      |
| Dehra Dún Base-line W. End (VIII)*                  | 73 31 56                        | Laspa                                               | " 144 5 56                      |
| Chauki                                              | h.s. 146 19 24                  | Dhundbár                                            | " 158 17 44                     |
| Rájpur                                              | " 256 15 48                     | Rálam                                               | " 162 31 32                     |
| Dehra Dún, Body-guard Temple                        | 297 39 14                       | Dhánsi                                              | " 171 59 15                     |
| Nálápáni                                            | h.s. 309 55 48                  | Golpha                                              | " 322 4 32                      |
| Dehra Dún Church                                    | 326 29 17                       |                                                     |                                 |
| Dehra Dún Magazine House                            | 350 56 2                        |                                                     |                                 |
| Dehra Dún Mission School                            | 352 20 39                       |                                                     |                                 |
| <b>Angaila No. 2 h.s.</b>                           |                                 | <b>Atkonawa, XXXVI</b>                              |                                 |
| Dehra Dún Base-line E. End (IX)*                    | 25 54 13                        | Masi, XXXV                                          | 38 18 22'02                     |
| Jháira                                              | s. 64 13 56                     | Bela, XXXIII                                        | 96 40 49'93                     |
| Dehra Dún Base-line W. End (VIII)*                  | 70 9 46                         | Dadaura, XXXVIII                                    | 283 38 51'36                    |
| Sidhowála                                           | s. 83 33 11                     | Anárkali, XXXVII                                    | 328 28 35'68                    |
| Chauki                                              | h.s. 142 55 38                  |                                                     |                                 |
| Nálápáni                                            | " 313 24 26                     |                                                     |                                 |
| Dehra Dún Mission School                            | 350 36 31                       |                                                     |                                 |
| <b>Argam h.s.</b>                                   |                                 | <b>Badandhura h.s.</b>                              |                                 |
| Kotidánda                                           | h.s. 19 11 55                   | Rhiar                                               | h.s. 14 8 16                    |
| Vishnugarh                                          | " 215 53 10                     | Rámpur                                              | s. 36 42 47                     |
| Tháli                                               | " 276 3 17                      | Gungináth                                           | h.s. 105 35 32                  |
| Tapon                                               | No. 2 " 281 2 22                | Badantoli                                           | " 280 20 53                     |
| Tapon                                               | No. 1 " 294 26 10               | Titkadánda                                          | " 316 16 38                     |
| Pilkhunta                                           | " 298 29 30                     |                                                     |                                 |
| <b>Arkholi No. 1 h.s.</b>                           |                                 | <b>Badantoli h.s.</b>                               |                                 |
| Mattan Chena                                        | h.s. 38 41 44                   | Titkadánda                                          | h.s. 7 47 11                    |
| Choursan                                            | No. 2 " 75 22 44                | Kotah                                               | s. 36 44 56                     |
| Choursan                                            | No. 3 " 92 23 58                | Rhiar                                               | h.s. 64 20 47                   |
| Choursan                                            | No. 4 " 147 38 23               | Badandhura                                          | " 100 22 59                     |
| Arkholi                                             | No. 2 " 195 54 18               | Binek                                               | " 309 14 38                     |
| <b>Arkholi No. 2 h.s.</b>                           |                                 | <b>Badhangarhi h.s.</b>                             |                                 |
| Arkholi                                             | No. 1 h.s. 15 54 29             | Birehua                                             | h.s. 13 49 33                   |
| Choursan                                            | No. 3 " 51 24 21                | Kankra                                              | No. 1 h.s. 108 7 24             |
| Choursan                                            | No. 4 " 85 56 44                | Khabakhál                                           | h.s. 202 26 1                   |
| <b>Asogapur, XXIX</b>                               |                                 | Sisúkháui                                           | " 208 55 18                     |
| Saidhari, XXVII                                     | 118 44 34'92                    | Sikálnág                                            | " 236 17 40                     |
| Kuthia, XXVIII                                      | 176 9 44'99                     | Nauáli                                              | " 244 53 49                     |
| Dhaurabra, XXX                                      | 231 16 26'88                    | Harap                                               | " 266 37 35                     |
| Lákhun, XXXI                                        | 296 19 30'03                    | Dankarak                                            | " 278 17 34                     |
|                                                     |                                 | Gwáldam                                             | No. 1 " 283 5 20                |
|                                                     |                                 | Alna                                                | " 329 24 15                     |
|                                                     |                                 | Jauna                                               | " 333 54 1                      |
|                                                     |                                 | Gadwalbonga                                         | " 354 16 40                     |
|                                                     |                                 | <b>Badhra h.s.</b>                                  |                                 |
|                                                     |                                 | Bujgala                                             | h.s. 35 57 45                   |
|                                                     |                                 | Charpáni                                            | " 67 3 19                       |
|                                                     |                                 | Deagan                                              | " 114 10 21                     |
|                                                     |                                 | Airah                                               | " 122 3 1                       |
|                                                     |                                 | Dhangmalkund                                        | " 158 47 42                     |
|                                                     |                                 | Banidhura                                           | " 184 26 18                     |

\* These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24—30.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Bágápár, LXI</b>                                 |                                 | <b>Baijnáth h.s.</b>                                |                                 |
| Saunbarsa, LIX                                      | 67                              | Alna h.s.                                           | 800                             |
| Banarsin, LX                                        | 67                              | Aiartoli No. 2                                      | 803                             |
| Supur, LXII                                         | 68                              | Aiartoli No. 1                                      | 800                             |
| Morairi, LXIII                                      | 69                              | Choursan No. 1                                      | 801                             |
|                                                     |                                 | Choursan No. 3                                      | 807                             |
|                                                     |                                 | Choursan No. 2                                      | 804                             |
|                                                     |                                 | Chanoli                                             | 813                             |
|                                                     |                                 | Silingdhár                                          | 805                             |
| <b>Bagdogra s.</b>                                  |                                 | <b>Baingwári h.s.</b>                               |                                 |
| Tungling                                            | 1315                            | Gadoli No. 2 h.s.                                   | 391                             |
| Selim                                               | 1315                            | Devidat                                             | 389                             |
|                                                     |                                 | Kathugarh                                           | 389                             |
|                                                     |                                 | Gadoli No. 1                                        | 390                             |
| <b>Bágesar h.s.</b>                                 |                                 | <b>Baisi, CIV</b>                                   |                                 |
| Pápi                                                | 888                             | Diwánganj, CII                                      | 115                             |
| Kokru-ka-dánda                                      | 888                             | Harpur, C                                           | 115                             |
|                                                     |                                 | Minai, CV                                           | 116                             |
| <b>Bagnala h.s.</b>                                 |                                 | <b>Bajamara h.s.</b>                                |                                 |
| Jumangarh                                           | 407                             | Lambatach h.s.                                      | 280                             |
| Harpálsid, XLVIII*                                  | 407                             | Kidarkanta                                          | 278                             |
|                                                     |                                 | Bahak                                               | 277                             |
|                                                     |                                 | Nag Tiba                                            | 276                             |
|                                                     |                                 | Banog, (X)†                                         | 276                             |
| <b>Bagwára, VII</b>                                 |                                 | <b>Bájra, LXVIII</b>                                |                                 |
| Sisgarh, X                                          | 14                              | Upasai, LXVII                                       | 74                              |
| Dhela, V                                            | 10                              | Balua, LXVI                                         | 74                              |
| Saonehálin, VI                                      | 10                              | Barar h.s.                                          | 1222                            |
| Birond, VIII                                        | 11                              | Naurangia                                           | 1241                            |
| Baheri, IX                                          | 13                              | Balua                                               | 1244                            |
|                                                     |                                 | Yamowli                                             | 1246                            |
|                                                     |                                 | Someshwar Fort                                      | 1236                            |
|                                                     |                                 | Someshwar                                           | 1238                            |
|                                                     |                                 | Rámnagar, LXX                                       | 76                              |
|                                                     |                                 | Bakwa, LXIX                                         | 75                              |
| <b>Bahak h.s.</b>                                   |                                 | <b>Bakwa, LXIX</b>                                  |                                 |
| Nag Tiba                                            | 277                             | Upasai, LXVII                                       | 75                              |
| Bajamara                                            | 277                             | Bájra, LXVIII                                       | 75                              |
| Lambatach                                           | 279                             | Rámnagar, LXX                                       | 76                              |
| Kidarkanta                                          | 278                             | Naonangarhi, LXXI                                   | 77                              |
|                                                     |                                 |                                                     |                                 |
| <b>Baheri, IX</b>                                   |                                 |                                                     |                                 |
| Atária, XI                                          | 15                              |                                                     |                                 |
| Sisgarh, X                                          | 14                              |                                                     |                                 |
| Bagwára, VII                                        | 13                              |                                                     |                                 |
| Birond, VIII                                        | 13                              |                                                     |                                 |
| Donao, XII                                          | 16                              |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Baidhár h.s.</b>                                 |                                 |                                                     |                                 |
| Kotalgaon                                           | 1107                            |                                                     |                                 |
| Húm                                                 | 1103                            |                                                     |                                 |
| Deolakot                                            | 1104                            |                                                     |                                 |
| Dánádhár                                            | 1109                            |                                                     |                                 |
| Bhania                                              | 1103                            |                                                     |                                 |
| Jáith                                               | 1114                            |                                                     |                                 |
| Uchbeti                                             | 1117                            |                                                     |                                 |
| Tomik                                               | 1112                            |                                                     |                                 |
|                                                     |                                 | <b>Balán h.s.</b>                                   |                                 |
|                                                     |                                 | Naudáli h.s.                                        | 434                             |
|                                                     |                                 | Talanti                                             | 434                             |
|                                                     |                                 | Dhiola                                              | 916                             |
|                                                     |                                 | Shikáni                                             | 435                             |

\* This station appertains to the Balthon Meridional Series, the Great Arc Meridional Series—Section 24°—30°.

† This station appertains to the Base-line figures, vide Synoptical Volume II of

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Balchandánda h.s.</b>                            |                                 | <b>Balua h.s.</b>                                   |                                 |
| Litála h.s. 8 46 48                                 | 1094                            | Bájra, LXVIII 4 38 59                               | 1244                            |
| Khamlek h.s. 17 33 26                               | 990                             | Balua, LXVI 31 52 52                                | 1244                            |
| Hagdanu h.s. 66 2 40                                | 1074                            | Yamowli h.s. 296 57 52                              | 1248                            |
| Dakchol " 72 34 4                                   | 1097                            | Someshwar Fort " 306 13 0                           | 1245                            |
| Tána " 73 36 53                                     | 1095                            |                                                     |                                 |
| Shikáni h.s. 98 18 45                               | 990                             |                                                     |                                 |
| Daukuri h.s. 114 46 37                              | 1074                            | <b>Bambhil h.s.</b>                                 |                                 |
| Lahúrdhura " 137 54 2                               | 1071                            | Balkot h.s. 62 49 52                                | 767                             |
| Danchar " 186 37 11                                 | 1078                            | Lamkishun " 164 18 17                               | 997                             |
| Chotri " 187 11 51                                  | 1080                            | Dhaj h.s. 260 13 10                                 | 768                             |
| Punya " 202 53 42                                   | 1002                            | Iriarikot h.s. 262 42 56                            | 997                             |
| Bhania " 226 24 55                                  | 1101                            | Thákil " 309 11 20                                  | 999                             |
| Húm " 255 59 43                                     | 1001                            | Jhum h.s. 350 42 2                                  | 767                             |
| Suwálekdhura " 296 37 50                            | 1088                            |                                                     |                                 |
| Khaparchula " 323 3 7                               | 991                             |                                                     |                                 |
| Mundhura No. 2 " 344 43 53                          | 1092                            | <b>Bamlás No. 1 h.s.</b>                            |                                 |
| Mundhura No. 1 " 345 49 19                          | 1090                            | Rámkuta h.s. 11 13 20                               | 967                             |
|                                                     |                                 | Langpiar " 44 23 10                                 | 966                             |
|                                                     |                                 | Goting " 124 14 15                                  | 968                             |
|                                                     |                                 | Kharbasia No. 1 " 181 27 25                         | 970                             |
|                                                     |                                 | Dámjan " 315 44 59                                  | 966                             |
| <b>Balkot h.s.</b>                                  |                                 |                                                     |                                 |
| Mulákot h.s. 0 57 4                                 | 765                             | <b>Bamlás No. 2 h.s.</b>                            |                                 |
| Muttrapuri " 86 47 35                               | 765                             | Sítáni h.s. 1 51 45                                 | 1155                            |
| Kandi " 192 34 16                                   | 1066                            | Shillong No. 1 " 15 59 9                            | 1152                            |
| Kol " 219 13 44                                     | 1066                            | Bamlás No. 3 " 127 50 51                            | 1156                            |
| Bambhil " 242 46 29                                 | 767                             | Bamlás No. 4 " 159 7 43                             | 1158                            |
| Papoli " 290 42 58                                  | 862                             | Bamlás No. 5 " 193 55 15                            | 1160                            |
| Jhum h.s. 314 52 49                                 | 766                             | Buldanga " 345 28 28                                | 1153                            |
| Bariar h.s. 326 35 8                                | 863                             | Shillong No. 2 " 355 7 15                           | 1152                            |
|                                                     |                                 |                                                     |                                 |
| <b>Balsi No. 1 h.s.</b>                             |                                 | <b>Bamlás No. 3 h.s.</b>                            |                                 |
| Sukadhár h.s. 11 44 23                              | 1187                            | Kiangur h.s. 171 29 43                              | 1161                            |
| Chipalkot No. 2 " 56 14 18                          | 1186                            | Bamlás No. 5 " 242 22 0                             | 1159                            |
| Golpha " 95 28 0                                    | 1186                            | Bamlás No. 4 " 248 42 13                            | 1158                            |
| Barbalek " 262 22 36                                | 1193                            | Bamlás No. 2 " 307 50 9                             | 1157                            |
| Bekakota " 283 48 8                                 | 1189                            | Buldanga " 331 47 29                                | 1156                            |
|                                                     |                                 | Shillong No. 1 " 347 38 10                          |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Balsi No. 2 h.s.</b>                             |                                 | <b>Bamlás No. 4 h.s.</b>                            |                                 |
| Sukadhár h.s. 14 14 42                              | 1188                            | Bamlás No. 3 h.s. 68 42 39                          | 1158                            |
| Chipalkot No. 2 " 58 37 57                          | 1188                            | Bamlás No. 2 " 339 7 27                             | 1158                            |
| Bekakota " 282 2 47                                 | 1190                            |                                                     |                                 |
| Patildhura " 348 19 26                              | 1191                            |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Balua, LXVI</b>                                  |                                 | <b>Bamlás No. 5 h.s.</b>                            |                                 |
| Mathia, LXV 52 7 20' 32                             | 72                              | Bamlás No. 2 h.s. 13 55 31                          | 1160                            |
| Chanda, LXIV 101 4 4' 39                            | 72                              | Shillong No. 1 " 15 0 41                            | 1159                            |
| Kataia s. 162 7 42                                  | 1223                            | Bamlás No. 3 " 62 22 58                             | 1161                            |
| H 13 165 2 47                                       | 1262                            | Kiangur " 146 20 50                                 | 1163                            |
| Barar h.s. 187 25 38                                | 1222                            | Kungri Bingri " 194 13 2                            | 1162                            |
| Naurangia " 192 46 26                               | 1240                            | Chitichun No. 1 " 239 56 2                          |                                 |
| Deochili Peak " 196 13 45                           | 1248                            |                                                     |                                 |
| Harha west h.s. 202 32 9                            | 1262                            |                                                     |                                 |
| Balua " 211 48 20                                   | 1244                            |                                                     |                                 |
| Someshwar Fort " 240 47 58                          | 1240                            | <b>Bámpa h.s.</b>                                   |                                 |
| Bájra, LXVIII 284 15 30' 32                         | 74                              | Dámjan h.s. 206 54 15                               | 963                             |
| Rámnagar, LXX 287 9 5                               | 1249                            | Kurkutidhár " 288 3 0                               | 962                             |
| Upasai, LXVII 354 56 18' 74                         | 73                              | Bunga " 322 44 23                                   |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Bampassia h.s.</b>                               |                                 | <b>Bandartak h.s.</b>                               |                                 |
| Martoli h.s. 7 13 17                                | 1137                            | Latpanchor No. 1 h.s. 190 2 4                       | 1361                            |
| Mápa-ka-dhura h.m. 61 54 15                         | 1138                            | Jojilling No. 2 " 211 23 14                         | 1360                            |
| Páuchhu-ka-dhura h.s. 110 46 3                      | 1139                            | Jojilling No. 1 " 244 47 38                         | 1360                            |
| Milam No. 2 " 147 38 19                             | 1141                            |                                                     |                                 |
| Milam No. 1 " 153 13 5                              | 1140                            |                                                     |                                 |
| Rálam " 335 0 32                                    | 1137                            |                                                     |                                 |
|                                                     |                                 | <b>Banera s.</b>                                    |                                 |
| <b>Banali h.s.</b>                                  |                                 | Bodliakharak h.s. 103 55 41                         | 831                             |
| Dhuru h.s. 165 16 16                                | 356                             | Puniagiri " 226 30 24                               | 831                             |
| Kuthal " 278 54 56                                  | 356                             | Puniagiri Hill Mark 301 2 57                        | 832                             |
|                                                     |                                 | Malásh-ka-lek Peak 348 26 46                        | 840                             |
|                                                     |                                 | <b>Bangarni h.s.</b>                                |                                 |
| <b>Banarsia, LX</b>                                 |                                 | Ránigarh, II h.s. 248 52 51                         | 383                             |
| Saunbaraa, LIX 35 43 17.83                          | 66                              | Pansukhál h.s. 301 46 11                            | 383                             |
| Bharmi, LVII 99 29 16.21                            | 66                              | Naithána " 335 40 34                                | 384                             |
| Supur, LXII 271 47 52.32                            | 68                              |                                                     |                                 |
| Bágápar, LXI 333 15 39.41                           | 67                              |                                                     |                                 |
|                                                     |                                 | <b>Banghora, CXIII</b>                              |                                 |
| <b>Banawa h.s.</b>                                  |                                 | Mánikpur, CXI 84 10 0.24                            | 121                             |
| Hartar Hill Temple                                  |                                 | Kamal dáha, CXII 144 7 38.98                        | 121                             |
| *Kántú h.s. 124 43 28                               | 255                             | Dipnagar, CXIV 207 58 28.74                         | 122                             |
| Tikeri Hill Temple                                  |                                 | Musaldanga, CXV 271 30 21.74                        | 123                             |
| Bhandraulí h.s. 156 1 28                            | 262                             |                                                     |                                 |
| Koti h.s. 169 10 29                                 | 248                             |                                                     |                                 |
| Dungri " 200 26 52                                  | 253                             |                                                     |                                 |
| Konáin Hill Temple " 202 46 4                       | 248                             |                                                     |                                 |
|                                                     | 253                             | <b>Bangra, LIII</b>                                 |                                 |
| <b>Bandani h.s.</b>                                 |                                 | Bánkata, LI 104 20 8.19                             | 58                              |
| Kálimat No. 1 h.s. 158 47 55                        | 761                             | Paragawa, LII 156 56 44.09                          | 58                              |
| Jagesar h.s. 236 37 30                              | 761                             | Ghaus, LIV 207 21 59.32                             | 59                              |
| Muttrapuri h.s. 269 55 39                           | 762                             | Purena, LV 282 1 44.39                              | 60                              |
| Roriabunga " 317 57 9                               | 763                             | Dharamsingua, LVI 341 8 17.68                       | 63                              |
| Sungarkhál " 328 25 30                              | 858                             |                                                     |                                 |
|                                                     |                                 | <b>Banidhura h.s.</b>                               |                                 |
| <b>Bandarjula, CXVIII</b>                           |                                 | Badhra h.s. 4 26 32                                 | 441                             |
| Tagria, CXVII 24 40 36.26                           | 126                             | Airah " 33 6 4                                      | 540                             |
| Lachmipur, CXVI 87 38 37.22                         | 126                             | Deangan " 48 50 59                                  | 441                             |
| Thakurganj, CXX 251 25 23.76                        | 128                             | Dhangualkund " 62 29 9                              | 542                             |
| Kharkhari, CXIX 334 51 31.96                        | 127                             | Ramchana " 115 56 45                                | 442                             |
|                                                     |                                 | <b>Bani Tál h.s.</b>                                |                                 |
| <b>Bandarjuri No. 1 h.s.</b>                        |                                 | Dudatoli h.s. 27 52 30                              | 569                             |
| Gaibun-ka-tait h.s. 75 50 38                        | 727                             | Alimajari " 108 59 24                               | 570                             |
| Bhadargarhi " 142 35 29                             | 720                             | Suilidánda " 316 21 0                               | 569                             |
| Kailakhur " 172 6 54                                | 719                             |                                                     |                                 |
| Bijaon " 258 52 42                                  | 719                             |                                                     |                                 |
| Madan Bhir No. 2 " 295 35 3                         | 726                             | <b>Banjkot h.s.</b>                                 |                                 |
| Bandarjuri No. 2 " 334 52 19                        | 728                             | Panjing h.s. 4 28 37                                | 477                             |
|                                                     |                                 | Piplimath " 57 44 42                                | 477                             |
| <b>Bandarjuri No. 2 h.s.</b>                        |                                 | Gandkhola " 109 46 53                               | 478                             |
| Gaibun-ka-tait h.s. 94 49 5                         | 728                             | Kotikhál No. 2 h.s. 113 50 57                       | 557                             |
| Bandarjuri No. 1 " 154 52 29                        | 728                             | Kotikhál No. 1 " 117 35 23                          | 555                             |
| Madan Bhir No. 2 " 281 20 35                        | 729                             | Gwanagarh h.s. 210 54 24                            | 479                             |
|                                                     |                                 | Pandubri h.s. 218 48 31                             | 559                             |
|                                                     |                                 | Dudatoli " 302 2 5                                  | 480                             |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Bankata, LI</b>                                  |                                 | <b>Barikothirau h.s.</b>                            |                                 |
| Pipari, XLIX                                        | 0 1 "                           | Barsoti                                             | h.s. 210 59 3                   |
| Pathárdi, L                                         | 107 1 28' 41                    | Sidhon-ki-dhang                                     | " 239 33 20                     |
| Paragawa, LII                                       | 158 17 29' 21                   | Dhela, V                                            | " 272 22 13                     |
| Bangra, LIII                                        | 214 5 6' 06                     | Láldhang                                            | s. 291 41 26                    |
|                                                     | 284 15 1' 81                    |                                                     |                                 |
|                                                     |                                 | <b>Barmdeo s.</b>                                   |                                 |
| <b>Banog, (X)*</b>                                  |                                 | Shála                                               | No. 2 h.s. 159 20 13            |
| Bajamara                                            | h.s. 160 57 58' 9               | Bodliakharak                                        | " 192 14 28                     |
| Nag Tiba                                            | " 227 16 24' 4                  | Puniagiri                                           | " 221 2 59                      |
| †Sirkanda                                           | H.S. (new) 285 18 30' 27        |                                                     |                                 |
|                                                     |                                 | <b>Barpatta h.s.</b>                                |                                 |
| <b>Bánskhera No. 1 s.</b>                           |                                 | Uninkarak                                           | h.s. 205 19 35                  |
| Biloti                                              | h.s. 152 40 7                   | Tikdhár                                             | " 333 55 37                     |
| Paniam                                              | No. 1 " 199 57 13               |                                                     |                                 |
| Naugaon                                             | No. 2 " 223 50 13               | <b>Barsam, XCV</b>                                  |                                 |
| Patrání                                             | " 252 22 17                     | Bishanpur, XCIII                                    | 98 49 59' 44                    |
| Bánskhera                                           | No. 2 s. 333 22 6               | Mirzapur, XCIV                                      | 167 37 2' 24                    |
|                                                     |                                 | Janjipati, XCVI                                     | 224 41 20' 69                   |
|                                                     |                                 | Bhela, XCVII                                        | 285 38 37' 49                   |
| <b>Bánskhera No. 2 s.</b>                           |                                 |                                                     |                                 |
| Bánskhera                                           | No. 1 s. 153 22 24              | <b>Barsoti h.s.</b>                                 |                                 |
| Naugaon                                             | No. 2 h.s. 202 59 47            | Sidhon-ki-dhang                                     | h.s. 21 39 38                   |
| Patrání                                             | " 240 15 24                     | Barikothirau                                        | " 31 0 39                       |
|                                                     |                                 | Jinti                                               | No. 2 " 55 22 15                |
| <b>Barar h.s.</b>                                   |                                 | Jinti                                               | No. 1 " 61 36 20                |
| Balua, LXVI                                         | 7 26 6                          | Dharaun                                             | No. 1 " 72 42 5                 |
| Kataia                                              | s. 28 1 40                      | Surabduli                                           | " 92 39 55                      |
| Pipra                                               | " 42 50 37                      | Danapáni                                            | " 101 48 27                     |
| Narainpur                                           | " 66 33 54                      | Jenti Rao                                           | " 129 2 50                      |
| Sohoria                                             | " 84 13 57                      | Mainajadi                                           | " 147 19 13                     |
| Bawangarhi                                          | " 98 53 50                      | Dhulwa                                              | " 283 37 37                     |
| Bájra, LXVIII                                       | 323 14 53                       | Dhela, V                                            | 357 17 45                       |
|                                                     |                                 | <b>Barwadhang h.s.</b>                              |                                 |
| <b>Barbalek h.s.</b>                                |                                 | Bhadargarhi                                         | h.s. 207 53 31                  |
| Rekakota                                            | h.s. 48 3 1                     | Kailakhur                                           | " 233 59 50                     |
| Balsi                                               | No. 1 " 82 28 12                |                                                     |                                 |
| Nirpánia                                            | No. 2 " 272 25 2                | <b>Básadela, XLV</b>                                |                                 |
| Nirpánia                                            | No. 1 " 293 13 8                | Saibara, XLIII                                      | 106 15 12' 51                   |
| Sumdbár                                             | " 327 9 20                      | Lohápania, XLIV                                     | 170 1 46' 41                    |
|                                                     |                                 | Tulsiapur, XLVI                                     | 227 24 14' 40                   |
|                                                     |                                 | Majhawa, XLVII                                      | 284 14 44' 04                   |
| <b>Barhata, CI</b>                                  |                                 |                                                     |                                 |
| Semraha, XCIX                                       | 109 33 35' 36                   | <b>Bashikanág h.s.</b>                              |                                 |
| Harpur, C                                           | 185 9 58' 00                    | Jagesar                                             | n.s. 25 51 4                    |
| Diwanganj, CII                                      | 245 6 17' 94                    | Katindánda                                          | h.s. 37 15 12                   |
| Latoua, CIII                                        | 309 41 2' 14                    | Binsar                                              | " 69 8 54                       |
|                                                     |                                 | Gurana                                              | " 124 35 46                     |
| <b>Bariar h.s.</b>                                  |                                 | Hagdana                                             | " 177 8 57                      |
| Mulákot                                             | h.s. 42 18 14                   | Hurum                                               | " 193 0 41                      |
| Balkot                                              | " 146 36 34                     | Pininág                                             | " 202 50 48                     |
| Papoli                                              | " 224 34 6                      | Khamlek                                             | n.s. 236 27 58                  |
|                                                     |                                 | Lamkishun                                           | h.s. 304 47 5                   |
|                                                     |                                 | Kandi                                               | " 337 19 38                     |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24° 30'.  
† This station appertains to the Great Arc Meridional Series—Section 24° 30'.

| Name of Station with Azimuths of surrounding Points                                              | No. of Triangle giving Distance      | Name of Station with Azimuths of surrounding Points                                                                  | No. of Triangle giving Distance                      |
|--------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Batasi Hát s.<br>Tingling<br>Selim                                                               | 1318<br>1318                         | Bhadargarhi h.s.<br>Barwadbang<br>Chilkia<br>Láldhár<br>Chinal<br>Gungináth<br>Kailakhur<br>Madan Bhir<br>Bandarjuri | 718<br>685<br>626<br>625<br>625<br>718<br>726<br>720 |
| Batwaia, LXXXVIII<br>Bigoia, LXXVII<br>Hamáhi, LXXVI<br>Dipáhi, LXXX<br>Rúpdí, LXXXIX            | 84<br>84<br>86<br>85                 | Bhadkot h.s.<br>Pinkot<br>Manbhodevi<br>Akwa<br>Airideo                                                              | 605<br>605<br>784<br>606                             |
| Baurkháta s.<br>Madan Bhir<br>Khamari-ka-dánda                                                   | 754<br>754                           | Bhairkharak h.s.<br>Ragshi<br>Tungnáth<br>Deodekni                                                                   | 507<br>506<br>506                                    |
| Bawangarhi s.<br>Rámpura<br>Baruamathi Hill Tree<br>Madho Mark<br>Barar<br>Sohoria               | 1232<br>1231<br>1230<br>1229<br>1229 | Bhakra s.<br>Khamari-ka-dánda<br>Biloti                                                                              | 758<br>758                                           |
| Bázkúli h.s.<br>Músápáni<br>Chára<br>Ánádeb                                                      | 942<br>941<br>941                    | Bhamdona h.s.<br>Thákil<br>Iriarikot<br>Deuli                                                                        | 1042<br>1043<br>1042                                 |
| Bela, XXXIII<br>Khámpur, XXXIV<br>Lákhun, XXXI<br>Chalua, XXXII<br>Atkonawa, XXXVI<br>Masi, XXXV | 39<br>38<br>38<br>41<br>40           | Bhandrauli h.s.<br>Hartar Hill Temple<br>*Kamúí<br>Chilár<br>Dungri<br>Koti<br>Banawa                                | 254<br>246<br>246<br>247<br>251<br>248               |
| Belkadánda h.s.<br>Kalanga<br>Rájpur<br>Satickadánda<br>Timli                                    | 185<br>185<br>188<br>186             | Bhanía h.s.<br>Balchandánda<br>Baidhár<br>Dobadhár<br>Deolakot<br>Húm                                                | 1101<br>1103<br>1102<br>1104<br>1101                 |
| Belpáni h.s.<br>Timlidhár<br>Kaualek<br>Dogari                                                   | 826<br>826<br>827                    | Bhariáni s.<br>Thári<br>Baruamathi Hill Tree                                                                         | 1235<br>1235                                         |
| Bhabalta h.s.<br>Narsing-ka-dánda<br>Mulákot<br>Jhum<br>Kánádeo                                  | 848<br>849<br>849<br>848             | Bharmi, LVII<br>Purana, LV<br>Ghaus, LIV<br>Banarsia, LX<br>Saunbarsa, LIX                                           | 61<br>61<br>66<br>62                                 |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance | Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance |
|-----------------------------------------------------|---------------------------------------|-----------------------------------------------------|---------------------------------------|
| <b>Bhela, XCVII</b>                                 |                                       | <b>Bigoia, LXXVII</b>                               |                                       |
| Barsam, XCV                                         | 103                                   | Biarwa, LXXV                                        | 83                                    |
| Janjipati, XCVI                                     | 103                                   | Harnáhi, LXXVI                                      | 83                                    |
| Ladnia, XCVIII                                      | 104                                   | Batwaia, LXXVIII                                    | 84                                    |
| Semraha, XCIX                                       | 105                                   | Rúpdí, LXXIX                                        | 85                                    |
|                                                     |                                       |                                                     |                                       |
| <b>Bhímgora h.s.</b>                                |                                       | <b>Bijánagar h.s.</b>                               |                                       |
| Ambwála                                             | 341                                   | Kángra                                              | 346                                   |
| Kálapahár                                           | 340                                   | Ghugtigarh                                          | 347                                   |
| Chándipahár, LIV*                                   | 340                                   | Mábegarh, I                                         | 347                                   |
|                                                     |                                       |                                                     |                                       |
| <b>Bhímgora s.</b>                                  |                                       | <b>Bijaon h.s.</b>                                  |                                       |
| Partitnagar                                         | 203                                   | Káladhungi                                          | 724                                   |
| Chándipahár, LIV*                                   | 203                                   | Khamari-ka-dánda                                    | 721                                   |
|                                                     |                                       | Madan Bhir                                          | 634                                   |
|                                                     |                                       | Bandarjuri                                          | 719                                   |
|                                                     |                                       | Kailakhur                                           | 719                                   |
|                                                     |                                       | Kotah                                               | 730                                   |
|                                                     |                                       | Rhiar                                               | 634                                   |
|                                                     |                                       | Dedhurra                                            | 636                                   |
|                                                     |                                       | Gatgar                                              | 635                                   |
|                                                     |                                       |                                                     |                                       |
| <b>Bhím Tál h.s.</b>                                |                                       | <b>Bikna Thori s.</b>                               |                                       |
| Biloti                                              | 638                                   | Parsauni East                                       | 1260                                  |
| Chilpokra                                           | 735                                   | Parsauni West                                       | 1261                                  |
| Dedhurra                                            | 638                                   | Katáha                                              | 1260                                  |
| Manura                                              | 657                                   |                                                     |                                       |
| Luriakanta                                          | 657                                   |                                                     |                                       |
| Ghuksa                                              | 639                                   |                                                     |                                       |
| Panium                                              | 743                                   |                                                     |                                       |
| Raonsil                                             | 715                                   |                                                     |                                       |
|                                                     |                                       |                                                     |                                       |
| <b>Bhír h.s.</b>                                    |                                       | <b>Biloti h.s.</b>                                  |                                       |
| Nimlu                                               | 1388                                  | Tanda                                               | 759                                   |
| Pumongzong                                          | 1387                                  | Ghajar                                              | 760                                   |
| Lethidhár                                           | 1387                                  | Deokánk                                             | 712                                   |
| Lethi River                                         | 1388                                  | Bhakra                                              | 758                                   |
|                                                     |                                       | Kuria                                               | 752                                   |
|                                                     |                                       | Khobra                                              | 767                                   |
|                                                     |                                       | Bisonta                                             | 756                                   |
|                                                     |                                       | Lambichaur                                          | 753                                   |
|                                                     |                                       | Gatgar                                              | 637                                   |
|                                                     |                                       | Khamari-ka-dánda                                    | 752                                   |
|                                                     |                                       | Dedhurra                                            | 637                                   |
|                                                     |                                       | Bhím Tál                                            | 639                                   |
|                                                     |                                       | Ghuksa                                              | 640                                   |
|                                                     |                                       | Raonsil                                             | 819                                   |
|                                                     |                                       | Panium                                              | 819                                   |
|                                                     |                                       | Patrání                                             | 716                                   |
|                                                     |                                       | Bánskhera                                           | 713                                   |
|                                                     |                                       | Haldwáni                                            |                                       |
|                                                     |                                       | Haldwáni                                            |                                       |
|                                                     |                                       |                                                     |                                       |
| <b>Bhowara h.s.</b>                                 |                                       | <b>Binak h.s.</b>                                   |                                       |
| Deolakot                                            | 1125                                  | Ghugtigarh                                          | 360                                   |
| Dobadbár                                            | 1125                                  | Naugaon                                             | 360                                   |
| Wolthi                                              | 1127                                  |                                                     |                                       |
|                                                     |                                       |                                                     |                                       |
| <b>Bhungani s.</b>                                  |                                       | <b>Binek h.s.</b>                                   |                                       |
| Dhakraúni                                           | 145                                   | Dhanik                                              | 653                                   |
| Dhálipur                                            | 157                                   | Titkadánda                                          | 652                                   |
| Rámpur                                              | 146                                   | Saouchália, VI                                      | 617                                   |
| Sidh Tiba                                           | 143                                   |                                                     |                                       |
| Chúarpur                                            | 143                                   |                                                     |                                       |
| Chúarpur                                            | 144                                   |                                                     |                                       |
|                                                     |                                       |                                                     |                                       |
| <b>Bialakhan h.s.</b>                               |                                       |                                                     |                                       |
| Gujarkot-ki-garh                                    | 622                                   |                                                     |                                       |
| Palíkhét                                            | 623                                   |                                                     |                                       |
| Saouchália, VI                                      | 624                                   |                                                     |                                       |
| Gungináth                                           | 622                                   |                                                     |                                       |
|                                                     |                                       |                                                     |                                       |
| <b>Biarwa, LXXV</b>                                 |                                       |                                                     |                                       |
| Sathwaria, LXXIII                                   | 81                                    |                                                     |                                       |
| Sikta, LXXIV                                        | 81                                    |                                                     |                                       |
| Harnáhi, LXXVI                                      | 82                                    |                                                     |                                       |
| Bigoia, LXXVII                                      | 83                                    |                                                     |                                       |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30'.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Binek h.s.—(Contd.)</b>                          |                                 | <b>Birond, VIII—(Contd.)</b>                        |                                 |
| Badantoli h.s. 129 15 49                            | 652                             | Birond h.s. 87 31 37                                | 828                             |
| Kalwar " 163 40 23                                  | 693                             | Paniam <b>Nb. 1</b> " 86 40 20                      | 641                             |
| Kanka " 177 19 15                                   | 616                             | Dhela, V " 106 40 45.81                             | 12                              |
| Sera " 219 25 43                                    | 615                             | Saouchálin, VI " 126 4 31.85                        | 11                              |
| Pathargarhi " 258 44 10                             | 615                             | Ghuksa h.s. 129 43 29                               | 641                             |
| Gagar " 288 19 39                                   | 648                             | Deothal " 166 9 24                                  | 642                             |
|                                                     |                                 | Jagesar h.s. 198 36 40.4                            | 297                             |
|                                                     |                                 | Gurudeodhura h.s. 220 12 29                         | 643                             |
|                                                     |                                 | Káliadhura " 252 5 47                               | 783                             |
|                                                     |                                 | Lobehula " 314 50 32                                | 770                             |
|                                                     |                                 | Donao, XII " 355 37 46.39                           | 17                              |
| <b>Bin Pohr h.s.</b>                                |                                 | <b>Birond h.s.</b>                                  |                                 |
| Dungri h.s. 29 50 9                                 | 266                             | Patrání h.s. 10 14 27                               | 828                             |
| Chilár " 60 10 25                                   | 265                             | Ghuksa " 139 29 30                                  | 829                             |
| *Kanú " 86 7 56                                     | 265                             | Birond, VIII " 267 30 54                            | 828                             |
| Birga " 132 28 8                                    | 270                             |                                                     |                                 |
| Gusana " 134 23 27                                  | 268                             |                                                     |                                 |
| <b>Binsar h.s.</b>                                  |                                 | <b>Birsini h.s.</b>                                 |                                 |
| Kálinat <b>No. 1</b> h.s. 51 4 20                   | 867                             | Dehra Dún Base-line W. End, (VIII)† 30 22 54        | 162                             |
| Garanáth " 139 1 42                                 | 869                             | Sahaspur s. 64 41 20                                | 164                             |
| Sungarkot h.s. 146 57 51                            | 867                             | Dehra Dún Base-line E. End, (IX)† 346 29 7          | 162                             |
| Rupdeo h.s. 190 45 52                               | 882                             |                                                     |                                 |
| Gurana " 223 31 15                                  | 868                             |                                                     |                                 |
| Bashikanág " 249 3 37                               | 896                             |                                                     |                                 |
| Katiadánda " 305 3.39                               | 896                             |                                                     |                                 |
| <b>Birbhaddar s.</b>                                |                                 | <b>Bishanpur, XCIII</b>                             |                                 |
| Marhal h.s. 235 40 10                               | 352                             | Chandarsanpur, XCI " 88 8 59.76                     | 99                              |
| Jalbali " 274 5 52                                  | 352                             | Narhar, XCII " 165 22 11.55                         | 99                              |
| Ghúgtigarh " 336 11 3                               | 353                             | Mirzapur, XCIV " 220 38 57.83                       | 100                             |
|                                                     |                                 | Barsam, XCV " 278 45 27.18                          | 101                             |
| <b>Birchua h.s.</b>                                 |                                 | <b>Bisone h.s.</b>                                  |                                 |
| Badhangarhi h.s. 193 48 53                          | 889                             | Pireh h.s. 79 1 13                                  | 305                             |
| Jauna " 228 21 11                                   | 893                             | *Adálákánta " 133 52 10                             | 306                             |
| Harap " 231 23 17                                   | 866                             | Dhuan " 320 4 17                                    | 308                             |
| Alna " 285 57 47                                    | 865                             | Ráj Bonga " 354 45 25                               | 305                             |
| Gopáلكot " 349 11 44                                | 865                             |                                                     |                                 |
| <b>Birga h.s.</b>                                   |                                 | <b>Bisonta s.</b>                                   |                                 |
| *Kanú h.s. 22 48 29                                 | 269                             | Khamari-ka-dánda h.s. 184 52 39                     | 756                             |
| Madrath Bungalow " 283 19 51                        | 274                             | Biloti " 233 40 39                                  | 756                             |
| Kuna h.s. 301 33 4                                  | 272                             |                                                     |                                 |
| Bin Pohr " 312 25 19                                | 270                             |                                                     |                                 |
| Chilár " 345 33 15                                  | 269                             |                                                     |                                 |
| <b>Birjeganj h.s.</b>                               |                                 | <b>Bisuri h.s.</b>                                  |                                 |
| Laspa h.s. 30 57 3                                  | 1131                            | Ragshi h.s. 18 24 36                                | 501                             |
| Martoli " 113 8 43                                  | 1132                            | Kálasila h.s. 112 43 8                              | 502                             |
| Martoli " 147 6 33                                  | 1134                            | Mandani " 151 30 43                                 | 503                             |
| Naichu-ka-dhura h.s. 184 5 48                       | 1135                            | Tunguáth " 349 58 19                                | 501                             |
| Rálam " 303 14 24                                   | 1131                            |                                                     |                                 |
| <b>Birond, VIII</b>                                 |                                 | <b>Bodliakharak h.s.</b>                            |                                 |
| Baheri, IX h.s. 14 58 20.73                         | 13                              | Barmleo s. 12 14 46                                 | 830                             |
| Patrání h.s. 29 2 59                                | 769                             | Puniagiri h.s. 247 53 51                            | 830                             |
| Bagwára, VII " 51 49 1.63                           | 11                              | Banera s. 283 55 2                                  | 831                             |
| Paniam <b>No. 2</b> h.s. 79 28 17                   | 747                             | Malásh-ka-lek Peak " 335 27 40                      | 839                             |
|                                                     |                                 | <b>Bujantoni h.s.</b>                               |                                 |
|                                                     |                                 | Láta h.s. 35 57 23                                  | 954                             |
|                                                     |                                 | Sidhár " 70 53 59                                   | 954                             |
|                                                     |                                 | Chauri Binek " 158 8 58                             | 956                             |
|                                                     |                                 | Chotakána " 193 54 48                               | 957                             |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

† These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance |
|-----------------------------------------------------|----------------------------------|-----------------------------------------------------|----------------------------------|
| <b>Bujgala h.s.</b>                                 |                                  | <b>Chaldu No. 2 h.s.</b>                            |                                  |
| Silong h.s. 49 55 14                                | 437                              | Kungri Bingri h.s. 36 33 18                         | 1168                             |
| Urkhiali " 108 51 20                                | 438                              | Sámi " 158 9 20                                     | 1170                             |
| Deangan " 186 12 17                                 | 439                              | Chaldu No. 1 " 227 6 48                             | 1169                             |
| Charpáni " 200 19 4                                 | 539                              | Chanambaniali No. 1 " 323 30 55                     | 1168                             |
| Badhra " 215 55 8                                   | 440                              |                                                     |                                  |
| Mauil " 319 58 42                                   | 436                              |                                                     |                                  |
| Kankra No. 1 h.s. 357 2 20                          | 436                              |                                                     |                                  |
| <b>Bulákipur, LXXXIV</b>                            |                                  | <b>Chalua, XXXII</b>                                |                                  |
| Madanpur, LXXXV 0 52 19.84                          | 91                               | Lákhun, XXXI 46 24 18.42                            | 37                               |
| Amwa, LXXXIII 59 32 40.59                           | 90                               | Dhaurahra, XXX 116 43 43.42                         | 37                               |
| Sinaria, LXXXII 114 13 37.10                        | 90                               | Bela, XXXIII 340 55 19.13                           | 38                               |
| Sondahi, LXXXVI 290 52 5.11                         | 92                               |                                                     |                                  |
| <b>Buldanga h.s.</b>                                |                                  | <b>Chamaigaon No. 1 h.s.</b>                        |                                  |
| Shillong No. 2 h.s. 20 1 56                         | 1151                             | Gorubáthán h.s. 13 38 19                            | 1415                             |
| Shillong No. 1 " 114 33 52                          | 1151                             | Pumongzong " 60 19 22                               | 1416                             |
| Bamlás No. 3 " 151 48 34                            | 1157                             | Nimlu " 91 6 56                                     | 1415                             |
| Bamlás No. 2 " 165 28 51                            | 1153                             | Tempu La " 252 18 33                                | 1419                             |
|                                                     |                                  | Mo Chu " 254 33 3                                   | 1423                             |
|                                                     |                                  | Komai No. 1 " 275 39 23                             | 1426                             |
|                                                     |                                  | Chamaigaon No. 2 " 323 3 14                         | 1419                             |
| <b>Bulek h.s.</b>                                   |                                  | <b>Chamaigaon No. 2 h.s.</b>                        |                                  |
| Kanka h.s. 163 9 35                                 | 697                              | Pumongzong h.s. 75 32 9                             | 1417                             |
| Seri " 302 13 29                                    | 697                              | Singsa " 89 30 27                                   | 1418                             |
|                                                     |                                  | Nimlu " 106 2 54                                    | 1417                             |
| <b>Bunga h.s.</b>                                   |                                  | Chamaigaon No. 1 " 143 3 45                         | 1419                             |
| Pularanda h.s. 15 33 1                              | 959                              | Tempu La " 221 44 16                                | 1419                             |
| Chotakána " 41 2 2                                  | 959                              | Mo Chu " 234 45 43                                  | 1423                             |
| Bámpa " 142 45 49                                   | 962                              | Komai No. 2 " 251 40 55                             | 1429                             |
| Kurkutidhár " 170 30 25                             | 960                              |                                                     |                                  |
| Kurkuti " 220 25 50                                 | 985                              |                                                     |                                  |
| Satdhunga " 251 10 24                               | 984                              |                                                     |                                  |
| <b>Chachaila h.s.</b>                               |                                  | <b>Chanambaniali No. 1 h.s.</b>                     |                                  |
| Nisu h.s. 10 6 25                                   | 1208                             | Chitichun No. 1 h.s. 58 45 16                       | 1164                             |
| Doti " 325 15 51                                    | 1207                             | Kungri Bingri " 89 25 13                            | 1164                             |
| Khangla " 340 6 4                                   | 1207                             | Chitichun No. 2 " 120 45 40                         | 1165                             |
|                                                     |                                  | Chaldu No. 2 " 143 32 39                            | 1168                             |
|                                                     |                                  | Chaldu No. 1 " 177 16 57                            | 1167                             |
| <b>Chakung h.s.</b>                                 |                                  | <b>Chanambaniali No. 2 h.s.</b>                     |                                  |
| Tonglu h.s. 53 42 34                                | 1445                             | Chitichun No. 1 h.s. 61 15 4                        | 1176                             |
| Lintse Monastery 191 23 23                          | 1449                             | Kungri Bingri " 91 47 44                            | 1176                             |
| Namchi Monastery 255 22 31                          | 1473                             | Chitichun No. 2 " 123 37 19                         | 1177                             |
| Silluvok h.s. 265 18 56                             | 1473                             |                                                     |                                  |
| Deolo " 284 38 26                                   | 1444                             |                                                     |                                  |
| Raugit " 304 42 27                                  | 1468                             |                                                     |                                  |
| Darjeeling Observatory " 353 34 13                  | 1444                             |                                                     |                                  |
| <b>Chaldu No. 1 h.s.</b>                            |                                  | <b>Chanda, LXIV</b>                                 |                                  |
| Chitichun No. 2 h.s. 29 23 32                       | 1167                             | Morairi, LXIII 43 20 36.10                          | 70                               |
| Chaldu No. 2 " 47 8 22                              | 1169                             | Supur, LXII 100 55 31.52                            | 70                               |
| Ghátámemin " 102 41 40                              | 1178                             | Balua, LXVI 280 58 29.71                            | 72                               |
| Sámi " 121 5 39                                     | 1170                             | Mathia, LXV 341 20 13.11                            | 71                               |
| Chilankurkur No. 2 " 185 35 10                      | 1180                             |                                                     |                                  |
| Chilankurkur No. 1 " 191 50 26                      | 1171                             | <b>Chandarsanpur, XCI</b>                           |                                  |
| Chanambaniali No. 1 " 357 16 47                     | 1167                             | Sháhpur, LXXXIX 101 58 44.21                        | 97                               |
|                                                     |                                  | Jarol, XC 159 59 36.51                              | 97                               |
|                                                     |                                  | Narhar, XCH 215 9 22.71                             | 98                               |
|                                                     |                                  | Bishanpur, XCIII 268 4 37.46                        | 99                               |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Chandeshwar h.s.</b>                             |                                 | <b>Charekh h.s.—(Contd.)</b>                        |                                 |
| *Deoban h.s. 227 21 3                               | 230                             | Joi h.s. 13 37 55                                   | 420                             |
| Chakrata Military Hospital 278 45 38                | 237                             | Mābegarh, I 118 10 46                               | 314                             |
| Chilmeri (new) h.s. 307 28 6                        | 230                             | Dikhet " 175 22 25                                  | 308                             |
| *Nāga " 351 7 42                                    | 231                             | Dasmeri " 193 33 32                                 | 314                             |
| <b>Chāndipahār, LIV†</b>                            |                                 | Langurgarhi " 225 38 42                             | 400                             |
| †Mahesari, LII 4 34 26·63                           | 5                               | Kājigarhi " 232 31 51                               | 402                             |
| Sonārkoti h.s. 144 2 45                             | 202                             | Kalogarhi " 259 41 39                               | 315                             |
| Bhīngora " 161 35 49                                | 340                             | Gājbara No. 2 " 301 13 44                           | 405                             |
| Bhīngora s. 164 18 10                               | 203                             | Gājbara No. 1 " 301 25 53                           | 316                             |
| Partinagar h.s. 187 14 9                            | 202                             | Jamargadi " 340 16 47                               | 416                             |
| Motichūr s. 195 41 54                               | 349                             | <b>Charpāni h.s.</b>                                |                                 |
| †Ghandiāl, LVI 214 40 32·90                         | 1                               | Bujgala h.s. 20 20 10                               | 539                             |
| Ambwāla h.s. 232 46 25                              | 338                             | Deangan " 159 17 22                                 | 538                             |
| Kālapahār " 243 8 46                                | 311                             | Badhra " 247 1 48                                   | 538                             |
| Naugon No. 1 " 249 37 18                            | 323                             | <b>Chatargarhi h.s.</b>                             |                                 |
| Ghugtigarh " 258 20 6                               | 343                             | Ulsa h.s. 6 36 36                                   | 426                             |
| Khāra " 280 45 17                                   | 343                             | Kalajhuni " 60 10 56                                | 319                             |
| Mābegarh, I 281 15 38·98                            | 1                               | Utain " 61 13 9                                     | 423                             |
| Kāngra h.s. 319 46 30                               | 336                             | Dorbun " 128 58 38                                  | 421                             |
| <b>Chāndkot h.s.</b>                                |                                 | Chāndkot " 134 55 34                                | 319                             |
| Utain h.s. 16 24 36                                 | 423                             | Ameli No. 2 " 182 45 18                             | 551                             |
| Kalajhuni " 16 57 11                                | 318                             | Koimath " 185 25 12                                 | 428                             |
| Kalogarhi " 54 4 53                                 | 318                             | Devitok h.s. 225 0 29                               | 320                             |
| Dorbun " 88 23 37                                   | 422                             | Khatliveritok No. 1 h.s. 308 39 30                  | 452                             |
| Rānigarh, II 144 49 35                              | 321                             | Ghungti, IV 346 59 37                               | 453                             |
| Ameli No. 2 h.s. 224 51 21                          | 551                             | <b>Chauki h.s.</b>                                  |                                 |
| Ameli No. 1 " 229 8 39                              | 474                             | Dehra Dūn Base-line E. End (IX)§ 10 28 45           | 155                             |
| Koimath " 241 43 43                                 | 428                             | Shāhpur s. 14 26 15                                 | 171                             |
| Devitok h.s. 264 48 41                              | 320                             | Jhājra " 41 51 5                                    | 170                             |
| Chatargarhi h.s. 314 53 24                          | 319                             | Sidhowāla " 55 2 27                                 | 169                             |
| <b>Chanoli h.s.</b>                                 |                                 | Dehra Dūn Base-line W. End (VIII)§ 55 46 58         | 156                             |
| Silingdhār h.s. 27 45 51                            | 813                             | Santaur Devi Temple 290 55 7                        | 179                             |
| Baijnāth " 83 8 1                                   | 813                             | Rājpur h.s. 292 5 2                                 | 154                             |
| Mattan Chena " 240 10 10                            | 814                             | Angaila No. 2 " 322 54 49                           | 167                             |
| <b>Chapra s.</b>                                    |                                 | Angaila No. 1 " 326 18 29                           | 171                             |
| Harpāleid, XLVIII† 171 41 44                        | 411                             | Dehra Dūn s. 339 48 37                              | 154                             |
| Gujarsot h.s. 244 38 30                             | 411                             | <b>Chauri Binek h.s.</b>                            |                                 |
| Kalesayid " 273 46 13                               | 665                             | Lāta h.s. 11 51 37                                  | 955                             |
| Girijwāla, III 274 14 21                            | 412                             | Sidhār " 33 18 4                                    | 955                             |
| Kilauli s. 292 8 41                                 | 665                             | Chotakāna " 223 54 30                               | 957                             |
| <b>Chāra h.s.</b>                                   |                                 | Pularanda " 256 54 25                               | 958                             |
| Kādālpāta Hill Staff 31 35 29                       | 938                             | Bujantoni " 338 8 16                                | 956                             |
| Mūsipāni h.s. 62 16 11                              | 939                             | <b>Chenga h.s.</b>                                  |                                 |
| Soagpa " 116 37 18                                  | 940                             | Morapur s. 30 0 53                                  | 1313                            |
| Bāzkūli " 124 9 8                                   | 941                             | Lohgarhi h.s. 56 21 40                              | 1309                            |
| Ānādob " 336 20 57                                  | 938                             | Tingling " 149 27 10                                | 1308                            |
| <b>Charekh h.s.</b>                                 |                                 | Durbinjhorā " 211 18 57                             | 1308                            |
| †Harpāleid, XLVIII 0 19 33                          | 333                             |                                                     |                                 |
| Jamaugarh h.s. 5 51 40                              | 393                             |                                                     |                                 |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.  
 † These stations appertain to the Great Arc Meridional Series—Section 24°-30'.  
 ‡ This station appertains to the Bundho Meridional Series. § These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30'.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Chhatar h.s.</b>                                 |                                 | <b>Chilmeri (new) h.s.—(Contd.)</b> ° ' "           |                                 |
| Pilkhuata h.s. 41 39 47                             | 950                             | Samogi h.s. 223 11 48                               | 232                             |
| Tháli " 59 59 18                                    | 989                             | Sápar " 231 27 44                                   | 238                             |
| Joshimath " 117 0 54                                | 982                             | Hain " 276 15 58                                    | 213                             |
| Vishnugarh " 129 24 51                              | 950                             | Tharona " 327 2 3                                   | 215                             |
| Láta " 299 22 35                                    | 952                             | Silgur " 333 15 36                                  | 212                             |
| Domban " 346 38 36                                  | 951                             |                                                     |                                 |
| <b>Chilamkurkur No. 1 h.s.</b>                      |                                 | <b>Chilpokra h.s.</b>                               |                                 |
| Chaldu No. 1 h.s. 11 51 31                          | 1171                            | Manura h.s. 147 34 34                               | 734                             |
| Ghátámemin " 41 37 37                               | 1179                            | Luriakanta " 168 20 40                              | 734                             |
| Sámi " 48 59 1                                      | 1171                            | Harchan " 201 59 56                                 | 736                             |
| Kánchego " 78 52 22                                 | 1172                            | Bhím Tál " 226 17 53                                | 735                             |
| Dongu No. 1 " 136 57 51                             | 1173                            |                                                     |                                 |
| Gompachin No. 1 " 300 2 55                          | 1182                            | <b>Chinal h.s.</b>                                  |                                 |
| Gompachin No. 2 " 302 27 56                         | 1184                            | Láldhár h.s. 14 47 32                               | 626                             |
|                                                     |                                 | Silbasila " 47 33 9                                 | 627                             |
|                                                     |                                 | Dhulwa " 115 29 32                                  | 628                             |
| <b>Chilamkurkur No. 2 h.s.</b>                      |                                 | Dhungalgarh " 157 43 1                              | 629                             |
| Chaldu No. 1 h.s. 5 35 41                           | 1180                            | Gujarkot-ki-garh " 206 13 20                        | 620                             |
| Ghátámemin " 36 29 22                               | 1180                            | Gungináth " 259 38 20                               | 621                             |
| Sámi " 43 23 58                                     | 1181                            | Rasalday " 260 38 10                                | 620                             |
|                                                     |                                 | Saonchália, VI 262 0 23                             | 620                             |
|                                                     |                                 | Kailakhur " 314 37 45                               | 631                             |
| <b>Chilangbita h.s.</b>                             |                                 | Bhadargarhi " 328 35 42                             | 625                             |
| Jhangarh h.s. 62 39 21                              | 373                             | Sidhon-ka-thán " 340 52 38                          | 626                             |
| Gurdhári " 126 40 49                                | 373                             |                                                     |                                 |
|                                                     |                                 | <b>Chinar h.s.</b>                                  |                                 |
| <b>Chilár h.s.</b>                                  |                                 | Sher-ka-dánda h.s. 298 10 37                        | 744                             |
| Bhandrauli h.s. 13 53 19                            | 246                             | Kalikhán " 313 46 5                                 | 745                             |
| Moila " 26 44 11                                    | 243                             | Naini Tál Lake " 321 25 40                          | 746                             |
| *Kanúi " 110 35 32                                  | 243                             | Jar Pathar " 347 38 25                              | 744                             |
| Birga " 165 34 11                                   | 269                             |                                                     |                                 |
| Gusana " 177 14 16                                  | 267                             | <b>Chini s.</b>                                     |                                 |
| Bin Pohr " 240 8 32                                 | 265                             | Shiála No. 1 h.s. 204 31 44                         | 817                             |
| Lokár Bungalow " 273 53 27                          | 263                             | Shiála No. 2 " 204 50 38                            | 818                             |
| Dungri h.s. 317 40 25                               | 263                             | Puniagiri " 228 42 11                               | 817                             |
|                                                     |                                 |                                                     |                                 |
| <b>Chilarimar h.s.</b>                              |                                 | <b>Chipalkot No. 1 h.s.</b>                         |                                 |
| Nainidevi No. 1 h.s. 117 36 9                       | 529                             | Dháj h.s. 15 20 49                                  | 1006                            |
| Nagnáth No. 2 " 271 24 23                           | 528                             | Khaparchula h.s. 64 53 32                           | 1006                            |
| Ranoun " 309 35 49                                  | 528                             | Húm " 125 28 3                                      | 1005                            |
|                                                     |                                 | Golpha " 189 1 26                                   | 1005                            |
|                                                     |                                 |                                                     |                                 |
| <b>Chilkia s.</b>                                   |                                 | <b>Chipalkot No. 2 h.s.</b>                         |                                 |
| Láldhár h.s. 162 33 6                               | 685                             | Húm h.s. 125 31 4                                   | 1185                            |
| Rámnagar s. 199 52 2                                | 688                             | Golpha " 208 37 52                                  | 1185                            |
| Sidhon-ka-thán h.s. 220 37 22                       | 687                             | Balsi No. 1 " 236 10 34                             | 1186                            |
| Bhadargarhi " 245 16 0                              | 685                             | Balsi No. 2 " 238 34 6                              | 1183                            |
|                                                     |                                 | Sukadhár " 286 44 29                                | 1187                            |
|                                                     |                                 |                                                     |                                 |
| <b>Chilmeri (new) h.s.</b>                          |                                 | <b>Chिताor h.s.</b>                                 |                                 |
| Badráj Devi Hill Temple 0 42 11                     | 219                             | Akali h.s. 79 57 1                                  | 582                             |
| *Nága h.s. 28 13 22                                 | 212                             | Ghungti, IV 173 50 11                               | 579                             |
| Koruwa Bungalow 73 33 47                            | 227                             | Khatlidovitonk No. 2 h.s. 212 11 39                 | 587                             |
| Lisani h.s. 98 5 51                                 | 228                             |                                                     |                                 |
| Chandeshwar " 127 29 55                             | 230                             |                                                     |                                 |
| Chakráta Military Hospital 144 46 57                | 236                             |                                                     |                                 |
| *Deoban h.s. 168 31 4                               | 228                             |                                                     |                                 |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Chिताor h.s.—(Contd).</b>                        |                                 | <b>Chotáki, CXXV</b>                                |                                 |
| Khatldevitank No. 1 h.s. 212 12 42                  | 580                             | Sonakhoda, CXXI 123 1 47'85                         | 131                             |
| Jagera " 254 9 27                                   | 588                             | Rámanganj, CXXII 163 12 58'99                       | 131                             |
| Jogi-ka-dánda " 277 43 44                           | 579                             | Newani, CXXVI 235 35 50'24                          | 132                             |
| <b>Chitichun No. 1 h.s.</b>                         |                                 | <b>Chotri h.s.</b>                                  |                                 |
| Bamlás No. 5 h.s. 59 57 37                          | 1162                            | Balchandánda h.s. 7 12 5                            | 1080                            |
| Kiangur " 110 46 54                                 | 1162                            | Lahúrdhura " 105 15 49                              | 1080                            |
| Kungri Bingri " 147 45 3                            | 1163                            | Kurmura " 111 27 8                                  | 1081                            |
| Chitichun No. 2 " 197 27 20                         | 1166                            | Dauchar " 184 34 39                                 | 1081                            |
| Chanambaniali No. 1 " 238 42 42                     | 1164                            |                                                     |                                 |
| Chanambaniali No. 2 " 241 12 29                     | 1176                            |                                                     |                                 |
| <b>Chitichun No. 2 h.s.</b>                         |                                 | <b>Choursan No. 1 h.s.</b>                          |                                 |
| Chitichun No. 1 h.s. 17 28 9                        | 1166                            | Baijnáth h.s. 24 24 23                              | 801                             |
| Kungri Bingri " 59 6 53                             | 1165                            | Aiartoli No. 2 " 100 59 32                          | 802                             |
| Chaldu No. 1 " 209 21 57                            | 1167                            | Aiartoli No. 1 " 139 0 15                           | 801                             |
| Chauambaniali No. 1 " 300 13 55                     | 1165                            |                                                     |                                 |
| Chanambaniali No. 2 " 303 35 33                     | 1177                            | <b>Choursan No. 2 h.s.</b>                          |                                 |
|                                                     |                                 | Silingdhár h.s. 10 24 6                             | 805                             |
|                                                     |                                 | Baijnáth " 52 56 33                                 | 804                             |
|                                                     |                                 | Aiartoli No. 1 " 118 24 18                          | 804                             |
|                                                     |                                 | Arkholi No. 1 " 255 22 6                            | 809                             |
|                                                     |                                 | Mattan Chena " 307 56 49                            | 806                             |
| <b>Choprakot h.s.</b>                               |                                 | <b>Choursan No. 3 h.s.</b>                          |                                 |
| Maharzon h.s. 2 44 1                                | 576                             | Baijnáth h.s. 44 38 40                              | 807                             |
| Saitangarhi " 49 28 6                               | 575                             | Aiartoli No. 1 " 104 47 38                          | 807                             |
| Kauokhá " 110 18 34                                 | 575                             | Choursan No. 4 " 199 53 17                          | 808                             |
|                                                     |                                 | Arkholi No. 2 " 231 23 33                           | 812                             |
|                                                     |                                 | Arkholi No. 1 " 272 23 21                           | 810                             |
| <b>Chorgalia h.s.</b>                               |                                 | <b>Choursan No. 4 h.s.</b>                          |                                 |
| Chorgalia s. 52 30 10                               | 824                             | Choursan No. 3 h.s. 19 53 30                        | 808                             |
| Patrání h.s. 136 34 28                              | 771                             | Aiartoli No. 1 " 67 5 40                            | 808                             |
| Lobchula " 222 16 53                                | 771                             | Arkholi No. 2 " 265 56 9                            | 811                             |
| Timlidhár " 279 52 54                               | 772                             | Arkholi No. 1 " 327 37 59                           | 810                             |
| Kallagi " 357 24 45                                 | 825                             |                                                     |                                 |
| <b>Chorgalia s.</b>                                 |                                 | <b>Chúarpur No. 1 s.</b>                            |                                 |
| Patrání h.s. 166 16 33                              | 824                             | Chúarpur No. 2 s. 67 34 24                          | 144                             |
| Chorgalia " 232 29 9                                | 824                             | Bhungani " 112 31 30                                | 143                             |
| Kallagi " 294 50 37                                 | 825                             | Sidh Tibá h.s. 200 14 0                             | 142                             |
|                                                     |                                 | Mihúnwála s. 241 1 9                                | 142                             |
| <b>Chorkharak h.s.</b>                              |                                 | <b>Chúarpur No. 2 s.</b>                            |                                 |
| Kankra No. 1 h.s. 72 48 11                          | 430                             | Dhakráni s. 73 45 28                                | 145                             |
| Manil h.s. 111 41 52                                | 431                             | Bhungani " 140 10 37                                | 144                             |
| Jatropáni h.s. 182 23 13                            | 430                             | Chúarpur No. 1 " 247 33 44                          | 144                             |
| Talanti h.s. 200 2 24                               | 432                             |                                                     |                                 |
| Nauáli " 282 46 4                                   | 433                             |                                                     |                                 |
| Dankarak " 344 10 28                                | 908                             |                                                     |                                 |
| <b>Chotakána h.s.</b>                               |                                 | <b>Chukarchi h.s.</b>                               |                                 |
| Bujantoni h.s. 13 55 37                             | 957                             | Lingtu h.s. 27 30 15                                | 1502                            |
| Chauri Binék " 43 56 1                              | 957                             | Jandorhi " 297 3 48                                 | 1503                            |
| Kurkutidhár " 203 41 0                              | 960                             | Pembiringo " 328 41 39                              | 1506                            |
| Bunga " 221 0 12                                    | 959                             | Gyi-mo-chi " 342 46 30                              | 1502                            |
| Sathdunga " 230 13 37                               | 983                             |                                                     |                                 |
| Pularanda " 315 53 18                               | 958                             |                                                     |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Chumsering h.s.</b>                              | o ' "                           | <b>Daj h.s.</b>                                     | o ' "                           |
| Saibur h.s. 1 35 4                                  | 1877                            | Kokru-ka-dánda h.s. 16 38 50                        | 790                             |
| Songchonglu " 10 41 26                              | 1375                            | Parkot " 35 14 44                                   | 877                             |
| Padanglu Hill Mark " 20 58 1                        | 1490                            | Magru-ka-dánda " 69 46 36                           | 789                             |
| Rinkinpong h.s. 48 35 42                            | 1488                            | Harap " 114 36 48                                   | 789                             |
| Deolo " 57 46 58                                    | 1373                            | Jakari " 239 38 6                                   | 874                             |
| Darjeeling Observatory " 73 0 53                    | 1372                            | Hagdaru " 288 33 15                                 | 791                             |
| Chedam Hill Mark " 84 20 7                          | 1474                            |                                                     |                                 |
| Tendong Churten " 114 29 51                         | 1471                            |                                                     |                                 |
| Tendong h.s. 114 30 33                              | 1372                            | <b>Dakchol h.s.</b>                                 |                                 |
| Simugupchurhi " 211 9 42                            | 1498                            | Balehandánda h.s. 252 31 5                          | 1097                            |
| Lingpui Monastery " 218 46 43                       | 1511                            | Litála " 280 28 42                                  | 1097                            |
| Lingtu h.s. 234 12 27                               | 1485                            | Khaparehula " 297 1 18                              | 1098                            |
| Rhenok " 237 30 12                                  | 1489                            |                                                     |                                 |
| Gyi-mo-chi " 243 36 19                              | 1496                            | <b>Daling Fort h.s.</b>                             |                                 |
| Riehi La " 273 43 50                                | 1482                            | Daling h.s. 19 21 14                                | 1398                            |
| Khampung " 302 56 56                                | 1478                            | Tanglangpong Hill Mark " 51 16 42                   | 1432                            |
| Nimkhu " 332 21 51                                  | 1431                            | Pumongzong h.s. 55 14 4                             | 1396                            |
| Risum No. 1 " 335 18 9                              | 1487                            | Sakkatak " 64 26 45                                 | 1400                            |
|                                                     |                                 | Nimju " 79 31 16                                    | 1397                            |
| <b>Chuni, CVI</b>                                   |                                 | Nim No. 1 " 82 18 30                                | 1404                            |
| Rámngar, CVII " 7 16 32 54                          | 113                             | Nim No. 2 " 89 2 42                                 | 1411                            |
| Latona, CIII " 66 52 15 05                          | 110                             | Nimlu " 91 34 50                                    | 1396                            |
| Diwánganj, CII " 126 51 30 43                       | 110                             | Silibong " 105 42 1                                 | 1406                            |
| Minai, CV " 185 49 48 14                            | 111                             | Samsingam Hill Mark " 110 57 11                     | 1401                            |
| Ghibá, CIX " 250 26 23 91                           | 112                             | Peshagam Hill Mark " 341 26 28                      | 1434                            |
| Manúla, CVIII " 311 18 58 66                        | 114                             |                                                     |                                 |
|                                                     |                                 | <b>Daling h.s.</b>                                  |                                 |
| <b>Chutwapipal h.s.</b>                             |                                 | Daling h.s. 62 40 30                                | 1399                            |
| Nainidevi No. 1 h.s. 137 54 27                      | 526                             | Pumongzong h.s. 86 56 16                            | 1432                            |
| Nagnáth No. 2 " 223 14 38                           | 527                             | Tanglangpong Hill Mark " 110 25 0                   | 1398                            |
| Ranoun " 228 4 32                                   | 526                             | Nimlu No. 1 " 118 46 57                             | 1403                            |
|                                                     |                                 | Nim " 121 4 52                                      | 1400                            |
| <b>Dabharakot h.s.</b>                              |                                 | Sakkatak " 125 50 59                                | 1405                            |
| Sinatkhál h.s. 85 20 44                             | 592                             | Silibong " 159 49 8                                 | 1401                            |
| Mandhla " 174 56 33                                 | 592                             | Samsingam Hill Mark h.s. 199 21 4                   | 1398                            |
| Dang No. 2 " 291 20 24                              | 593                             | Daling Fort " 307 28 27                             | 1434                            |
|                                                     |                                 | Peshagam Hill Mark                                  |                                 |
| <b>Dadaura, XXXVIII</b>                             |                                 | <b>Dalsinga h.s.</b>                                |                                 |
| Anárkali, XXXVII " 38 25 38 70                      | 43                              | Dalsinga h.s. 265 39 57                             | 519                             |
| Athonawa, XXXVI " 103 44 48 78                      | 43                              | Ragshi h.s. 322 50 43                               | 519                             |
| Newáda, XL " 287 59 47 88                           | 45                              | Khaterami Hill Mark " 322 50 43                     |                                 |
| Tilakpur, XXXIX " 340 49 28 45                      | 44                              |                                                     |                                 |
|                                                     |                                 | <b>Dámjan h.s.</b>                                  |                                 |
| <b>Dahlelnagar, XXV</b>                             |                                 | Dámjan h.s. 26 55 11                                | 963                             |
| Kokra, XXIII " 130 1 4 54                           | 30                              | Bámpa " 41 42 38                                    | 964                             |
| Rámngar, XXIV " 181 49 2 83                         | 30                              | Rámkuta " 85 53 5                                   | 965                             |
| Hilgi, XXVI " 242 18 28 60                          | 31                              | Langpiar " 135 45 30                                | 966                             |
| Saidhari, XXVII " 310 36 17 44                      | 32                              | Banlás No. 1 " 353 43 53                            | 963                             |
|                                                     |                                 | Kurkutidhár " 353 43 53                             |                                 |
| <b>Daiu La h.s.</b>                                 |                                 | <b>Damsong h.s.</b>                                 |                                 |
| Lampheram h.s. 12 41 50                             | 1458                            | Damsong h.s. 236 51 1                               | 1492                            |
| Kangrang La " 80 7 25                               | 1458                            | Rhenok " 310 2 20                                   | 1493                            |
| Kabur " 214 21 7                                    | 1461                            | Khampung " 349 15 23                                | 1492                            |
| Pongmerong " 305 50 12                              | 1460                            | Risum No. 1 " 349 15 23                             |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Dánádbár h.s.</b>                                |                                 | <b>Darjeeling h.s.</b>                              |                                 |
| Jath h.s. 172 18 39                                 | 1114                            | Tonglu h.s. 84 45 46                                | 1270                            |
| Kaltháni " 183 49 32                                | 1115                            | Darjeeling, Birch Hill " 130 50 21                  | 1271                            |
| Uchheti No. 1 " 195 6 20                            | 1116                            | Senchal No. 1 " 339 56 25                           | 1270                            |
| Uchheti No. 3 " 204 1 16                            | 1119                            | Tiger Hill " 343 33 44                              | 1273                            |
| Uchheti No. 2 " 211 56 59                           | 1118                            |                                                     |                                 |
| Baidhár " 249 24 35                                 | 1109                            |                                                     |                                 |
| Dobadhár " 257 22 4                                 | 1108                            |                                                     |                                 |
| Deolakot " 318 42 30                                | 1108                            | <b>Darjeeling, Jalapahár h.s.</b>                   |                                 |
|                                                     |                                 | Sandakphu No. 2 h.s. 109 2 46                       | 1285                            |
|                                                     |                                 | Darjeeling Observatory " 198 27 54                  | 1283                            |
|                                                     |                                 | Tiger Hill " 308 9 40                               | 1283                            |
|                                                     |                                 | Senchal No. 1 " 311 35 6                            | 1284                            |
| <b>Danapáni h.s.</b>                                |                                 | <b>Darjeeling, Mount Vernon h.s.</b>                |                                 |
| Khairagach No. 3 h.s. 127 53 53                     | 662                             | Darjeeling Observatory h.s. 191 8 53                | 1288                            |
| Jenti Rao " 198 39 26                               | 662                             | Senchal No. 1 " 329 37 46                           | 1289                            |
| Mainajadi " 266 32 21                               | 669                             | Tiger Hill " 331 46 50                              | 1288                            |
| Barsoti " 281 45 29                                 | 663                             |                                                     |                                 |
| <b>Danehar h.s.</b>                                 |                                 | <b>Darjeeling Observatory h.s.</b>                  |                                 |
| Chotri h.s. 4 34 42                                 | 1081                            | Senchal No. 2 h.s. 1 3 24                           | 1290                            |
| Balehandána " 6 37 27                               | 1078                            | Darjeeling, Mount Vernon " 11 8 59                  | 1288                            |
| Litála " 7 27 4                                     | 1110                            | Darjeeling, Jalapahár " 18 28 14                    | 1283                            |
| Lahúrdhura " 93 40 20                               | 1078                            | Tonglu " 84 40 44                                   | 1276                            |
| Kurmuria " 101 16 52                                | 1081                            | Sandakphu No. 2 " 100 23 0                          | 1285                            |
| Húm " 287 10 1                                      | 1079                            | Sandakphu No. 1 " 103 6 12                          | 1280                            |
| Gurgaon " 295 33 39                                 | 1110                            | Suberkum " 118 47 28                                | 1281                            |
|                                                     |                                 | Phallut " 125 57 40                                 | 1440                            |
|                                                     |                                 | Darjeeling, Birch Hill " 130 13 57                  | 1276                            |
|                                                     |                                 | Singalila " 131 7 21                                | 1441                            |
|                                                     |                                 | Lampheram " 148 5 57                                | 1454                            |
|                                                     |                                 | Kangrang La " 149 7 56                              | 1452                            |
|                                                     |                                 | Chakung " 173 34 33                                 | 1444                            |
|                                                     |                                 | Pemionchi Monastery " 176 44 52                     | 1466                            |
|                                                     |                                 | Lintse Monastery " 178 36 56                        | 1448                            |
|                                                     |                                 | Rinchipung h.s. 180 32 57                           | 1446                            |
|                                                     |                                 | Kirsong " 198 33 52                                 | 1451                            |
|                                                     |                                 | Moinam " 201 24 57                                  | 1438                            |
|                                                     |                                 | Tendong Churten " 218 12 39                         | 1471                            |
|                                                     |                                 | Tendong h.s. 218 13 25                              | 1368                            |
|                                                     |                                 | Rangit " 225 18 37                                  | 1467                            |
|                                                     |                                 | Lingtu " 244 38 47                                  | 1484                            |
|                                                     |                                 | Chumsering " 252 52 16                              | 1372                            |
|                                                     |                                 | Deolo " 258 54 38                                   | 1370                            |
|                                                     |                                 | Songchonglu " 280 52 31                             | 1374                            |
|                                                     |                                 | Tukdah " 281 59 19                                  | 1364                            |
|                                                     |                                 | Senchal No. 1 " 339 59 17                           | 1284                            |
|                                                     |                                 | Tiger Hill " 343 36 15                              | 1277                            |
|                                                     |                                 | <b>Dasmeri h.s.</b>                                 |                                 |
|                                                     |                                 | Charekh h.s. 13 34 26                               | 314                             |
|                                                     |                                 | Mabegarh, I " 61 45 57                              | 313                             |
|                                                     |                                 | Dikhet h.s. 63 52 39                                | 398                             |
|                                                     |                                 | Dhunga " 100 22 43                                  | 313                             |
|                                                     |                                 | Langurgarhi " 280 55 54                             | 401                             |
|                                                     |                                 | Kájigarhi " 295 16 3                                | 402                             |
|                                                     |                                 | Kalogarhi " 317 50 43                               | 315                             |
| <b>Darjeeling, Birch Hill h.s.</b>                  |                                 |                                                     |                                 |
| Tonglu h.s. 80 37 2                                 | 1271                            |                                                     |                                 |
| Darjeeling Observatory " 310 13 35                  | 1276                            |                                                     |                                 |
| Darjeeling " 310 49 59                              | 1271                            |                                                     |                                 |
| Senchal No. 1 " 334 23 51                           | 1272                            |                                                     |                                 |
| Tiger Hill " 336 25 12                              | 1274                            |                                                     |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance |
|-----------------------------------------------------|----------------------------------|-----------------------------------------------------|----------------------------------|
| <b>Daukuri h.s.</b>                                 |                                  | <b>Dehra Dún s.—(Contd.)</b>                        |                                  |
| Kharik h.s. 42 31 42                                | 1083                             | Rájpur h.s. 210 21 6                                | 153                              |
| Shikáni h.s. 63 30 42                               | 1075                             | Nálapáni " 260 31 18                                | 152                              |
| Kurmuria h.s. 267 27 15                             | 1076                             | Nágsidh " 332 14 23                                 | 152                              |
| Lahúrdhura " 273 37 46                              | 1073                             |                                                     |                                  |
| Balehandánda " 294 40 41                            | 1074                             | †Deoban h.s.                                        |                                  |
| Hagdau " 355 39 54                                  | 1073                             | †Nága h.s. 8 18 43                                  | 211                              |
|                                                     |                                  | Lisani " 27 44 12                                   | 223                              |
| <b>Deangan h.s.</b>                                 |                                  | Chandeshwar " 47 22 21                              | 230                              |
| Bujgala h.s. 6 12 47                                | 439                              | Moila " 115 35 32                                   | 240                              |
| Urkháli " 38 25 3                                   | 439                              | Sainj " 141 22 49                                   | 244                              |
| Kankhul " 53 3 3                                    | 547                              | †Kanú " 147 55 2                                    | 241                              |
| Kaudára " 56 24 6                                   | 536                              | Samogi " 292 22 42                                  | 233                              |
| Nagnáth No. 1 " 114 5 47                            | 443                              | Hain " 323 10 23                                    | 211                              |
| Ramehana " 177 9 34                                 | 442                              | Chilmeri (new) " 348 30 33                          | 228                              |
| Ghuddhar " 208 54 3                                 | 545                              |                                                     |                                  |
| Banidhura " 228 48 38                               | 441                              | <b>Deobarna h.s.</b>                                |                                  |
| Badhra " 294 8 14                                   | 440                              | Shikáni h.s. 27 21 54                               | 918                              |
| Charpáni " 339 16 46                                | 538                              | Dhiola h.s. 72 26 47                                | 918                              |
|                                                     |                                  |                                                     |                                  |
| <b>Debára h.s.</b>                                  |                                  | <b>Deodekni h.s.</b>                                |                                  |
| Nisania h.s. 55 32 6                                | 585                              | Ragshi h.s. 94 33 38                                | 451                              |
| Kankra No. 1 h.s. 138 55 45                         | 585                              | Bhairkharak h.s. 121 21 0                           | 506                              |
|                                                     |                                  | Tungnáth " 159 18 42                                | 451                              |
| <b>Dedhurra h.s.</b>                                |                                  | Neolpanga " 273 33 20                               | 447                              |
| Gatgar h.s. 46 43 38                                | 636                              | Khal-ka-dánda " 343 51 43                           | 447                              |
| Dhulia s. 52 19 27                                  | 755                              |                                                     |                                  |
| Khamari-ka-dánda h.s. 82 56 33                      | 755                              | <b>Deokánk s.</b>                                   |                                  |
| Bijaon " 110 4 54                                   | 636                              | Gatgar h.s. 152 41 30                               | 712                              |
| Bhím Tál " 262 44 41                                | 638                              | Biloti " 216 2 8                                    | 712                              |
| Biloti " 321 52 38                                  | 637                              | Haldwáni t.s. 280 19 29                             | 713                              |
|                                                     |                                  |                                                     |                                  |
| <b>Dehra Dún Base-line E. End, (IX)*</b>            |                                  | <b>Deolakot h.s.</b>                                |                                  |
| Dehra Dún Base-line W. End, (VIII)* 113 43 34 02    | 136                              | Bhania h.s. 91 6 44                                 | 1104                             |
| Kotra h.s. 161 55 12                                | 136                              | Dánádhár " 138 43 2                                 | 1108                             |
| Birsini " 166 30 23                                 | 162                              | Baidhár " 215 8 16                                  | 1104                             |
| Chauki " 190 27 56                                  | 155                              | Dobadhár " 225 18 15                                | 1105                             |
| Santaur Devi Temple " 202 50 42                     | 179                              | Wolthi " 253 13 47                                  | 1126                             |
| Angaila No. 2 h.s. 205 52 35                        | 168                              | Bhowara " 254 35 9                                  | 1125                             |
| Angaila No. 1 " 209 33 7                            | 165                              | Kotalgaon " 256 49 59                               | 1106                             |
| Rájpur " 223 36 58                                  | 155                              | Tomik " 272 59 8                                    | 1112                             |
|                                                     |                                  | Porchula " 325 7 46                                 | 1121                             |
|                                                     |                                  |                                                     |                                  |
| <b>Dehra Dún Base-line W. End, (VIII)*</b>          |                                  | <b>Deolo h.s.</b>                                   |                                  |
| Sahaspur s. 145 55 58                               | 163                              | Yongri h.s. 4 3 56                                  | 1384                             |
| Ambári h.s. 184 34 3                                | 137                              | Nazzeokh Hill Mark " 18 29 6                        | 1389                             |
| Kotra " 202 58 16                                   | 136                              | Rinkimpong h.s. 36 3 22                             | 1382                             |
| Birsini " 210 20 43                                 | 162                              | Kalimpong " 49 30 12                                | 1470                             |
| Chauki " 235 42 42                                  | 156                              | Senchal No. 1 " 61 23 12                            | 1370                             |
| Santaur Devi Temple " 243 35 47                     | 180                              | Darjeeling Observatory " 79 1 3                     | 1370                             |
| Angaila No. 2 h.s. 250 4 41                         | 167                              | Rangit " 94 41 40                                   | 1467                             |
| Angaila No. 1 " 253 26 45                           | 166                              | Chakung " 104 45 12                                 | 1444                             |
| Dehra Dún Base-line E. End, (IX)* 293 40 7 44       | 186                              | Chedam Hill Mark " 110 15 2                         | 1474                             |
|                                                     |                                  | Tendong Churten " 144 4 15                          | 1472                             |
|                                                     |                                  | Tendong h.s. 144 5 36                               | 1371                             |
| <b>Dehra Dún s.</b>                                 |                                  | Chumsering " 237 44 46                              | 1373                             |
| Chauki h.s. 159 49 47                               | 154                              |                                                     |                                  |
| Dehra Dún Magazine House 172 50 57                  | 176                              |                                                     |                                  |

\* These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.  
† These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Deolo h.s.—(Contd.)</b>                          |                                 | <b>Devi-ka-bhawan h.s.</b>                          |                                 |
| Risum No. 1 h.s. 262 52 6                           | 1487                            | Saonchalia, VI 18 50 44                             | 691                             |
| Khampung " 266 56 30                                | 1478                            | Palikhet h.s. 131 12 55                             | 691                             |
| Nimkhu " 278 30 27                                  | 1430                            | Kanka " 293 8 29                                    | 692                             |
| Saihur " 293 42 36                                  | 1376                            |                                                     |                                 |
| Nimlu " 297 20 4                                    | 1379                            |                                                     |                                 |
| Songchonglu " 332 40 31                             | 1374                            |                                                     |                                 |
|                                                     |                                 | <b>Devitonk H.S.</b>                                |                                 |
| <b>Deopathar h.s.</b>                               |                                 | Chatargarhi h.s. 45 3 4                             | 320                             |
| Dhanik h.s. 43 42 58                                | 654                             | Chándkot " 84 53 26                                 | 320                             |
| Titkadanda " 124 59 37                              | 654                             | Koimath " 112 3 14                                  | 429                             |
| Lurikanta " 262 26 23                               | 656                             | Ránigarh, II " 116 58 59.6                          | 285                             |
| Kalikhan " 292 37 54                                | 741                             | Ameli No. 1 " 128 36 30                             | 474                             |
| Jar Pathar " 308 51 24                              | 739                             | Panjikhál " 199 53 13                               | 572                             |
| Manura " 328 7 4                                    | 655                             | Gwanagarh H.S. 200 12 29.7                          | 285                             |
|                                                     |                                 | Panjing h.s. 203 33 14                              | 475                             |
|                                                     |                                 | Kaimur " 227 12 31                                  | 561                             |
|                                                     |                                 | Kanokhál " 252 4 49                                 | 573                             |
|                                                     |                                 | Kankra No. 1 H.S. 254 52 30.3                       | 286                             |
|                                                     |                                 | Nandatopa h.s. 263 6 44                             | 471                             |
|                                                     |                                 | Snitungarhi " 313 48 32                             | 470                             |
| <b>Deoprayág h.s.</b>                               |                                 | Jiblikhál " 341 32 7                                | 563                             |
| Naogarh h.s. 15 21 21                               | 379                             | Khatliveditonk No. 1 " 348 51 1                     | 452                             |
| Jhaugarch " 280 35 45                               | 379                             |                                                     |                                 |
|                                                     |                                 | <b>Dhaj H.S.</b>                                    |                                 |
| <b>Deothal h.s.</b>                                 |                                 | Sheralek h.s. 0 17 16                               | 1011                            |
| Ghuksa h.s. 48 56 6                                 | 642                             | Gorakhnáth " 8 39 9                                 | 1008                            |
| Gagar " 113 1 49                                    | 646                             | Thákil " 29 40 49                                   | 1000                            |
| Muktisar " 163 7 23                                 | 645                             | Jhum H.S. 39 5 50.4                                 | 299                             |
| Motinpathar " 205 41 48                             | 644                             | Triarikot Hill Mark 69 55 6                         | 1009                            |
| Sekadanda " 234 56 36                               | 750                             | Iriarikot h.s. 77 13 17                             | 1029                            |
| Gurudeodhura " 284 41 10                            | 643                             | Bambhil " 80 20 6                                   | 768                             |
| Biroud, VIII 346 8 31                               | 642                             | Jagesar H.S. 90 41 42.2                             | 300                             |
|                                                     |                                 | Kamroli h.s. 107 27 54                              | 1031                            |
|                                                     |                                 | Masurbio " 111 54 35                                | 1029                            |
| <b>Deotharim h.s.</b>                               |                                 | Khamlek H.S. 133 16 11.8                            | 299                             |
| Pagriangbong h.s. 36 6 25                           | 1421                            | Lori h.s. 148 29 56                                 | 1032                            |
| Nimlu " 233 24 0                                    | 1422                            | Khaparchula " 162 36 50                             | 992                             |
| Singsa " 348 7 29                                   | 1421                            | Láviké " 190 30 43                                  | 1036                            |
|                                                     |                                 | Chipalkot No. 1 " 195 18 4                          | 1006                            |
|                                                     |                                 | Dharij " 291 26.46                                  | 1088                            |
| <b>Deuli h.s.</b>                                   |                                 | <b>Dhakraáni s.</b>                                 |                                 |
| Nagarchula h.s. 35 42 52                            | 1041                            | Amsot. (XI)* 27 15 31                               | 147                             |
| Thákil " 80 17 59                                   | 1040                            | Rámpur s. 89 6 46                                   | 146                             |
| Bhamdona " 125 48 16                                | 1042                            | Bhungani " 187 6 14                                 | 145                             |
| Dharij " 213 59 37                                  | 1040                            | Cháurpur No. 2 " 253 44 38                          | 145                             |
| Majarkhána " 228 56 7                               | 1047                            |                                                     |                                 |
| Dhian " 281 57 44                                   | 1045                            |                                                     |                                 |
|                                                     |                                 | <b>Dhálipur s.</b>                                  |                                 |
| <b>Devidat h.s.</b>                                 |                                 | Amsot. (XI)* 1 22 57                                | 158                             |
| Ránigarh, II h.s. 44 23 34                          | 363                             | Rámpur Mandi s. 101 58 48                           | 159                             |
| Dhano " 52 27 17                                    | 387                             | Rámpur " 128 22 37                                  | 157                             |
| Pali " 74 2 35                                      | 385                             | Bhungani " 222 57 5                                 | 157                             |
| Jhangarh " 97 6 16                                  | 363                             |                                                     |                                 |
| Kankhwála " 145 34 42                               | 364                             |                                                     |                                 |
| Sumári " 201 29 12                                  | 376                             |                                                     |                                 |
| Kathugarh " 217 35 16                               | 369                             | <b>Dhamigaon h.s.</b>                               |                                 |
| Baingwári " 252 44 43                               | 389                             | Sujanbonga h.s. 16 25 43                            | 1060                            |
| Gadoli No. 1 " 277 32 19                            | 390                             | Thákala " 253 50 47                                 | 1060                            |
|                                                     |                                 | Dhapiadhura " 297 8 30                              | 1061                            |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°.30'.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Dhangmalkund h.s.</b>                            | o ' "                           | <b>Dhari h.s.—Contd.)</b>                           | o ' "                           |
| Ramchana h.s. 143 35 28                             | 543                             | Kund h.s. 122 37 19                                 | 357                             |
| Ghuddhar " 195 37 31                                | 544                             | Kuthal " 132 50 12                                  | 390                             |
| Banidhura " 242 27 59                               | 542                             | Naogarh " 278 47 56                                 | 392                             |
| Badhra " 338 46 46                                  |                                 |                                                     |                                 |
| <b>Dhanik h.s.</b>                                  |                                 | <b>Dharij h.s.</b>                                  |                                 |
| Tittkadānda h.s. 156 57 37                          | 653                             | Dhian h.s. 22 29 28                                 | 1046                            |
| Binek " 189 28 25                                   | 653                             | Deuli " 34 1 50                                     | 1040                            |
| Deopathar " 223 42 5                                | 654                             | Thākīl " 53 31 23                                   | 1039                            |
| Manura " 278 17 40                                  | 655                             | Dhaj n.s. 111 29 10                                 | 1038                            |
|                                                     |                                 | Titarlek h.s. 112 13 40                             | 1044                            |
|                                                     |                                 | Lārilek " 150 50 27                                 | 1038                            |
| <b>Dhano h.s.</b>                                   |                                 | <b>Dhaurahra, XXX</b>                               |                                 |
| Rānigarh, II h.s. 22 27 36                          | 387                             | Asogapur, XXXIX 51 20 42.04                         | 85                              |
| Kankhwāla h.s. 201 26 52                            | 388                             | Kuthia, XXVIII 107 51 21.32                         | 35                              |
| Devidat " 232 25 37                                 | 387                             | Chalua, XXXII 296 39 20.83                          | 37                              |
|                                                     |                                 | Lākhuṅ, XXXI 354 12 28.03                           | 36                              |
| <b>Dhānsi h.s.</b>                                  |                                 | <b>Dhela, V</b>                                     |                                 |
| Punya h.s. 47 12 38                                 | 1111                            | Lāldhang s. 72 17 43                                | 681                             |
| Dhundhār " 54 19 40                                 | 1124                            | Barikothirau h.s. 92 23 58                          | 678                             |
| Athānsi " 351 58 57                                 | 1111                            | Girijwāla, III 113 14 20.84                         | 7                               |
|                                                     |                                 | Sidhon-ki-dhang h.s. 115 32 50                      | 677                             |
| <b>Dhapiadhura h.s.</b>                             |                                 | Ghungti, IV 169 22 41.60                            | 7                               |
| Ghanādhura h.s. 38 0 21                             | 1057                            | Barsoti h.s. 177 17 54                              | 664                             |
| Sujānbonga " 82 29 54                               | 1057                            | Dhulwa " 202 35 11                                  | 664                             |
| Dhamignaon " 117 10 54                              | 1061                            | Malāni " 204 10 14                                  | 694                             |
| Thākāla " 152 30 53                                 | 1059                            | Gujarkot-ki-garh " 228 22 58                        | 619                             |
| Mianthamb " 308 18 19                               | 1058                            | Saonchālia, VI 257 18 24.11                         | 8                               |
|                                                     |                                 | Silabasāla h.s. 279 37 38                           | 684                             |
| <b>Dharamsingua, LVI</b>                            |                                 | Katbhairon-ki-dhang " 285 0 16                      | 688                             |
| Bangra, LIII 161 9 43.24                            | 63                              | Birond, VIII 286 19 26.45                           | 12                              |
| Purena, LV 224 12 15.00                             | 63                              | Bagwāra, VII 327 23 23.07                           | 10                              |
| Gharbaria, LVIII 281 11 55.17                       | 64                              |                                                     |                                 |
| <b>Dharaun No. 1 h.s.</b>                           |                                 | <b>Dhian h.s.</b>                                   |                                 |
| Surabduli h.s. 239 21 42                            | 674                             | Nagarchula h.s. 43 19 32                            | 1045                            |
| Barsoti " 252 37 44                                 | 675                             | Deuli " 101 58 31                                   | 1045                            |
| Jinti No. 1 " 292 17 32                             | 674                             | Dharij " 202 28 2                                   | 1046                            |
| Dharaun No. 2 " 344 38 14                           | 676                             | Majarkhāna " 213 35 45                              | 1047                            |
| <b>Dharaun No. 2 h.s.</b>                           |                                 | <b>Dhiola h.s.</b>                                  |                                 |
| Dharaun No. 1 h.s. 164 38 18                        | 676                             | Shikāni n.s. 6 11 8                                 | 916                             |
| Jinti No. 1 " 278 36 12                             | 676                             | Panothal h.s. 45 1 31                               | 917                             |
|                                                     |                                 | Balan " 121 55 43                                   | 916                             |
| <b>Dhargaon h.s.</b>                                |                                 | Deobarna " 252 25 29                                | 918                             |
| Girijwāla, III 37 46 13                             | 335                             |                                                     |                                 |
| Harpālsid, XLVIII* 84 45 5                          | 334                             | <b>Dhobijhora h.s.</b>                              |                                 |
| Gajbāra No. 1 h.s. 122 37 58                        | 334                             | Kurseong h.s. 33 25 35                              | 1338                            |
|                                                     |                                 | Margaret's Hope No. 2 " 138 5 16                    | 1341                            |
| <b>Dhari h.s.</b>                                   |                                 | Margaret's Hope No. 1 " 164 43 52                   | 1338                            |
| Dbunga h.s. 11 53 12                                | 331                             | Dow Hill " 249 3 57                                 | 1339                            |
| Phaldakot " 99 15 57                                | 330                             |                                                     |                                 |

\* This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points                                              | No. of Triangle giving Distance                                                             | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance                                                                     |                                                                                                               |                                                              |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Dhuan h.s.<br>Lamkhál Hill Mark<br>Ránigarh, II<br>Ráj Bonga<br>Bisoue                           | o ' "<br>62 53 23<br>64 15 4<br>h.s. 123 18 34<br>" 140 11 57                               | 309<br>307<br>307<br>308                            | Dipáhi, LXXX<br>Rúpli, LXXIX<br>Batwaia, LXXXVIII<br>Sinaria, LXXXVII<br>Masaha, LXXXI              | o ' "<br>55 7 27.80<br>120 15 28.64<br>269 46 20.60<br>343 54 13.40                                           | 86<br>86<br>88<br>87                                         |
| Dhulia s.<br>Khamari-ka-dánda<br>Dedhurra                                                        | h.s. 218 3 4<br>" 232 13 14                                                                 | 755<br>755                                          | Dipnagar, CXIV<br>Banghora, CXIII<br>Kámaláha, CXII<br>Jachmipur, CXVI<br>Musaldanga, CXV           | 28 0 33.17<br>89 37 49.31<br>267 17 0.48<br>327 36 38.36                                                      | 122<br>122<br>124<br>123                                     |
| Dhulwa h.s.<br>Katbhairon-ki-dhang<br>Dhela, V<br>Barsoti<br>Dhungalgarh<br>Chinal<br>Silabasila | h.s. 1 7 28<br>22 36 13<br>h.s. 103 38 48<br>" 222 32 52<br>" 295 27 1<br>" 345 11 16       | 682<br>664<br>664<br>629<br>628<br>628              | Diwárganj, CII<br>Latona, CIII<br>Barhata, CI<br>Harpur, C<br>Baúsi, CIV<br>Minai, CV<br>Chuni, CVI | 5 39 2.92<br>65 10 10.23<br>128 24 58.76<br>189 59 21.28<br>247 26 50.52<br>306 47 44.46                      | 109<br>108<br>108<br>115<br>111<br>110                       |
| Dhundhár h.s.<br>Dhinsi<br>Athansi                                                               | h.s. 234 19 14<br>" 338 17 0                                                                | 1124<br>1124                                        | Dobadhár h.s.<br>Porchula<br>Bhowara<br>Kotalgaon<br>Hám<br>Deolakot<br>Bhania<br>Dándhár<br>Wolthi | h.s. 0 32 48<br>" 15 10 5<br>" 29 38 48<br>" 35 47 16<br>" 45 19 12<br>" 75 46 9<br>" 77 23 33<br>" 354 50 48 | 1122<br>1125<br>1106<br>1102<br>1105<br>1102<br>1108<br>1126 |
| Dhunga h.s.<br>Mábegarh, I<br>Naugaon<br>Phaldakot<br>Dhari<br>Naogarh<br>Dasmeri                | No. 1 h.s. 12 3 59<br>" 112 4 35<br>" 136 40 54<br>" 191 52 39<br>" 229 12 1<br>" 280 19 25 | 312<br>312<br>331<br>331<br>326<br>313              | Dogari s.<br>Belpáni<br>Kaualek                                                                     | h.s. 135 34 4<br>" 193 46 46                                                                                  | 827<br>827                                                   |
| Dhungalgarh h.s.<br>Dhulwa<br>Gujarkot-ki-garh<br>Rasaldaj<br>Chinal                             | h.s. 42 34 16<br>" 258 31 16<br>" 298 6 21<br>" 337 41 54                                   | 629<br>630<br>689<br>629                            | Doiwála, LV*<br>Nágsidh<br>Rámipokhri<br>*Jámankhátá                                                | h.s. 205 14 11<br>s. 244 37 23<br>h.s. 300 22 23                                                              | 149<br>148<br>148                                            |
| Dhuru h.s.<br>Kuthal<br>Marhal<br>Banali<br>Jaibali                                              | h.s. 307 20 11<br>" 343 59 9<br>" 345 15 51<br>" 354 38 14                                  | 354<br>354<br>356<br>355                            | Dolu h.s.<br>Kharbasia<br>Goting<br>Kharbasia<br>Pátálpáni<br>Kiunglung<br>Ganeshganga              | No. 1 h.s. 37 11 53<br>" 45 42 7<br>No. 2 " 75 33 27<br>" 125 16 48<br>" 167 3 44<br>" 194 11 24              | 972<br>973<br>972<br>974<br>979<br>976                       |
| Diba-ka-chir h.s.<br>Simatkhál<br>Jogi-ka-dánda                                                  | h.s. 328 54 37<br>" 354 54 57                                                               | 604<br>604                                          | Domhan h.s.<br>Pilkhunta<br>Chhatar<br>Sidhár<br>Láta                                               | h.s. 88 13 3<br>" 166 39 13<br>" 207 23 48<br>" 242 53 1                                                      | 951<br>951<br>959<br>952                                     |

\* These stations appertain to the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Donao, XII</b>                                   |                                 | <b>Dungri h.s.</b>                                  |                                 |
| Kaliánpur, XIII                                     | 5 30 49' 44"                    | Banawa                                              | h.s. 22 46 51 249               |
| Atária, XI                                          | 54 30 49' 16"                   | Koti                                                | " 23 7 37 250                   |
| Baheri, IX                                          | 130 4 22' 93"                   | Mashak Hill Temple                                  | " 37 27 33 252                  |
| Biroud, VIII                                        | 175 39 3' 49"                   | Moila                                               | h.s. 46 31 18 242               |
| Kainkhera, XIV                                      | 318 14 33' 47"                  | Kandoi                                              | " 71 4 1 256                    |
| Pilibhit Masjid N. Minar                            | 341 8 32"                       | Bhandrauli                                          | " 71 24 17 247                  |
| Pilibhit Masjid S. Minar                            | 341 11 3"                       | Sainj                                               | " 97 35 7 245                   |
|                                                     |                                 | Tikeri Hill Temple                                  | " 108 43 28 261                 |
|                                                     |                                 | *Kanúí                                              | h.s. 119 35 17 242              |
| <b>Dongu No. 1 h.s.</b>                             |                                 | Chilár                                              | " 137 41 12 263                 |
| Káncheho                                            | h.s. 6 0 35 1174                | Bin Pohr                                            | " 209 49 3 266                  |
| Dongu                                               | No. 2 " 136 2 37 1175           | Lokár Bungalow                                      | " 260 42 5 263                  |
| Chilamkurkur                                        | No. 1 " 316 53 13 1173          |                                                     |                                 |
| Sámi                                                | " 355 13 27 1173                |                                                     |                                 |
|                                                     |                                 | <b>Durbinjhora h.s.</b>                             |                                 |
| <b>Dongu No. 2 h.s.</b>                             |                                 | Chenga                                              | h.s. 31 19 46 1303              |
| Dongu                                               | No. 1 h.s. 316 1 54 1175        | Lohagarhi                                           | " 40 16 23 1307                 |
| Káncheho                                            | " 359 16 32 1175                | Tingling                                            | " 86 50 33 1301                 |
|                                                     |                                 | Phugarhi                                            | " 98 44 8 1305                  |
|                                                     |                                 | Kurseong                                            | " 182 46 55 1304                |
|                                                     |                                 | Selim                                               | " 264 32 41 1307                |
| <b>Dorbun h.s.</b>                                  |                                 | <b>Duteria No. 1 h.s.</b>                           |                                 |
| Utain                                               | h.s. 9 49 4 424                 | Ráni Chuten                                         | h.s. 59 52 38 1328              |
| Kalajhuni                                           | " 10 35 53 421                  | Pubong                                              | " 121 23 10 1326                |
| Chándkot                                            | " 268 23 8 422                  | Tungsong                                            | " 151 32 56 1343                |
| Chatargarhi                                         | " 308 55 59 421                 | Rangbul                                             | " 237 51 39 1322                |
|                                                     |                                 | Sonada                                              | " 287 10 42 1322                |
| <b>Doti h.s.</b>                                    |                                 | Hope Town                                           | No. 1 " 315 16 13 1323          |
| Tadang                                              | h.s. 0 7 29 1204                |                                                     |                                 |
| Khongla                                             | " 29 36 40 1204                 | <b>Duteria No. 2 h.s.</b>                           |                                 |
| Nisau                                               | " 123 48 35 1208                | Pubong                                              | h.s. 110 33 46 1327             |
| Chachaila                                           | " 145 16 57 1207                | Rangbul                                             | " 241 58 40 1324                |
| Yangchham Hill Staff                                | " 189 44 18 1205                | Hope Town                                           | No. 1 " 324 44 38 1325          |
| Kálapáni                                            | No. 1 " 204 23 32 1209          | Hope Town                                           | No. 2 " 332 4 0 1324            |
|                                                     |                                 |                                                     |                                 |
| <b>Dow Hill h.s.</b>                                |                                 | <b>Dwara h.s.</b>                                   |                                 |
| Kurseong                                            | h.s. 43 11 49 1340              | Jogiwála House                                      | h.s. 55 56 12 189               |
| Dhobijhora                                          | " 69 4 18 1339                  | Kalanga                                             | " 125 59 22 184                 |
| Margaret's Hope                                     | No. 1 " 143 21 1 1339           | Rájpur                                              | " 145 20 59 183                 |
|                                                     |                                 | Timli                                               | " 178 17 35 183                 |
| <b>Dudatoli h.s.</b>                                |                                 | <b>Elpadhura h.s.</b>                               |                                 |
| Banjkot                                             | h.s. 122 6 46 480               | Nirpánia                                            | No. 1 h.s. 38 56 19 1199        |
| Gwanagarh                                           | h.s. 149 27 32 469              | Gagla Hill Staff                                    | " 229 56 28 1201                |
| Pandubri                                            | h.s. 152 10 42 560              | Tadang                                              | h.s. 251 3 11 1200              |
| Alimajari                                           | " 181 29 21 571                 | Shialek                                             | " 310 0 28 1199                 |
| Bani Tál                                            | " 207 50 48 569                 |                                                     |                                 |
| Suilidánda                                          | " 240 6 17 567                  | <b>Endong h.s.</b>                                  |                                 |
| Kankra                                              | No. 1 h.s. 273 5 3 468          | Tiger Hill                                          | h.s. 32 4 36 1507               |
| Kankra                                              | No. 2 h.s. 274 49 48 584        | Tonglu                                              | " 47 26 42 1507                 |
| Nisannia                                            | " 307 10 1 467                  |                                                     |                                 |
| Ringoni                                             | " 337 49 44 467                 |                                                     |                                 |
|                                                     |                                 | <b>Gadoli No. 1 h.s.</b>                            |                                 |
| <b>Dumdáangi, CXXIII</b>                            |                                 | Devidat                                             | h.s. 97 33 12 390               |
| Rárganj, CXXII                                      | 0 26 14' 07" 134                | Gadoli                                              | No. 2 " 101 19 6 391            |
| Thakurganj, CXX                                     | 68 37 26' 03" 134               | Baingwári                                           | " 178 21 47 390                 |
| Tonglu                                              | h.s. 161 24 39 1267             |                                                     |                                 |
| Senehal                                             | No. 1 " 180 15 52 1268          |                                                     |                                 |
| Kanchabári, CXXIV                                   | " 275 45 11' 15" 135            |                                                     |                                 |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Gadoli No. 2 h.s.</b>                            |                                 | <b>Ganair h.s.</b>                                  |                                 |
| Baingwári h.s. 222 5 10                             | 391                             | Kángra h.s. 142 37 18                               | 345                             |
| Gadoli No. 1 " 281 18 47                            | 391                             | Khára " 236 33 57                                   | 345                             |
|                                                     |                                 | Godáhwáli " 306 45 30                               | 346                             |
| <b>Gadura h.s.</b>                                  |                                 | <b>Gandkhola h.s.</b>                               |                                 |
| Macháli h.s. 152 34 24                              | 852                             | Manda h.s. 38 25 52                                 | 481                             |
| Páti " 188 38 57                                    | 853                             | Ulkagarh " 61 9 16                                  | 549                             |
| Ládhaundhura " 300 44 56                            | 852                             | Nainidevi No. 1 " 225 37 24                         | 487                             |
|                                                     |                                 | Gwanagarh h.s. 259 56 6                             | 479                             |
| <b>Gadwalbonga h.s.</b>                             |                                 | Kotikhál No. 1 h.s. 278 54 12                       | 555                             |
| Badhangarhi h.s. 174 16 58                          | 891                             | Kotikhál No. 2 " 283 3 0                            | 557                             |
| Jauna " 197 1 14                                    | 892                             | Banjkot " 289 42 45                                 | 478                             |
| Harap " 220 55 43                                   | 891                             | Gunadánda " 337 48 35                               | 553                             |
|                                                     |                                 | Piplimath " 354 42 55                               | 478                             |
| <b>Gagar h.s.</b>                                   |                                 | <b>Ganeshganga h.s.</b>                             |                                 |
| Binek h.s. 108 23 31                                | 648                             | Dolu h.s. 14 11 37                                  | 976                             |
| Pathargarhi " 184 55 3                              | 647                             | Kharbasia No. 2 " 38 34 2                           | 976                             |
| Muktisar " 232 8 30                                 | 646                             | Pátálpáni " 50 2 17                                 | 977                             |
| Deothal " 292 57 51                                 | 646                             | Kiunglung " 150 30 38                               | 978                             |
|                                                     |                                 | Niti No. 1 " 182 31 22                              | 980                             |
| <b>Gaia h.s.</b>                                    |                                 | <b>Ganespur, XLVIII</b>                             |                                 |
| Pathargarhi h.s. 37 11 55                           | 613                             | Majbhawa, XLVII 42 13 49.88                         | 53                              |
| Siáhi Devi " 123 4 49                               | 612                             | Tulsipur, XLVI 105 52 0.73                          | 53                              |
| Pansu No. 1 " 165 55 38                             | 702                             | Pathárdi, L 283 43 25.09                            | 55                              |
| Kálinat " 201 15 7                                  | 612                             | Pipari, XLIX 343 8 2.26                             | 54                              |
| Kalamkot " 220 43 53                                | 709                             |                                                     |                                 |
| Olkúgri " 358 25 28                                 | 707                             |                                                     |                                 |
| <b>Gaibantni h.s.</b>                               |                                 | <b>Garanáth h.s.</b>                                |                                 |
| Saitangarhi h.s. 46 26 31                           | 577                             | Gorkhagarhi h.s. 100 45 29                          | 872                             |
| Nundatopa " 162 38 43                               | 578                             | Sungarkot h.s. 158 17 47                            | 870                             |
| Mabargaon " 287 34 16                               | 577                             | Gurana h.s. 254 52 29                               | 869                             |
|                                                     |                                 | Bonsar " 318 59 53                                  | 869                             |
| <b>Gaibua-ka-tait h.s.</b>                          |                                 | <b>Garaon h.s.</b>                                  |                                 |
| Bandarjuri No. 1 h.s. 255 49 37                     | 727                             | Khamlek h.s. 177 54 32                              | 1086                            |
| Bandarjuri No. 2 " 274 47 54                        | 728                             | Khapurachula h.s. 243 15 27                         | 1086                            |
| Madan Bhir No. 2 " 277 48 1                         | 727                             |                                                     |                                 |
| <b>Gajbára No. 1 h.s.</b>                           |                                 | <b>Garaphor h.s.</b>                                |                                 |
| Harpáksid, XLVIII* 41 27 4                          | 333                             | Matabánj h.s. 27 42 14                              | 776                             |
| Jamargadi h.s. 82 49 21                             | 417                             | Mahárudra " 80 29 37                                | 776                             |
| Charekh " 121 29 8                                  | 316                             | Tola " 93 26 19                                     | 856                             |
| Gajbára No. 2 " 124 2 0                             | 404                             | Ládhaundhura " 106 34 47                            | 841                             |
| Kalagarhi " 187 58 45                               | 316                             | Narsing-ka-dánda " 143 18 54                        | 780                             |
| Kaljhuni " 244 21 42                                | 317                             | Launchaura " 200 28 24                              | 856                             |
| Dhargaon " 302 33 19                                | 334                             | Kánádeo " 216 3 8                                   | 779                             |
|                                                     |                                 | Puniagiri " 301 52 45                               | 778                             |
| <b>Gajbára No. 2 h.s.</b>                           |                                 | Baitlaui Peak No. 2 " 321 38 40                     | 838                             |
| Charekh h.s. 121 16 45                              | 405                             | Shiala No. 2 " 333 6 3                              | 816                             |
| Kalagarhi " 193 37 37                               | 404                             | Shiala No. 1 " 333 8 10                             | 777                             |
| Gajbára No. 1 " 304 1 46                            | 404                             |                                                     |                                 |
|                                                     |                                 | <b>Garapu s.</b>                                    |                                 |
|                                                     |                                 | Madan Bhir No. 2 h.s. 177 56 50                     | 751                             |
|                                                     |                                 | Khamari-ka-dánda " 225 54 36                        | 751                             |

\* This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Garidhura h.s.</b>                               |                                 | <b>Gharbaria, LVIII</b>                             |                                 |
| Tingling h.s. 0 1 "                                 |                                 | Dharamsingua, LVI                                   | 0 1 "                           |
| Kurseong " 117 59 37                                | 1310                            | Purena, LV                                          | 101 16 55 19                    |
| Selim " 169 9 57                                    | 1310                            | Saunbarsa, LIX                                      | 155 43 48 42                    |
|                                                     |                                 |                                                     | 212 59 47 68                    |
| <b>Garril h.s.</b>                                  |                                 | <b>Ghátámemin h.s.</b>                              |                                 |
| Lamdhár h.s. 0 4 1                                  | 699                             | Sámi h.s. 182 51 25                                 | 1178                            |
| Pinkot " 118 30 22                                  | 700                             | Chilamkurkur No. 2 " 216 25 57                      | 1180                            |
| Airideo " 233 32 50                                 | 699                             | Chilamkurkur No. 1 " 221 33 38                      | 1179                            |
|                                                     |                                 | Gompachin No. 1 " 240 0 10                          | 1182                            |
|                                                     |                                 | Chaldu No. 1 " 282 38 46                            | 1178                            |
| <b>Gatgar h.s.</b>                                  |                                 | <b>Ghaus, LIV</b>                                   |                                 |
| Káladhungi h.s. 80 32 14                            | 723                             | Bangra, LVII                                        | 27 24 7 78                      |
| Madan Bhir No. 1 " 91 24 6                          | 635                             | Paragawa, LII                                       | 106 17 29 89                    |
| Khamari-ka-dánda " 125 28 7                         | 721                             | Bharmi, LVII                                        | 275 31 3 33                     |
| Bijaon " 167 51 47                                  | 635                             | Purena, LV                                          | 334 36 21 34                    |
| Dedhurra " 226 42 15                                | 636                             |                                                     |                                 |
| Biloti " 279 26 6                                   | 637                             |                                                     |                                 |
| Deokánk s. 332 40 12                                | 712                             |                                                     |                                 |
| <b>Geabdat h.s.</b>                                 |                                 | <b>Ghiba, CIX</b>                                   |                                 |
| Ghoramara Nadi s. 13 7 5                            | 1363                            | Manúla, CVIII                                       | 6 57 55 71                      |
| Ghoramara h.s. 43 51 53                             | 1354                            | Chuni, CVI                                          | 70 30 27 64                     |
| Latpanchor No. 1 " 81 9 5                           | 1347                            | Minai, CV                                           | 131 6 3 67                      |
| Latpanchor No. 2 " 84 6 56                          | 1353                            | Nirpur, CX                                          | 200 7 26 82                     |
| Sitong " 107 33 0                                   | 1347                            | Mánikpur, CXI                                       | 281 54 20 71                    |
| Seudim " 131 17 9                                   | 1350                            |                                                     |                                 |
| Mangwa " 157 54 14                                  | 1349                            |                                                     |                                 |
| <b>Ghajar s.</b>                                    |                                 | <b>Ghoramara h.s.</b>                               |                                 |
| Khamari-ka-dánda h.s. 171 31 3                      | 760                             | Jojiling No. 2 h.s. 41 35 15                        | 1358                            |
| Biloti " 200 17 51                                  | 760                             | Jojiling No. 1 " 65 44 42                           | 1356                            |
|                                                     |                                 | Latpanchor No. 1 " 138 19 44                        | 1355                            |
|                                                     |                                 | Sitong " 150 21 45                                  | 1354                            |
|                                                     |                                 | Geabdat " 223 50 57                                 | 1354                            |
|                                                     |                                 | Ghoramara Nadi s. 316 59 49                         | 1362                            |
| <b>Ghanádhura h.s.</b>                              |                                 | <b>Ghoramara Nadi s.</b>                            |                                 |
| Láritlek h.s. 2 48 26                               | 1049                            | Jojiling No. 2 h.s. 93 25 38                        | 1362                            |
| Jurung " 42 38 36                                   | 1048                            | Ghoramara " 137 0 23                                | 1362                            |
| Khaparchula " 101 34 0                              | 1048                            | Geabdat " 193 6 43                                  | 1363                            |
| Sujánbonga " 135 26 40                              | 1056                            |                                                     |                                 |
| Dhapiadhura " 217 58 55                             | 1057                            |                                                     |                                 |
| Minthamb " 263 34 12                                | 1052                            | <b>Ghuddhar h.s.</b>                                |                                 |
| Pokridhura " 282 58 12                              | 1055                            | Dhangmalkund h.s. 15 37 55                          | 544                             |
| Pathar " 316 14 3                                   | 1051                            | Denggan " 28 55 38                                  | 545                             |
|                                                     |                                 | Ramchana " 103 18 33                                | 544                             |
| <b>Ghandiál, LVI*</b>                               |                                 | <b>Ghugtigarh h.s.</b>                              |                                 |
| Chándipahár, LIV* H.S. 34 47 42 61                  | 1                               | Bijánagar h.s. 7 24 45                              | 347                             |
| *Sirkanda (old) h.s. 148 11 18                      | 302                             | Kángra " 59 22 49                                   | 337                             |
| Pireh h.s. 204 18 57                                | 301                             | Chándipahár, LIV* " 78 24 38                        | 223                             |
| Ránigarh, II 301 34 37 12                           | 2                               | Jámankháta (new) " 126 58 57                        | 350                             |
| Mábegarh, I 355 18 15 14                            | 1                               | Birbhaddar s. 156 12 46                             | 353                             |
|                                                     |                                 | Jalbali h.s. 179 19 32                              | 327                             |
| <b>Ghandiál h.s.</b>                                |                                 | Pháldakot " 200 12 0                                | 324                             |
| Mániknáth h.s. 235 5 35 6                           | 282                             | Naugaon No. 1 " 227 36 7                            | 322                             |
| Ránigarh, II 301 33 32 7                            | 281                             | Binak " 289 57 14                                   | 360                             |
| Mábegarh, I 355 17 30 5                             | 281                             | Mábegarh, I 305 33 35                               | 322                             |

\* These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30'.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Ghuksa h.s.</b>                                  |                                 | <b>Golpha h.s.</b>                                  |                                 |
| Paniam No. 2 h.s. 5 44 28                           | 747                             | Chipalkot No. 1 h.s. 9 1 58                         | 1005                            |
| Paniam No. 1 " 14 37 0                              | 640                             | Chipalkot No. 2 " 28 39 21                          | 1185                            |
| Biloti " 70 34 37                                   | 639                             | Húm " 80 45 36                                      | 1004                            |
| Bhim Tál " 109 58 23                                | 639                             | Tomik " 97 59 30                                    | 1113                            |
| Deothal " 228 54 25                                 | 642                             | Athánsi " 142 7 23                                  | 1004                            |
| Birond, VIII " 309 40 55                            | 641                             | Balsi No. 1 " 275 25 45                             | 1186                            |
| Birond " 319 27 39                                  | 829                             |                                                     |                                 |
| Patrání " 339 27 40                                 | 769                             |                                                     |                                 |
|                                                     |                                 | <b>Golpha s.</b>                                    |                                 |
| <b>Ghungti, IV</b>                                  |                                 | Porchula h.s. 61 44 25                              | 1123                            |
| Akali h.s. 35 18 10                                 | 581                             | Tomik " 115 51 28                                   | 1123                            |
| Girijwála, III 42 36 16 38                          | 4                               |                                                     |                                 |
| Mábegarh, I 106 16 52 34                            | 3                               | <b>Gompachin No. 1 h.s.</b>                         |                                 |
| Kalajhuni " 115 16 33                               | 425                             | Chítámemin h.s. 60 6 3                              | 1182                            |
| Ringori " 119 56 12                                 | 427                             | Sámi " 68 18 50                                     | 1183                            |
| Ránigarh, II 149 39 48 84                           | 3                               | Chilamkurkur No. 1 " 120 4 49                       | 1182                            |
| Ulan " 164 22 9                                     | 425                             |                                                     |                                 |
| Chatargarhi " 167 0 32                              | 453                             | <b>Gompachin No. 2 h.s.</b>                         |                                 |
| Khatliveditonk No. 1 " 248 49 5                     | 453                             | Sámi h.s. 69 49 30                                  | 1184                            |
| Saonchália, VI " 306 7 16 19                        | 8                               | Chilamkurkur No. 1 " 122 29 54                      | 1184                            |
| Jogi-ka-dánda " 311 6 51                            | 454                             |                                                     |                                 |
| Dhela, V " 349 20 40 03                             | 7                               |                                                     |                                 |
| Chitaor " 353 49 53                                 | 579                             |                                                     |                                 |
|                                                     |                                 | <b>Gopáلكot h.s.</b>                                |                                 |
| <b>Girgaon h.s.</b>                                 |                                 | Birchua h.s. 169 12 18                              | 865                             |
| Jitála h.s. 32 45 28                                | 1110                            | Alna " 225 46 19                                    | 786                             |
| Dauchar " 115 35 9                                  | 1110                            | Akwa " 274 47 51                                    | 785                             |
|                                                     |                                 | Airideo " 336 25 39                                 | 785                             |
| <b>Girijwála, III</b>                               |                                 |                                                     |                                 |
| Kilauli s. 46 22 14                                 | 415                             | <b>Goarakhnáth h.s.</b>                             |                                 |
| Haruwála " 78 15 56                                 | 413                             | Jhum h.s. 145 11 0                                  | 1007                            |
| Máhesari, LII* 84 48 39 04                          | 6                               | Thákil h.s. 175 16 43                               | 1007                            |
| Chapra " 94 18 10                                   | 412                             | Dhaj h.s. 188 37 11                                 | 1008                            |
| Kalusayid h.s. 95 45 3                              | 666                             |                                                     |                                 |
| Kharbana " 105 52 51                                | 408                             | <b>Gorkhagarhi h.s.</b>                             |                                 |
| Gujarsot " 139 28 45                                | 414                             | Airideo h.s. 65 51 23                               | 871                             |
| Harpálsid, XLVIII† 131 46 1                         | 335                             | Julkakot " 97 12 26                                 | 873                             |
| Mábegarh, I 146 54 30 49                            | 4                               | Sungarkot h.s. 184 53 45                            | 871                             |
| Khairagarh No. 1 " 205 21 19                        | 658                             | Garanáth h.s. 280 44 38                             | 872                             |
| Dhargoon " 217 42 37                                | 335                             |                                                     |                                 |
| Ghungti, IV " 222 29 43 75                          | 4                               | <b>Goarubáthán h.s.</b>                             |                                 |
| Khairagarh No. 2 " 235 13 44                        | 659                             | Pumongzong h.s. 90 46 4                             | 1413                            |
| Dhela, V " 293 5 48 95                              | 7                               | Singra " 109 53 34                                  | 1413                            |
| Saonchália, VI 274 29 51 50                         | 9                               | Nimlu " 133 46 12                                   | 1414                            |
| Kálagarh " 301 16 15                                | 667                             | Chamaigaon No. 1 " 193 37 56                        | 1415                            |
|                                                     |                                 |                                                     |                                 |
| <b>Godáhwáli h.s.</b>                               |                                 | <b>Goting h.s.</b>                                  |                                 |
| Gansar h.s. 126 46 6                                | 346                             | Kharbasia No. 2 h.s. 217 11 29                      | 971                             |
| Kángra " 132 15 18                                  | 344                             | Dolu " 225 40 13                                    | 973                             |
| Khara " 211 23 9                                    | 344                             | Kharbasia No. 1 " 235 40 44                         | 970                             |
|                                                     |                                 | Bamlás No. 1 " 304 13 16                            | 968                             |
| <b>Godi h.s.</b>                                    |                                 | Rámkuta " 341 13 33                                 | 968                             |
| Jaorasi No. 2 h.s. 81 20 0                          | 599                             | Langpiar " 342 42 3                                 | 969                             |
| Khatsari " 143 7 33                                 | 599                             |                                                     |                                 |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.  
 † This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Gujarkot-ki-garh h.s.</b>                        |                                 | <b>Gurana h.s.—(Contd.)</b>                         |                                 |
| Chinal h.s. 26 14 57                                | 620                             | Pininág h.s. 244 55 20                              | 878                             |
| Dhela, V 48 28 8                                    | 619                             | Hurug " 250 52 38                                   | 880                             |
| Dhungalgarh " 78 34 0                               | 630                             | Bashikanág " 304 33 43                              | 793                             |
| Bialakhan " 258 48 46                               | 622                             | Jagesar H.S. 358 28 29                              | 794                             |
| Saonchália, VI 207 57 46                            | 619                             |                                                     |                                 |
| Gungináth " 314 41 41                               | 621                             |                                                     |                                 |
| Basalday " 332 48 57                                | 689                             |                                                     |                                 |
|                                                     |                                 | <b>Gurdhári h.s.</b>                                |                                 |
| <b>Gujarsot h.s.</b>                                |                                 | Jhangarh h.s. 37 5 36                               | 366                             |
| Haruwála s. 36 45 0                                 | 414                             | Mintidhár " 135 1 41                                | 371                             |
| Chupra " 64 41 3                                    | 411                             | Majin " 195 58 26                                   | 368                             |
| Kharbana h.s. 87 30 8                               | 410                             | Kankhwála " 290 45 24                               | 367                             |
| Harpálsid, XLVIII* 127 51 40                        | 409                             | Chilangbita " 306 40 12                             | 373                             |
| Jamangarh " 147 43 48                               | 409                             | Ránigarh, II 354 5 22                               | 366                             |
| Girijwála, III 319 27 29                            | 414                             |                                                     |                                 |
| Kilauli s. 351 51 38                                | 415                             |                                                     |                                 |
|                                                     |                                 | <b>Gurudeodhura h.s.</b>                            |                                 |
| <b>Gujarugarh h.s.</b>                              |                                 | Birond, VIII 40 14 49                               | 643                             |
| Jogi-ka-dánda h.s. 17 24 35                         | 455                             | Deothal h.s. 104 44 23                              | 643                             |
| Jagera " 33 52 4                                    | 589                             | Motiapathar " 158 39 6                              | 614                             |
| Khatliveditank No. 2 " 98 8 58                      | 586                             | Káliadhura " 332 53 42                              | 783                             |
| Khatliveditank No. 1 " 98 17 17                     | 455                             |                                                     |                                 |
| Saitangarhi " 170 29 16                             | 566                             |                                                     |                                 |
| Mahargaon " 216 48 24                               | 566                             | <b>Gusana h.s.</b>                                  |                                 |
| Khamlekgarhi " 264 51 3                             | 456                             | † Kanúí h.s. 41 28 9                                | 267                             |
|                                                     |                                 | Maidrath Bungalow 270 18 38                         | 273                             |
| <b>Gúlarghat s.</b>                                 |                                 | Kuna " 297 12 2                                     | 271                             |
| Jám h.s. 172 0 54                                   | 207                             | Bin Pohr " 314 21 26                                | 268                             |
| Rantumma " 229 46 9                                 | 206                             | Chilár " 357 14 8                                   | 267                             |
| Sherpur " 283 2 2                                   | 206                             |                                                     |                                 |
|                                                     |                                 | <b>Gwáldam No. 1 h.s.</b>                           |                                 |
| <b>Gunadánda h.s.</b>                               |                                 | Badhangarhi h.s. 103 6 40                           | 694                             |
| Piplimath h.s. 8 54 45                              | 554                             | Alna " 346 56 0                                     | 691                             |
| Manda " 69 54 17                                    | 553                             |                                                     |                                 |
| Gandkhola " 157 49 17                               | 553                             | <b>Gwáldam No. 2 h.s.</b>                           |                                 |
| Kotikhál No. 2 " 215 3 47                           | 558                             | Ninidhár h.s. 140 6 6                               | 920                             |
| Kotikhál No. 1 " 219 1 42                           | 556                             | Sásákháni " 174 44 31                               | 919                             |
|                                                     |                                 | Gwáldam No. 3 " 189 56 26                           | 921                             |
|                                                     |                                 | Sikálnág " 212 46 38                                | 919                             |
|                                                     |                                 |                                                     |                                 |
| <b>Gungináth h.s.</b>                               |                                 | <b>Gwáldam No. 3 h.s.</b>                           |                                 |
| Kailakhur h.s. 12 51 3                              | 631                             | Gwáldam No. 2 h.s. 9 56 29                          | 921                             |
| Bhadargarhi " 27 13 11                              | 625                             | Ninidhár " 70 30 49                                 | 921                             |
| Chinal " 79 42 29                                   | 621                             |                                                     |                                 |
| Gujarkot-ki-garh " 134 44 13                        | 621                             |                                                     |                                 |
| Bialakhan " 171 10 3                                | 622                             |                                                     |                                 |
| Palikhet " 213 8 3                                  | 623                             | <b>Gwaldekot h.s.</b>                               |                                 |
| Badandhura " 285 33 50                              | 649                             | Sungarkhál h.s. 59 22 32                            | 660                             |
| Bhiar " 327 20 50                                   | 632                             | Muttrapuri " 196 14 7                               | 859                             |
|                                                     |                                 | Mulákot " 304 34 15                                 | 869                             |
|                                                     |                                 |                                                     |                                 |
| <b>Gurana h.s.</b>                                  |                                 | <b>Gwanagarh H.S.</b>                               |                                 |
| Binsar h.s. 43 34 29                                | 868                             | Devitank H.S. 20 15 50 8                            | 285                             |
| Rupdeo " 71 14 48                                   | 882                             | Banjkot h.s. 30 55 53                               | 479                             |
| Garanáth " 74 57 32                                 | 869                             | Ránigarh, II 65 48 19 0                             | 284                             |
| Sungarkot H.S. 94 13 32                             | 795                             | Gandkhola " 80 1 43                                 | 479                             |
| Kokru-ka-dánda h.s. 124 6 38                        | 792                             | Mániknáth H.S. 112 46 14 8                          | 284                             |
| Hagdau " 206 36 34                                  | 792                             |                                                     |                                 |

\* This station appertains to the Budhon Meridional Series.

† This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Gwanagarh H.S.—(Contd.)</b>                      |                                 | <b>Haldwáni s.</b>                                  |                                 |
| Ringalbanj h.s. 159 55 36                           | 448                             | Haldwáni t.s. 74 44 46                              | 716                             |
| Nainidevi No. 1 " 179 31 10                         | 486                             | Biloti h.s. 163 38 9                                | 716                             |
| Ragsbi H.S. 196 13 5'4                              | 287                             | Raonsil " 220 48 58                                 | 717                             |
| Nagnáth No. 2 h.s. 224 42 13                        | 486                             |                                                     |                                 |
| Kotidánda " 238 53 4                                | 922                             |                                                     |                                 |
| Pilkhunta " 240 15 47                               | 923                             |                                                     |                                 |
| Jatropáni H.S. 271 14 30'7                          | 288                             | <b>Haldwáni t.s.</b>                                |                                 |
| Pandubri h.s. 287 39 45                             | 559                             | Deokánk s. 100 21 12                                | 713                             |
| Snilidánda " 299 44 47                              | 568                             | Biloti h.s. 174 13 58                               | 713                             |
| Kankra No. 1 H.S. 301 40 31'4                       | 286                             | Raonsil " 225 38 25                                 | 714                             |
| Dudatoli h.s. 329 24 20                             | 469                             | Haldwáni s. 254 44 21                               | 716                             |
|                                                     |                                 |                                                     |                                 |
| <b>Gyi-mo-chi h.s.</b>                              |                                 | <b>Hánchati h.s.</b>                                |                                 |
| Ríchi La h.s. 43 38 30                              | 1496                            | Khuparchula h.s. 234 22 39                          | 1085                            |
| Chumsering " 63 45 0                                | 1496                            | Hania-ka-dhura " 320 45 36                          | 1085                            |
| Língtu " 86 45 26                                   | 1497                            |                                                     |                                 |
| Simugupchurhi " 151 55 27                           | 1499                            |                                                     |                                 |
| Chukarchi " 162 47 34                               | 1502                            |                                                     |                                 |
| Pembiringo " 170 13 27                              | 1506                            |                                                     |                                 |
| Jandorhi " 178 24 15                                | 1501                            | <b>Hania-ka-dhura h.s.</b>                          |                                 |
| Merug La " 206 48 6                                 | 1505                            | Lamkishun h.s. 64 50 14                             | 995                             |
| Seuchel La " 243 51 51                              | 1504                            | Pipaltar " 80 12 59                                 | 1099                            |
|                                                     |                                 | Harehanddeo " 105 45 1                              | 1067                            |
|                                                     |                                 | Khamlek h.s. 123 53 22                              | 995                             |
|                                                     |                                 | Hánchati h.s. 140 46 51                             | 1085                            |
|                                                     |                                 | Khuparchula " 200 7 8                               | 996                             |
|                                                     |                                 | Jurung " 269 1 57                                   | 1034                            |
|                                                     |                                 | Lori " 310 55 3                                     | 1033                            |
|                                                     |                                 | Iriarikot " 354 24 57                               | 998                             |
|                                                     |                                 |                                                     |                                 |
| <b>Hagdaru h.s.</b>                                 |                                 | <b>Harap h.s.</b>                                   |                                 |
| Gurana h.s. 26 38 22                                | 792                             | Alna h.s. 13 33 18                                  | 788                             |
| Kokru-ka-dánda " 72 23 54                           | 791                             | Gadwalbonga " 40 58 24                              | 891                             |
| Parkot " 91 7 31                                    | 876                             | Birchua " 51 26 56                                  | 866                             |
| Daj " 108 37 14                                     | 791                             | Badhangarhi " 86 40 34                              | 890                             |
| Jakari " 128 7 7                                    | 871                             | Daj " 294 31 50                                     | 789                             |
| Dhaukuri " 175 40 17                                | 1073                            | Kokru-ka-dánda " 321 22 30                          | 790                             |
| Kurmaria " 209 42 49                                | 1077                            | Magru-ka-dánda " 324 14 35                          | 788                             |
| Lahúrdhura " 213 26 24                              | 1072                            |                                                     |                                 |
| Balehandánda " 245 57 7                             | 1072                            |                                                     |                                 |
| Khamlek h.s. 302 40 2                               | 993                             |                                                     |                                 |
| Pininág h.s. 323 55 33                              | 879                             |                                                     |                                 |
| Hurum " 343 48 28                                   | 881                             |                                                     |                                 |
| Bushikanág " 357 8 42                               | 793                             |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Hain h.s.</b>                                    |                                 | <b>Harchan h.s.</b>                                 |                                 |
| Silgur h.s. 10 25 14                                | 210                             | Chilpokra h.s. 22 0 48                              | 736                             |
| Badráj Devi Hill Temple " 23 36 15                  | 220                             | Manura " 82 20 7                                    | 736                             |
| Tharoun " 43 46 36                                  | 217                             | Luriaikanta " 124 12 0                              | 737                             |
| *Nága " 52 21 28                                    | 210                             |                                                     |                                 |
| Chilmeri (new) " 96 17 29                           | 213                             |                                                     |                                 |
| Lisun " 97 16 10                                    | 234                             |                                                     |                                 |
| Chakráta Military Hospital " 120 25 26              | 236                             |                                                     |                                 |
| Chakráta Post Office " 120 35 36                    | 234                             |                                                     |                                 |
| *Nooban " 143 12 25                                 | 211                             |                                                     |                                 |
| Samogi " 182 5 8                                    | 292                             | <b>Harchanddeo h.s.</b>                             |                                 |
| Sápar " 214 41 47                                   | 238                             | Khamlek h.s. 227 20 27                              | 1067                            |
| Jaundau " 328 12 19                                 | 217                             | Hania-ka-dhura h.s. 285 40 33                       | 1067                            |
| Nagthat Bungalow " 339 18 35                        | 221                             | Lamkishun " 358 50 59                               | 1068                            |
|                                                     |                                 |                                                     |                                 |
| <b>Haldukháta s.</b>                                |                                 | <b>Harha East h.s.</b>                              |                                 |
| Sidhwála No. 2 h.s. 197 32 52                       | 396                             | Harha West h.s. 52 8 33                             | 1253                            |
| Sidhwála No. 1 " 211 56 5                           | 395                             | Deochili Peak " 188 12 6                            | 1252                            |
| Jamangarh " 277 7 40                                | 395                             | Someshwar Fort " 311 15 2                           | 1252                            |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Harha West h.s.</b>                              |                                 | <b>Hope Town No. 2 h.s.</b>                         |                                 |
| Balua, LXXVI                                        | 1262                            | Duteria No. 2 h.s.                                  | 1324                            |
| H13 Peak                                            | 1262                            | Rangbul                                             | 1321                            |
| Deochili Peak                                       | 1254                            | Sonada                                              | 1303                            |
| Harha East h.s.                                     | 1253                            | Margaret's Hope No. 1                               | 1303                            |
| Someshwar Fort                                      | 1253                            |                                                     |                                 |
|                                                     |                                 | <b>Hope Town No. 3 h.s.</b>                         |                                 |
| <b>Harnáhi, LXXVI</b>                               |                                 | Marma h.s.                                          | 1336                            |
| Bigoia, LXXVII                                      | 83                              | Margaret's Hope No. 1                               | 1337                            |
| Biarwa, LXXV                                        | 82                              | Kurseong                                            | 1336                            |
| Sikta, LXXIV                                        | 82                              |                                                     |                                 |
| Batwain, LXXVIII                                    | 84                              |                                                     |                                 |
|                                                     |                                 | <b>Húm h.s.</b>                                     |                                 |
| <b>Harpálsid, XLVIII*</b>                           |                                 | Khaparchula h.s.                                    | 1001                            |
| Kharbana h.s.                                       | 408                             | Balchandána                                         | 1001                            |
| Bagnala                                             | 407                             | Danchar                                             | 1079                            |
| Sanaí                                               | 406                             | Bhamia                                              | 1101                            |
| Mábegarh, I                                         | 392                             | Punya                                               | 1002                            |
| Joi                                                 | 419                             | Athánsi                                             | 1008                            |
| Jamangarh                                           | 392                             | Baidhár                                             | 1103                            |
| Charekh                                             | 333                             | Dobadhár                                            | 1102                            |
| Gajbára No. 1                                       | 333                             | Tomik                                               | 1118                            |
| Dhargaon                                            | 334                             | Golpha                                              | 1004                            |
| Khairagarh No. 1                                    | 658                             | Chipalkot No. 1                                     | 1005                            |
| Gujarsot                                            | 409                             | Chipalkot No. 2                                     | 1185                            |
| Girijwála, III                                      | 335                             |                                                     |                                 |
| Haruwála                                            | 413                             | <b>Humaunpur, LXXXVII</b>                           |                                 |
| Chapra                                              | 411                             | Madanpur, LXXXV                                     | 93                              |
|                                                     |                                 | Sondali, LXXXVI                                     | 93                              |
| <b>Harpur, C</b>                                    |                                 | Pargáwa, LXXXVIII                                   | 94                              |
| Barhata, CI                                         | 107                             | Sháhpur, LXXXIX                                     | 95                              |
| Senraba, XCIX                                       | 106                             |                                                     |                                 |
| Ladnia, XCVIII                                      | 106                             |                                                     |                                 |
| Baisi, CIV                                          | 115                             |                                                     |                                 |
| Diwanganj, CII                                      | 108                             |                                                     |                                 |
|                                                     |                                 | <b>Hurum h.s.</b>                                   |                                 |
| <b>Haruwála s.</b>                                  |                                 | Bashikanág h.s.                                     | 880                             |
| Harpálsid, XLVIII*                                  | 413                             | Gurana                                              | 880                             |
| Gujarsot h.s.                                       | 414                             | Hagdanu                                             | 881                             |
| Girijwála, III                                      | 413                             |                                                     |                                 |
|                                                     |                                 | <b>Iriarikot h.s.</b>                               |                                 |
| <b>Hilgi, XXVI</b>                                  |                                 | Bambhil h.s.                                        | 997                             |
| Saidhari, XXVII                                     | 32                              | Lamkishun                                           | 997                             |
| Dahlelnagar, XXV                                    | 31                              | Hania-ka-dbura                                      | 998                             |
| Rámnagar, XXIV                                      | 31                              | Masurbio                                            | 1025                            |
| Kuthia, XXVIII                                      | 33                              | Kauroli                                             | 1030                            |
|                                                     |                                 | Lori                                                | 1032                            |
|                                                     |                                 | Dháj                                                | 1029                            |
|                                                     |                                 | Bhamdona h.s.                                       | 1043                            |
|                                                     |                                 | Thákil                                              | 1043                            |
| <b>Hope Town No. 1 h.s.</b>                         |                                 |                                                     |                                 |
| Marma h.s.                                          | 1331                            | <b>Isrápur, XLI</b>                                 |                                 |
| Duteria No. 1                                       | 1323                            | Tilakpur, XXXIX                                     | 46                              |
| Duteria No. 2                                       | 1325                            | Newáda, XL                                          | 46                              |
| Rangbul                                             | 1320                            | Manichauk, XLII                                     | 47                              |
| Senchal No. 2                                       | 1292                            | Saibara, XLIII                                      | 48                              |
| Senchal No. 1                                       | 1292                            |                                                     |                                 |
| Sonada                                              | 1301                            |                                                     |                                 |
| Margaret's Hope No. 1                               | 1293                            |                                                     |                                 |

\* This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Jadhang h.s.</b>                                 |                                 | <b>Jalth h.s.</b>                                   |                                 |
| Nilang No. 2 h.s. 42 23 24                          | 491                             | Kaltháni h.s. 202 19 7                              | 1115                            |
| Pulamsamda " 201 1 40                               | 496                             | Uchheti No. 1 " 250 6 23                            | 1116                            |
| Sonam " 259 52 28                                   | 492                             | Uchheti No. 3 " 269 17 27                           | 1119                            |
| Ku " 318 39 35                                      | 494                             | Uchheti No. 2 " 278 10 12                           | 1118                            |
| *Nága " 344 18 31                                   | 491                             | Baidbár " 293 43 27                                 | 1114                            |
|                                                     |                                 | Dánádbár " 352 18 30                                | 1114                            |
| <b>Jagera h.s.</b>                                  |                                 | <b>Jám h.s.</b>                                     |                                 |
| Chitnor h.s. 74 12 19                               | 588                             | Silgur h.s. 234 13 42                               | 208                             |
| Khatliveditank No. 2 " 171 46 28                    | 588                             | Rautumma " 292 18 21                                | 207                             |
| Gujarugarh " 213 50 15                              | 589                             | Gúlarghat s. 352 0 43                               | 207                             |
| <b>Jagesar H.S.</b>                                 |                                 | <b>Jamangarh h.s.</b>                               |                                 |
| Birond, VIII 18 41 11.7                             | 297                             | Bagnala h.s. 15 29 18                               | 407                             |
| Muttrapuri h.s. 21 14 19                            | 762                             | Sanai " 21 31 35                                    | 406                             |
| Bandani " 56 42 28                                  | 761                             | Haldukháta s. 97 11 13                              | 395                             |
| Almora " 71 44 9                                    | 897                             | Sidhwála No. 1 h.s. 122 25 16                       | 394                             |
| Saonchália, VI No. 1 " 73 21 32.2                   | 296                             | Sidhwála No. 2 " 124 30 56                          | 397                             |
| Kálimat No. 1 " 87 9 45                             | 610                             | Mábegarh, I " 148 38 21                             | 392                             |
| Katiadánda " 100 24 47                              | 895                             | Joi h.s. 160 24 5                                   | 420                             |
| Kaukra No. 1 H.S. 134 7 34.8                        | 296                             | Ramri h.s. 172 24 59                                | 418                             |
| Sungarkot " 134 15 46.2                             | 293                             | Charekh " 185 51 23                                 | 393                             |
| Shikáni " 172 35 50.8                               | 293                             | Jamargadi " 244 42 55                               | 416                             |
| Gurana h.s. 178 28 38                               | 794                             | Gujarsot " 327 40 29                                | 409                             |
| Bashikanág " 205 49 10                              | 794                             | Harpálsid, XLVIII†                                  | 392                             |
| Khamlek H.S. 221 15 32.5                            | 294                             |                                                     |                                 |
| Kandi h.s. 249 19 41                                | 1063                            |                                                     |                                 |
| Dhaj H.S. 270 29 12.5                               | 300                             |                                                     |                                 |
| Jbum " 318 51 16.1                                  | 298                             |                                                     |                                 |
| <b>Jaindau h.s.</b>                                 |                                 | ‡Jámankháta h.s.                                    |                                 |
| Silgur h.s. 83 5 44                                 | 218                             | Doiwála, LV‡ 120 26 33                              | 148                             |
| Tharona " 116 50 2                                  | 217                             | Ránpokhri s. 193 10 1                               | 148                             |
| Hain " 148 13 30                                    | 217                             |                                                     |                                 |
| Nagthat Bungalow " 357 46 52                        | 221                             | <b>Jámankháta (new) h.s.</b>                        |                                 |
|                                                     |                                 | Marhal h.s. 244 46 0                                | 351                             |
|                                                     |                                 | Jalbalí " 261 13 44                                 | 350                             |
|                                                     |                                 | Ghugtigarh " 306 54 47                              | 350                             |
| <b>Jakari h.s.</b>                                  |                                 | <b>Jamargadi h.s.</b>                               |                                 |
| Kokru-ka-dánda h.s. 30 43 6                         | 875                             | Jamangarh h.s. 64 44 2                              | 416                             |
| Daj " 59 39 24                                      | 874                             | Ramri " 142 36 56                                   | 418                             |
| Hagdau " 308 4 26                                   | 874                             | Charekh " 160 17 37                                 | 416                             |
|                                                     |                                 | Gajbára No. 1 " 262 46 56                           | 417                             |
| <b>Jalbalí h.s.</b>                                 |                                 | <b>Jandorhi h.s.</b>                                |                                 |
| Jámankháta (new) h.s. 81 17 51                      | 350                             | Lingtu h.s. 42 41 6                                 | 1500                            |
| Birbhaddar s. 94 7 32                               | 352                             | Chukarchi " 117 4 48                                | 1503                            |
| Dhurú h.s. 174 38 32                                | 355                             | Simugupelurhi " 130 52 24                           | 1500                            |
| Marhal " 188 44 41                                  | 328                             | Gyi-mo-chi " 358 24 10                              | 1501                            |
| Phalákok " 291 21 59                                | 327                             |                                                     |                                 |
| Ghugtigarh " 359 19 29                              | 327                             |                                                     |                                 |
| <b>Jalkakot h.s.</b>                                |                                 | <b>Jangi No. 1 h.s.</b>                             |                                 |
| Sungarkot H.S. 239 24 14                            | 873                             | Jangi No. 2 h.s. 33 24 21                           | 531                             |
| Gorkhagarhi h.s. 277 10 17                          | 873                             | Páwálgarh " 99 51 6                                 | 530                             |
|                                                     |                                 | Mandani " 215 21 41                                 | 530                             |
|                                                     |                                 | Mansuna " 299 29 12                                 | 532                             |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

† This station appertains to the Budhon Meridional Series.

‡ These stations appertain to the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Jangi No. 2 h.s.</b>                             |                                 | <b>Jauna h.s.</b>                                   |                                 |
| Pawālgarh                                           | h.s. 106 14 35                  | Gadwalbonga                                         | h.s. 17 1 40                    |
| Jangi                                               | No. 1 " 213 24 7                | Birchua                                             | " 48 22 35                      |
| Mausuna                                             | " 270 43 24                     | Badhangarhi                                         | " 153 54 45                     |
| <b>Janjipati, XCVI</b>                              |                                 | <b>Jenti Rao h.s.</b>                               |                                 |
| Barsam, XCV                                         | 44 44 47·83                     | Danapāni                                            | h.s. 18 39 54                   |
| Mirzapur, XCIV                                      | 105 56 38·88                    | Khairagarh                                          | No. 2 " 90 50 41                |
| Ladnia, XCVIII                                      | 285 21 42·21                    | Khairagarh                                          | No. 3 " 100 56 2                |
| Bhela, XCVII                                        | 351 0 49·67                     | Barsoti                                             | " 309 0 20                      |
| <b>Jaorasi No. 1 h.s.</b>                           |                                 | <b>Jhājra s.</b>                                    |                                 |
| Saitangarhi                                         | h.s. 95 6 1                     | Chauki                                              | h.s. 221 48 47                  |
| Naudatopa                                           | " 129 9 55                      | Angnila                                             | No. 2 " 244 10 49               |
| Ringoni                                             | " 169 18 54                     |                                                     |                                 |
| Nisania                                             | " 238 27 36                     | <b>Jhangarh h.s.</b>                                |                                 |
| Manbhodevi                                          | " 272 44 47                     | Pali                                                | h.s. 37 11 55                   |
| Kapoli                                              | " 337 40 12                     | Naogarh                                             | " 38 40 58                      |
| <b>Jaorasi No. 2 h.s.</b>                           |                                 | Deoprayāg                                           | " 100 37 46                     |
| Nisania                                             | h.s. 238 25 42                  | Mintidhār                                           | " 199 23 22                     |
| Khatsari                                            | " 250 26 3                      | Gurdhāri                                            | " 217 4 38                      |
| Godi                                                | " 261 16 15                     | Chilangbita                                         | " 242 37 46                     |
| Manbhodevi                                          | " 273 1 15                      | Kankhwāla                                           | " 255 29 5                      |
| Kapoli                                              | " 338 17 43                     | Devidat                                             | " 277 2 57                      |
| <b>Jarol, XC</b>                                    |                                 | Rānigarh, II                                        | 330 53 15                       |
| Shālpur, LXXXIX                                     | 49 38 43·70                     | Kolkidānda                                          | " 345 35 37                     |
| Pargāwa, LXXXVIII                                   | 111 26 36·20                    |                                                     |                                 |
| Narhar, XCII                                        | 264 55 22·47                    | <b>Jhum H.S.</b>                                    |                                 |
| Chandarsampur, XCI                                  | 339 58 5·60                     | Khumbale                                            | h.s. 2 58 45                    |
| <b>Jar Pathar h.s.</b>                              |                                 | Narsing-ka-dānda                                    | " 46 46 52                      |
| Deopathar                                           | h.s. 128 51 47                  | Mulākot                                             | " 97 6 26                       |
| Chinar                                              | " 167 38 34                     | Balkot                                              | " 134 57 12                     |
| Luriakanta                                          | " 241 38 14                     | Jagesar                                             | h.s. 138 57 46·5                |
| Sher-ka-dānda                                       | " 249 57 45                     | Papoli                                              | h.s. 152 16 56                  |
| Kalikhān                                            | " 281 42 47                     | Bambhil                                             | " 170 43 2                      |
| Manura                                              | " 338 14 8                      | Khanlek                                             | h.s. 176 7 32·9                 |
| <b>Jaspalgarh h.s.</b>                              |                                 | Kandegaon                                           | h.s. 206 20 30                  |
| Naugaon                                             | No. 1 h.s. 163 28 45            | Dhāj                                                | h.s. 218 59 53·6                |
| Mābegarh, I                                         | " 282 20 10                     | Thālcil                                             | h.s. 231 4 48                   |
| <b>Jatropāni H.S.</b>                               |                                 | Nagarchula                                          | " 288 33 6                      |
| Chorkharak                                          | h.s. 2 23 23                    | Lujmidhura                                          | No. 1 " 307 6 3                 |
| Kankra                                              | No. 1 h.s. 43 27 26·2           | Sacholi                                             | " 313 25 17                     |
| Gwanagarh                                           | " 91 28 53·1                    | Gorakhuāth                                          | " 325 7 2                       |
| Rageshi                                             | " 125 5 41·3                    | Kānādeo                                             | " 336 31 30                     |
| Kotidānda                                           | h.s. 137 40 56                  | Bhabalta                                            | " 342 52 21                     |
| Pilkhunta                                           | " 179 28 3                      | Launchaura                                          | " 355 7 41                      |
| Shikāni                                             | h.s. 310 10 31·9                |                                                     |                                 |
| Sungarkot                                           | " 346 36 31·7                   | <b>Jiblikhāl h.s.</b>                               |                                 |
|                                                     |                                 | Devitank                                            | h.s. 161 33 24                  |
|                                                     |                                 | Panjing                                             | h.s. 182 45 35                  |
|                                                     |                                 | Saitangarhi                                         | " 234 21 31                     |
|                                                     |                                 | <b>Jinti No. 1 h.s.</b>                             |                                 |
|                                                     |                                 | Dharaun                                             | No. 2 h.s. 98 37 11             |
|                                                     |                                 | Dharaun                                             | No. 1 " 112 18 35               |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Jinti No. 1 h.s.—(Contd.)</b>                    |                                 | <b>Jurung h.s.</b>                                  |                                 |
| Surabduli h.s. 216 38 51                            | 671                             | Hania-ka-dhura h.s. 89 3 47                         | 1034                            |
| Barsoti " 241 33 2                                  | 671                             | Khaparehula " 169 9 3                               | 1034                            |
| Jinti No. 2 " 286 38 37                             | 673                             | Ghanádhura " 222 36 9                               | 1048                            |
|                                                     |                                 | Pathar " 264 17 49                                  | 1050                            |
|                                                     |                                 | Lárilek " 308 32 15                                 | 1037                            |
|                                                     |                                 | Lori " 353 1 20                                     | 1035                            |
| <b>Jinti No. 2 h.s.</b>                             |                                 | <b>Kabur h.s.</b>                                   |                                 |
| Jinti No. 1 h.s. 106 39 7                           | 673                             | Pongmerong h.s. 9 31 3                              | 1461                            |
| Surabduli " 203 50 57                               | 672                             | Dau La " 34 22 50                                   | 1461                            |
| Barsoti " 235 19 27                                 | 672                             |                                                     |                                 |
| <b>Jogi-ka-dánda h.s.</b>                           |                                 | <b>Kailakhur h.s.</b>                               |                                 |
| Chitaor h.s. 97 47 10                               | 579                             | Barwadhang h.s. 54 1 40                             | 718                             |
| Ghungli, IV " 131 10 35                             | 454                             | Bhadargarhi " 83 27 1                               | 718                             |
| Khatlidevitonk No. 2 " 166 51 28                    | 586                             | Chinal " 134 40 59                                  | 631                             |
| Khatlidevitonk No. 1 " 166 55 54                    | 454                             | Gungináth " 192 50 8                                | 631                             |
| Diba-ka-chir " 174 55 18                            | 604                             | Rhiar " 229 35 56                                   | 632                             |
| Gujargarh " 197 23 20                               | 455                             | Bijaon " 281 54 30                                  | 719                             |
| Khamlekgarhi " 210 18 59                            | 456                             | Madan Bhir No. 1 " 321 38 53                        | 633                             |
| Simatkhal " 289 40 34                               | 457                             | Bandarjuri No. 1 " 352 6 37                         | 719                             |
| <b>Joi h.s.</b>                                     |                                 | <b>Kaimkhera, XIV</b>                               |                                 |
| Charekh h.s. 193 37 24                              | 419                             | Umra, XV 1 9 21'19                                  | 20                              |
| Jamangarh " 340 23 51                               | 420                             | Kaliánpur, XIII 73 9 45'71                          | 19                              |
| Harpálsid, XLVIII* 352 6 28                         | 419                             | Pilibhit Masjid S. Minar 99 33 13                   | 1221                            |
|                                                     |                                 | Pilibhit Masjid N. Minar 99 45 13                   | 1220                            |
|                                                     |                                 | Donao, XII 138 18 4'63                              | 19                              |
|                                                     |                                 | Sháhgarh, XVI 289 51 48'43                          | 21                              |
| <b>Jojilling No. 1 h.s.</b>                         |                                 | <b>Kainur h.s.</b>                                  |                                 |
| Bandartak h.s. 31 23 31                             | 1360                            | Devitonk h.s. 47 15 4                               | 561                             |
| Sitong " 172 2 42                                   | 1357                            | Panjing h.s. 147 47 26                              | 562                             |
| Latpanchor No. 1 " 178 44 50                        | 1356                            | Nandatopa " 326 42 45                               | 561                             |
| Ghoramara " 245 44 4                                | 1356                            |                                                     |                                 |
| Jojilling No. 2 " 331 49 55                         | 1358                            |                                                     |                                 |
| <b>Jojilling No. 2 h.s.</b>                         |                                 | <b>Kájigarhi h.s.</b>                               |                                 |
| Bandartak h.s. 64 48 4                              | 1360                            | Charekh h.s. 52 35 11                               | 402                             |
| Jojilling No. 1 " 151 50 4                          | 1358                            | Dasmeri " 115 18 29                                 | 402                             |
| Latpanchor No. 1 " 172 41 26                        | 1359                            | Langurgarhi " 178 20 20                             | 403                             |
| Ghoramara " 221 34 46                               | 1358                            |                                                     |                                 |
| Ghoramara Nadi s. 273 24 35                         | 1362                            |                                                     |                                 |
| <b>Jongmai h.s.</b>                                 |                                 | <b>Káladhungi h.s.</b>                              |                                 |
| Sandakphu No. 1 h.s. 147 28 29                      | 1287                            | Khamari-ka-dánda h.s. 202 38 56                     | 723                             |
| Tonglu " 278 51 40                                  | 1287                            | Bijaon " 212 17 15                                  | 724                             |
|                                                     |                                 | Gatgar " 260 30 22                                  | 723                             |
| <b>Joshimath h.s.</b>                               |                                 | <b>Kálagarh h.s.</b>                                |                                 |
| Vishnugarh h.s. 144 51 50                           | 982                             | Girijwála, III 121 18 39                            | 667                             |
| Chhatar " 296 58 38                                 | 982                             | Khairagarh No. 1 h.s. 154 57 8                      | 667                             |
|                                                     |                                 | Khairagarh No. 3 " 188 49 38                        | 668                             |
| <b>Julendi h.s.</b>                                 |                                 | <b>Kalajhuni h.s.</b>                               |                                 |
| Marhal h.s. 170 14 33                               | 359                             | Gajbára No. 1 h.s. 64 25 2                          | 317                             |
| Phaldakot " 274 48 20                               | 359                             | Kalagarhi " 109 29 55                               | 317                             |

\* This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Kalajhuni h.s.—(Contd.)</b>                      |                                 | <b>Káliadhura h.s.</b>                              |                                 |
| Dorbun h.s. 190 35 8                                | 421                             | Birond, VIII 72 8 59                                | 788                             |
| Chándkot " 196 55 57                                | 318                             | Gurudeodhura h.s. 152 54 34                         | 788                             |
| Chatargarhi " 240 7 32                              | 319                             |                                                     |                                 |
| Ulsa " 246 25 54                                    | 425                             | <b>Kaliánpur, XIII</b>                              |                                 |
| Ringori " 286 43 34                                 | 427                             | Atária, XI 109 56 2 86                              | 18                              |
| Ghungti, IV 295 12 14                               | 425                             | Donno, XII 185 30 19 49                             | 18                              |
|                                                     |                                 | Kainkhera, XIV 253 5 45 19                          | 19                              |
|                                                     |                                 | Umra, XV 312 6 23 66                                | 20                              |
| <b>Kalamkot h.s.</b>                                |                                 | <b>Kalikhán h.s.</b>                                |                                 |
| Olkúgri h.s. 35 20 17                               | 709                             | Manura h.s. 27 19 58                                | 740                             |
| Gaia " 49 46 36                                     | 709                             | Jar Pathar " 101 43 29                              | 740                             |
| Kálimat No. 1 " 128 32 29                           | 710                             | Deopathar " 112 38 59                               | 741                             |
| Motiana " 158 52 20                                 | 711                             | Chinar " 133 46 56                                  | 745                             |
|                                                     |                                 | Sher-ka-dánda " 172 50 50                           | 748                             |
| <b>Kalanga h.s.</b>                                 |                                 | <b>Kálimat No. 1 h.s.</b>                           |                                 |
| Jogiwála House 25 7 17                              | 189                             | Almora, Monument Staff h.s. 14 27 50                | 899                             |
| Rájpur h.s. 160 13 39                               | 182                             | Almora " 14 38 51                                   | 897                             |
| Belkadánda " 200 51 58                              | 185                             | Gaia " 21 16 27                                     | 612                             |
| Timli " 221 1 14                                    | 182                             | Almora, Gorkhigarhi " 27 33 29                      | 898                             |
| Dwara " 305 58 25                                   | 184                             | Siahi Devi " 54 24 1                                | 611                             |
|                                                     |                                 | Kálimat No. 2 " 82 9 25                             | 902                             |
| <b>Kálapahár h.s.</b>                               |                                 | Pansu " 86 8 58                                     | 701                             |
| Kángra h.s. 1 20 40                                 | 339                             | Lamdhar " 98 2 43                                   | 608                             |
| Chándipahár, LIV* 63 9 48                           | 338                             | Shura " 121 54 57                                   | 705                             |
| †Sonárkoti " 114 29 43                              | 338                             | Airideo " 141 53 59                                 | 608                             |
| Bhingora " 119 30 44                                | 340                             | Kausani " 164 8 52                                  | 796                             |
| Ambwála " 212 35 59                                 | 341                             | Souargarhi " 172 34 9                               | 704                             |
|                                                     |                                 | Akwa " 178 1 55                                     | 797                             |
| <b>Kálapáni No. 1 h.s.</b>                          |                                 | Sungarkot h.s. 182 6 38                             | 609                             |
| Doti h.s. 24 24 23                                  | 1209                            | Binsar h.s. 231 1 36                                | 687                             |
| Yangelham Hill Staff 32 9 36                        | 1209                            | Motiana " 266 29 41                                 | 711                             |
| Kálapáni No. 3 " 239 28 16                          | 1211                            | Jagesar h.s. 267 3 38                               | 610                             |
| Kálapáni No. 2 " 254 15 30                          | 1210                            | Kálinkot h.s. 308 31 6                              | 710                             |
|                                                     |                                 | Baudani " 338 46 46                                 | 761                             |
| <b>Kálapáni No. 2 h.s.</b>                          |                                 | Almora, Beckett's Staff " 358 48 37                 | 900                             |
| Yangelham Hill Staff 49 18 0                        | 1210                            |                                                     |                                 |
| Kálapáni No. 1 h.s. 74 16 25                        | 1210                            | <b>Kálimat No. 2 h.s.</b>                           |                                 |
| Kálapáni No. 3 " 211 3 11                           | 1211                            | Almora, Gorkhigarhi h.s. 0 45 59                    | 903                             |
|                                                     |                                 | Kálimat No. 3 " 75 50 21                            | 904                             |
| <b>Kálapáni No. 3 h.s.</b>                          |                                 | Kálimat No. 1 " 262 8 53                            | 902                             |
| Kálapáni No. 2 h.s. 31 3 26                         | 1211                            | Almora, Monument Staff " 342 0 57                   | 902                             |
| Yangelham Hill Staff 45 51 23                       | 1212                            |                                                     |                                 |
| Kálapáni No. 1 " 59 29 26                           | 1211                            | <b>Kálimat No. 3 h.s.</b>                           |                                 |
|                                                     |                                 | Kálimat No. 2 h.s. 255 50 12                        | 904                             |
| <b>Kálásila h.s.</b>                                |                                 | Almora, Monument Staff " 332 14 28                  | 905                             |
| Ringalbanj h.s. 38 59 57                            | 449                             | Almora, Gorkhigarhi " 351 13 20                     | 904                             |
| Paundala " 55 58 10                                 | 508                             |                                                     |                                 |
| Páwálgarh " 83 38 43                                | 510                             | <b>Kálimat No. 4 h.s.</b>                           |                                 |
| Khamsumtoli Hill Staff 138 21 49                    | 1216                            | Nagarchula h.s. 43 33 16                            | 1021                            |
| Mandani " 227 22 47                                 | 503                             | Nil " 239 20 52                                     | 1020                            |
| Madmaheshwar Hill Staff 244 27 39                   | 1214                            | Tamli " 332 50 29                                   | 1020                            |
| Bisuri " 292 40 9                                   | 502                             | Lujnidhura No. 1 " 346 51 15                        | 1020                            |
| Tingri " 297 0 47                                   | 504                             |                                                     |                                 |
| Tungnáth " 316 57 18                                | 450                             |                                                     |                                 |
| Ragshi h.s. 341 12 21                               | 449                             |                                                     |                                 |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30'.

† This station is identical with Sunárkoti h.s. of the Great Arc Meridional Series—Section 24°-30'.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Kálimatti h.s.</b>                               |                                 | <b>Kamroli h.s.</b>                                 |                                 |
| Káluwála s. 14 30 3                                 | 199                             | Iriarikot h.s. 24 7 3                               | 1030                            |
| Nágsidh h.s. 52 40 18                               | 150                             | Masurbio „ 126 21 1                                 | 1030                            |
| Nálapáni „ 126 35 54                                | 151                             | Dhaj h.s. 287 25 31                                 | 1031                            |
| Máikot „ 300 30 11                                  | 197                             |                                                     |                                 |
| Maidan „ 302 51 54                                  | 201                             |                                                     |                                 |
| Tháno House „ 319 59 23                             | 197                             |                                                     |                                 |
| Kámpokhri s. 336 29 24                              | 150                             | <b>Kánádeo h.s.</b>                                 |                                 |
| Birási House 359 1 53                               | 200                             | Garaphor h.s. 36 4 58                               | 779                             |
|                                                     |                                 | Launchaura „ 49 43 38                               | 844                             |
|                                                     |                                 | Narsing-ka-dánda „ 105 19 58                        | 780                             |
|                                                     |                                 | Khumbale „ 130 33 54                                | 846                             |
| <b>Kalimpong h.s.</b>                               |                                 | Bhbalta „ 155 6 38                                  | 848                             |
| Tiger Hill h.s. 67 36 59                            | 1469                            | Jhum h.s. 156 33 14                                 | 781                             |
| Tendong „ 159 12 25                                 | 1469                            | Sacholi h.s. 185 34 8                               | 1027                            |
| Deolo „ 229 29 17                                   | 1470                            | Nagarchula „ 204 51 21                              | 1012                            |
|                                                     |                                 | Thúladánda „ 220 58 58                              | 1024                            |
|                                                     |                                 | Tamli „ 274 58 33                                   | 1018                            |
|                                                     |                                 | Maurkot „ 298 0 6                                   | 1014                            |
|                                                     |                                 | Puniagiri „ 338 47 16                               | 779                             |
| <b>Kallagi h.s.</b>                                 |                                 |                                                     |                                 |
| Chorgalia s. 114 51 42                              | 825                             | <b>Kanbhua h.s.</b>                                 |                                 |
| Chorgalia h.s. 177 24 49                            | 825                             | Tharona h.s. 225 2 38                               | 216                             |
|                                                     |                                 | Mákháta Bungalow „ 241 52 15                        | 226                             |
| <b>Kalogarhi h.s.</b>                               |                                 | Silgur „ 267 48 38                                  | 216                             |
| Gajbára No. 1 h.s. 7 59 7                           | 316                             |                                                     |                                 |
| Gajbára No. 2 „ 13 38 13                            | 404                             | <b>Kanchabári, CXXIV</b>                            |                                 |
| Charekh „ 79 45 16                                  | 315                             | Rámganj, CXXII 38 55 38.02                          | 133                             |
| Dasmeri „ 137 53 26                                 | 315                             | Dumdangi, CXXIII 95 48 41.50                        | 135                             |
| Langurgarhi „ 172 37 13                             | 400                             | Newáni, CXXVI 344 0 25.40                           | 133                             |
| Chándkot „ 234 0 41                                 | 318                             |                                                     |                                 |
| Kolajhuni „ 289 26 57                               | 317                             |                                                     |                                 |
|                                                     |                                 | <b>Káncheho h.s.</b>                                |                                 |
| <b>Kaltháni h.s.</b>                                |                                 | Dongu No. 2 h.s. 179 16 37                          | 1175                            |
| Dinádhar h.s. 3 49 39                               | 1115                            | Dongu No. 1 „ 185 59 57                             | 1174                            |
| Jalth „ 22 19 23                                    | 1115                            | Chilamkurkur No. 1 „ 258 47 6                       | 1172                            |
|                                                     |                                 | Sáni „ 330 51 16                                    | 1172                            |
| <b>Kalusayid h.s.</b>                               |                                 |                                                     |                                 |
| Kilauli s. 0 5 1                                    | 665                             | <b>Kandára h.s.</b>                                 |                                 |
| Chapra „ 93 49 6                                    | 666                             | Urkhíali h.s. 12 0 41                               | 537                             |
| Girijwála, III „ 275 44 7                           | 666                             | Kankbul „ 48 12 16                                  | 548                             |
|                                                     |                                 | Nagnáth No. 1 „ 157 10 54                           | 536                             |
| <b>Káluwála s.</b>                                  |                                 | Deangan „ 236 21 35                                 | 536                             |
| Kálimatti h.s. 194 29 29                            | 199                             |                                                     |                                 |
| Maidan „ 233 46 47                                  | 198                             | <b>Kandegaon h.s.</b>                               |                                 |
| Máikot „ 250 18 3                                   | 198                             | Jhum h.s. 26 21 54                                  | 1025                            |
|                                                     |                                 | Nagarchula h.s. 335 56 28                           | 1025                            |
| <b>Kalwar h.s.</b>                                  |                                 |                                                     |                                 |
| Kanka h.s. 187 7 45                                 | 694                             | <b>Kandi h.s.</b>                                   |                                 |
| Sera „ 249 41 21                                    | 693                             | Balkot h.s. 12 35 11                                | 1066                            |
| Binet „ 343 39 51                                   | 693                             | Jagesar h.s. 69 22 41                               | 1063                            |
|                                                     |                                 | Bashikanág h.s. 157 20 44                           | 1063                            |
| <b>Kamaldaha, CXII</b>                              |                                 | Lambishun „ 239 7 44                                | 1064                            |
| Mánikpur, CXI 24 47 30.66                           | 120                             | Kol „ 289 19 38                                     | 1065                            |
| Nirpur, CX 95 4 43.68                               | 120                             |                                                     |                                 |
| Dipnagar, CXIV 269 32 55.87                         | 122                             |                                                     |                                 |
| Baughora, CXIII 324 4 50.65                         | 121                             |                                                     |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance |
|-----------------------------------------------------|----------------------------------|-----------------------------------------------------|----------------------------------|
| <b>Kandoi h.s.</b>                                  |                                  | <b>Kankra No. 1 h.s.—(Contd.)</b>                   |                                  |
| Suban Hill Temple                                   | ° ' "                            | Devitonk                                            | h.s. 75 5 3'5 286                |
| Kandul Hill Temple                                  | 105 10 42                        | Dudatoli                                            | h.s. 93 11 6 468                 |
| *Kanúí                                              | h.s. 181 30 44                   | Gwanagarh                                           | h.s. 121 49 46'2 286             |
| Sainj                                               | " 189 21 0                       | Patori                                              | h.s. 175 53 30 534               |
| Dungri                                              | " 251 1 2                        | Bujgala                                             | " 177 2 39 436                   |
|                                                     |                                  | Jatropáni                                           | h.s. 223 22 20'7 280             |
|                                                     |                                  | Manil                                               | h.s. 225 9 12 431                |
| <b>Kángra h.s.</b>                                  |                                  | Chorkharak                                          | " 252 43 16 430                  |
| Chándipahár, LIV†                                   | h.s. 139 47 29                   | Shikáni                                             | h.s. 274 13 11'0 291             |
| Kálapahár                                           | h.s. 181 20 37                   | Sungarkot                                           | " 313 47 28'2 290                |
| Naugon                                              | No. 1 " 235 39 37                | Jagesar                                             | " 313 53 27'4 296                |
| Ghugtigarh                                          | " 239 19 16.                     | Debára                                              | h.s. 318 53 36 585               |
| Khára                                               | " 249 7 43                       |                                                     |                                  |
| Bijánagar                                           | " 285 40 48                      | <b>Kankra No. 2 h.s.</b>                            |                                  |
| Godáhwáli                                           | " 312 14 27                      | Ringoni                                             | h.s. 70 50 22 583                |
| Ganair                                              | " 322 37 3                       | Dudatoli                                            | " 94 55 33 584                   |
|                                                     |                                  | Nisania                                             | " 358 54 51 583                  |
| <b>Kangrang La h.s.</b>                             |                                  |                                                     |                                  |
| Sandakphu                                           | No. 1 h.s. 3 51 25               | 1453                                                |                                  |
| Dau La                                              | " 260 5 31                       | 1458                                                |                                  |
| Pongmerong                                          | " 279 13 57                      | 1459                                                |                                  |
| Darjeeling Observatory                              | " 329 1 10                       | 1452                                                |                                  |
| Lampheran                                           | " 332 54 7                       | 1455                                                |                                  |
| Singalila                                           | " 359 3 57                       | 1452                                                |                                  |
|                                                     |                                  |                                                     |                                  |
| <b>Kanka h.s.</b>                                   |                                  | <b>Kanokhál h.s.</b>                                |                                  |
| Kalwar                                              | h.s. 7 8 4                       | Nandatopa                                           | h.s. 9 54 35 573                 |
| Saonchália, VI                                      | " 49 12 5                        | Saitangarhi                                         | " 15 22 45 575                   |
| Devi-ka-bhawan                                      | " 113 10 13                      | Devitonk                                            | h.s. 72 8 45 573                 |
| Palikhet                                            | " 118 30 30                      | Panjing                                             | h.s. 137 41 11 574               |
| Sera                                                | " 300 28 40                      | Choprakot                                           | " 290 16 5 575                   |
| Seri                                                | " 320 10 15                      |                                                     |                                  |
| Bulek                                               | " 343 9 23                       |                                                     |                                  |
| Binok                                               | " 357 19 2                       |                                                     |                                  |
|                                                     |                                  | <b>*Kanúí h.s.</b>                                  |                                  |
| <b>Kankhul h.s.</b>                                 |                                  | Kandoi                                              | h.s. 1 30 48 256                 |
| Nagnáth                                             | No. 1 h.s. 181 25 50             | Birga                                               | " 202 47 17 269                  |
| Kandára                                             | " 228 10 42                      | Gusana                                              | " 221 26 9 267                   |
| Deangan                                             | " 232 58 58                      | Kuna                                                | " 241 6 50 271                   |
|                                                     |                                  | Bin Pohr                                            | " 266 3 55 265                   |
|                                                     |                                  | Lokár Bungalow                                      | " 279 42 32 264                  |
|                                                     |                                  | Chilár                                              | " 290 33 24 243                  |
|                                                     |                                  | Dungri                                              | " 299 32 22 242                  |
|                                                     |                                  | Bhandrauli                                          | " 317 33 6 246                   |
|                                                     |                                  | Koti                                                | " 325 49 45 241                  |
|                                                     |                                  | *Deoban                                             | " 327 51 52 249                  |
|                                                     |                                  | Banawa                                              | " 328 49 11 241                  |
|                                                     |                                  | Moila                                               | " 350 53 54 241                  |
|                                                     |                                  |                                                     |                                  |
| <b>Kankhwála h.s.</b>                               |                                  | <b>Kapoli h.s.</b>                                  |                                  |
| Dhano                                               | h.s. 21 27 48                    | Dang                                                | No. 1 h.s. 20 37 49 460          |
| Ranigarh, II                                        | " 21 42 14                       | Dang                                                | No. 2 " 21 0 49 591              |
| Kolkidánda                                          | " 41 26 18                       | Mandhla                                             | " 87 30 11 460                   |
| Jhangarh                                            | " 75 31 40                       | Jaorasi                                             | No. 1 " 157 41 44 595            |
| Gurdhári                                            | " 110 47 1                       | Jaorasi                                             | No. 2 " 158 19 10 596            |
| Mintidhár                                           | " 116 30 4                       | Adgaon                                              | " 162 15 51 463                  |
| Sindi                                               | " 138 47 8                       | Munbhodevi                                          | " 222 44 31 462                  |
| Majin                                               | " 150 4 4                        | Pinkot                                              | " 284 47 4 600                   |
| Sumári                                              | " 227 9 3                        | Komalt                                              | " 288 36 48 461                  |
| Kathugarh                                           | " 269 49 31                      | Palikhet                                            | " 348 53 15 461                  |
| Devidat                                             | " 325 33 58                      |                                                     |                                  |
|                                                     |                                  | <b>Karái, XXI</b>                                   |                                  |
| <b>Kankra No. 1 h.s.</b>                            |                                  | Piparin, XIX                                        | 118 14 10'04 26                  |
| Nisania                                             | h.s. 2 57 33                     | Sultánpur, XX                                       | 181 18 8'26 26                   |
| Saonchália, VI                                      | 7 6 36'5                         | Ramuapur, XXII                                      | 235 13 47'58 27                  |
|                                                     |                                  | Kokra, XXIII                                        | 294 14 37'14 28                  |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

† This station appertains to the Great Arc Meridional Series—Section 24°-30'.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Katāha h.s.</b>                                  |                                 | <b>Khairagarh No. 2 h.s.</b>                        |                                 |
| Tarharwa, LXXII                                     | 12 28 17                        | Girijwāla, III                                      | 55 15 30                        |
| Rāmnagar, LXX                                       | 48 1 42                         | Khairagarh No. 1 h.s.                               | 123 56 42                       |
| Kumkarna                                            | s. 100 18 4                     | Khairagarh No. 3 "                                  | 245 12 18                       |
| Bikna Thori                                         | s. 278 59 7                     | Jenti Rao "                                         | 270 46 31                       |
| Parsauni East                                       | " 333 51 49                     |                                                     |                                 |
| Parsauni West                                       | " 350 7 39                      |                                                     |                                 |
|                                                     |                                 | <b>Khairagarh No. 3 h.s.</b>                        |                                 |
| <b>Kātaia s.</b>                                    |                                 | Kālagarh                                            | h.s. 8 50 8                     |
| Pipra                                               | s. 159 2 40                     | Khairagarh No. 2 "                                  | 65 13 26                        |
| Barar                                               | h.s. 208 0 40                   | Khairagarh No. 1 "                                  | 92 12 2                         |
| Balus, LXVI                                         | 342 7 10                        | Jenti Rao "                                         | 280 53 0                        |
|                                                     |                                 | Danapāni "                                          | 307 51 19                       |
| <b>Katbhairon-ki-dhang h.s.</b>                     |                                 | <b>Khal-ka-dānda h.s.</b>                           |                                 |
| Dhela, V                                            | 105 1 15                        | Deodekni                                            | h.s. 163 52 3                   |
| Dhulwa                                              | h.s. 181 7 25                   | Neolpanga                                           | " 248 23 49                     |
| Silabasila                                          | " 272 44 24                     | Nagnāth                                             | No. 1 " 299 14 31               |
| <b>Kathugarh h.s.</b>                               |                                 | <b>Khamari-ka-dānda h.s.</b>                        |                                 |
| Devidat                                             | h.s. 37 36 6                    | Bisonta                                             | s. 4 53 3                       |
| Kankhwāla                                           | " 89 51 5                       | Bhakra                                              | " 5 27 17                       |
| Majia                                               | " 126 48 12                     | Khobra                                              | " 13 46 0                       |
| Baingwāri                                           | " 357 42 23                     | Kāladhungi                                          | h.s. 22 39 28                   |
| <b>Katiadānda h.s.</b>                              |                                 | Baurkhāta                                           | s. 32 55 28                     |
| Binsar                                              | h.s. 125 6 5                    | Dhulia                                              | " 38 6 34                       |
| Bashikanāg                                          | " 217 12 21                     | Garapu                                              | " 45 57 24                      |
| Jagesar                                             | h.s. 280 23 50                  | Madan Bhir                                          | No. 1 h.s. 65 47 22             |
| <b>Kaualek h.s.</b>                                 |                                 | Madau Bhir                                          | No. 2 " 80 7 13                 |
| Dogari                                              | s. 13 47 26                     | Bijaon                                              | " 221 57 28                     |
| Belpāni                                             | h.s. 38 7 15                    | Dedhurra                                            | " 262 33 50                     |
| Timildhār                                           | " 90 24 37                      | Biloti                                              | " 288 56 54                     |
| Mahārudra                                           | " 163 27 51                     | Gatgar                                              | " 305 26 47                     |
| Matiabānj                                           | " 242 15 29                     | Kuria                                               | s. 323 31 36                    |
| <b>Kausani h.s.</b>                                 |                                 | Lambichaur                                          | " 338 42 54                     |
| Aina                                                | h.s. 179 39 32                  | Panda                                               | " 347 22 4                      |
| Akwa                                                | " 280 45 51                     | Ghajar                                              | " 351 29 42                     |
| Sungarkot                                           | h.s. 293 4 38                   | <b>Khamlek h.s.</b>                                 |                                 |
| Kālimat                                             | No. 1 h.s. 344 6 52             | Lankishun                                           | h.s. 13 19 56                   |
| <b>Khabakhāl h.s.</b>                               |                                 | Shaullkul                                           | " 30 23 7                       |
| Badhangarhi                                         | h.s. 22 28 6                    | Jagesar                                             | h.s. 41 21 8.8                  |
| Kankra                                              | No. 1 h.s. 57 47 21             | Harchanddeo                                         | h.s. 47 21 33                   |
| Nausāli                                             | h.s. 322 47 53                  | Bashikanāg                                          | " 56 31 41                      |
| <b>Khairagarh No. 1 h.s.</b>                        |                                 | Sungarkot                                           | h.s. 87 0 38.4                  |
| Girijwāla, III                                      | 25 22 11                        | Hagdanu                                             | h.s. 122 44 0                   |
| Harpāsaid, XLVIII*                                  | 111 27 59                       | Shikāni                                             | h.s. 130 56 57.9                |
| Khairagarh                                          | No. 3 h.s. 272 10 0             | Kot                                                 | h.s. 167 50 36                  |
| Khairagarh                                          | No. 2 " 303 55 48               | Balchandānda                                        | " 197 31 51                     |
| Kālagarh                                            | " 334 55 36                     | Suwālekdhura                                        | " 233 20 30                     |
|                                                     |                                 | Khaparichula                                        | " 257 13 21                     |
|                                                     |                                 | Simalthal                                           | " 267 47 27                     |
|                                                     |                                 | Hania-ka-dhura                                      | " 303 50 0                      |
|                                                     |                                 | Dhaj                                                | h.s. 313 9 16.2                 |
|                                                     |                                 | Jhum                                                | " 356 6 36.5                    |
|                                                     |                                 | Garoon                                              | h.s. 357 54 29                  |

\* This station appertains to the Budhon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Khamlekgarhi h.s.</b>                            |                                 | <b>Khára h.s.</b>                                   |                                 |
| Jogi-ka-dánda h.s. 0 1 "                            | 456                             | Godáhwáli h.s. 31 24 1                              | 344                             |
| Gujaragarh " 84 52 12                               | 456                             | Ganair " 56 35 25                                   | 345                             |
| Maudhla " 300 49 57                                 | 458                             | Kángra " 69 9 26                                    | 343                             |
| Simatkhal " 357 23 27                               | 457                             | Chándipahár, LIV* 100 47 59                         | 343                             |
| <b>Khampung h.s.</b>                                |                                 | <b>Kharbana h.s.</b>                                |                                 |
| Songchonglu h.s. 41 13 39                           | 1477                            | Harpálsid, XLVIII† 188 22 20                        | 408                             |
| Deolo " 87 0 32                                     | 1477                            | Gujarsot h.s. 267 26 42                             | 410                             |
| Risum No. 2 " 95 31 32                              | 1508                            | Girijwála, III 285 48 9                             | 408                             |
| Chumsering " 122 58 46                              | 1478                            |                                                     |                                 |
| Damsong " 130 3 54                                  | 1493                            |                                                     |                                 |
| Rhenok " 193 0 35                                   | 1493                            |                                                     |                                 |
| Lingtu " 216 15 37                                  | 1486                            | <b>Kharbasia No. 1 h.s.</b>                         |                                 |
| Riehi La " 250 2 24                                 | 1482                            | Bamlás No. 1 h.s. 1 27 27                           | 970                             |
| Sathi La " 250 44 15                                | 1480                            | Goting " 55 41 45                                   | 970                             |
| Pankasari " 286 20 57                               | 1494                            | Kharbasia No. 2 " 194 57 13                         | 971                             |
| Nimlu " 359 23 39                                   | 1479                            | Pátálpáni " 195 57 57                               | 975                             |
|                                                     |                                 | Dolu " 217 11 0                                     | 972                             |
| <b>Khána h.s.</b>                                   |                                 | <b>Kharbasia No. 2 h.s.</b>                         |                                 |
| Minthamb h.s. 188 32 36                             | 1062                            | Kharbasia No. 1 h.s. 14 57 29                       | 971                             |
| Pokridhura " 242 29 2                               | 1062                            | Goting " 37 12 46                                   | 971                             |
|                                                     |                                 | Pátálpáni " 198 2 58                                | 974                             |
| <b>Khangla h.s.</b>                                 |                                 | Ganeshganga " 218 33 12                             | 976                             |
| Gagla Hill Staff h.s. 19 53 45                      | 1203                            | Dolu " 255 32 50                                    | 972                             |
| Chachaila h.s. 160 6 51                             | 1207                            |                                                     |                                 |
| Yangchham Hill Staff 199 8 14                       | 1205                            | ‡ <b>Khargu h.s.</b>                                |                                 |
| Doti " 209 36 21                                    | 1204                            | § Snowy Peak B 222 27 45                            | 488                             |
| Tadang " 337 44 41                                  | 1203                            | Nilang No. 1 h.s. 245 20 35                         | 488                             |
| <b>Khánpur, XXXIV</b>                               |                                 | <b>Kharik h.s.</b>                                  |                                 |
| Lákhun, XXXI 166 28 28.24                           | 39                              | Shikáni h.s. 93 44 44                               | 1083                            |
| Bela, XXXIII 222 55 17.23                           | 39                              | Daukuri h.s. 229 29 54                              | 1083                            |
| Masi, XXXV 272 42 26.86                             | 40                              |                                                     |                                 |
| <b>Khaparchula h.s.</b>                             |                                 | <b>Kharkhari, CXIX</b>                              |                                 |
| Hania-ka-dhura h.s. 20 8 21                         | 996                             | Tagria, CXVII 83 15 29.38                           | 127                             |
| Pipaltar " 35 51 39                                 | 1099                            | Bandarjwála, CXVIII 154 53 22.45                    | 127                             |
| Hánchati " 54 25 7                                  | 1085                            | Thakurganj, CXX 204 54 4.37                         | 128                             |
| Simalthal " 57 27 56                                | 1084                            | Sonakhoda, CXXI 262 0 48.60                         | 129                             |
| Garaon " 63 19 59                                   | 1086                            |                                                     |                                 |
| Khamlek h.s. 77 17 56                               | 991                             | <b>Khatersami h.s.</b>                              |                                 |
| Dakhol h.s. 117 7 17                                | 1098                            | Naimidevi No. 2 h.s. 10 4 45                        | 522                             |
| Kot " 120 22 9                                      | 1100                            | Naimidevi No. 1 " 27 53 4                           | 520                             |
| Litála " 128 19 4                                   | 1093                            | Nagnáth No. 2 " 298 2 2                             | 520                             |
| Mundhura No. 1 " 132 9 31                           | 1089                            |                                                     |                                 |
| Mundhura No. 2 " 132 38 20                          | 1091                            | <b>Khatliveditank No. 1 h.s.</b>                    |                                 |
| Balehandánda " 143 6 7                              | 991                             | Chitaur h.s. 32 15 9                                | 580                             |
| Suwálekdhura " 182 7 19                             | 1087                            | Ghungti, IV 68 51 50                                | 458                             |
| Húm " 194 55 55                                     | 1001                            | Chatargarhi " 128 43 10                             | 452                             |
| Sujánbonga " 242 44 29                              | 1056                            | Devitank h.s. 163 52 6                              | 452                             |
| Chipalkot No. 1 " 244 48 26                         | 1006                            | Saitangarhi h.s. 211 50 12                          | 470                             |
| Ghanádhura " 281 30 56                              | 1048                            | Gujaragarh " 278 15 3                               | 465                             |
| Dhaj h.s. 342 34 20                                 | 992                             | Jogi-ka-dánda " 346 54 55                           | 454                             |
| Jurung h.s. 349 8 26                                | 1034                            |                                                     |                                 |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30°.

† This station appertains to the Budhon Meridional Series.

‡ This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

§ This peak is identical with Bhágirathi-Bespa Watershed No. 7 peak of the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance |
|-----------------------------------------------------|----------------------------------|-----------------------------------------------------|----------------------------------|
| <b>Khatliveditank No. 2 h.s.</b>                    |                                  | <b>Kiunglung h.s.</b>                               |                                  |
| Chitaor h.s. 32 14 4                                | 587                              | Niti No. 1 h.s. 222 19 44                           | 980                              |
| Gujarugarh " 278 6 42                               | 586                              | Niti No. 3 " 242 22 8                               | 987                              |
| Jogi-ka-dánda " 346 50 27                           | 586                              | Niti No. 2 " 242 45 46                              | 981                              |
| Jagera " 351 46 1                                   | 588                              | Ganeshganga " 330 29 54                             | 978                              |
|                                                     |                                  | Dolu " 347 3 13                                     | 979                              |
|                                                     |                                  | Pátálpáni " 358 36 54                               | 978                              |
| <b>Khatsari h.s.</b>                                |                                  | <b>Koimath h.s.</b>                                 |                                  |
| Jaorasi No. 2 h.s. 70 29 21                         | 598                              | Chatargarhi h.s. 5 25 32                            | 428                              |
| Manbhodevi " 317 55 56                              | 598                              | Chándkot " 61 46 13                                 | 428                              |
| Godi " 323 7 6                                      | 599                              | Devitank H.S. 292 0 59                              | 429                              |
| <b>Khobra s.</b>                                    |                                  | <b>Kokra, XXIII</b>                                 |                                  |
| Khamari-ka-dánda h.s. 193 44 27                     | 757                              | Karái, XXI 114 19 10.80                             | 28                               |
| Biloti " 229 6 52                                   | 757                              | Ramuapur, XXII 182 25 47.39                         | 29                               |
|                                                     |                                  | Rámnagar, XXIV 245 13 6.51                          | 28                               |
| <b>Khoribári s.</b>                                 |                                  | Dahlelnagar, XXV 309 56 5.64                        | 30                               |
| Tingling h.s. 181 57 27                             | 1819                             |                                                     |                                  |
| Selim " 201 11 23                                   | 1819                             |                                                     |                                  |
| <b>Khumbale h.s.</b>                                |                                  | <b>Kokru-ka-dánda h.s.</b>                          |                                  |
| Jhum H.S. 182 58 37                                 | 846                              | Pápi h.s. 62 10 50                                  | 886                              |
| Kúndeo h.s. 310 32 2                                | 846                              | Sikurkot " 81 36 23                                 | 884                              |
| Launchaura " 348 15 38                              | 847                              | Harap " 141 26 36                                   | 790                              |
|                                                     |                                  | Parkot " 179 16 59                                  | 876                              |
|                                                     |                                  | Daj " 196 37 58                                     | 790                              |
|                                                     |                                  | Jakari " 210 40 56                                  | 875                              |
| <b>Kiangur h.s.</b>                                 |                                  | Hagdaru " 252 19 3                                  | 791                              |
| Chitichun No. 1 h.s. 290 43 58                      | 1162                             | Gurana " 304 3 35                                   | 792                              |
| Bamlás No. 5 " 326 19 29                            | 1161                             | Bágesar " 336 51 56                                 | 888                              |
| Bamlás No. 3 " 351 29 20                            | 1161                             | Rupdeo " 355 33 19                                  | 883                              |
| <b>Kidarkanta h.s.</b>                              |                                  | <b>Kol h.s.</b>                                     |                                  |
| Bajamara h.s. 42 31 50.0                            | 278                              | Balkot h.s. 39 16 36                                | 1066                             |
| Lambatach " 89 5 25.4                               | 279                              | Kandi " 109 21 35                                   | 1065                             |
| Bahak " 350 17 9.6                                  | 278                              | Lankishun " 164 48 3                                | 1065                             |
| <b>Kilauli s.</b>                                   |                                  | <b>Kolkidánda h.s.</b>                              |                                  |
| Chapra s. 112 11 34                                 | 665                              | Jhangarh h.s. 165 36 4                              | 375                              |
| Gujarsot h.s. 171 51 58                             | 415                              | Kankhwála " 221 24 10                               | 375                              |
| Kaluesyid " 180 5 1                                 | 665                              |                                                     |                                  |
| Girijwála, III " 226 21 18                          | 415                              |                                                     |                                  |
| <b>Kimna h.s.</b>                                   |                                  | <b>Komai No. 1 h.s.</b>                             |                                  |
| Naithána h.s. 74 56 19                              | 382                              | Chamaigaon No. 1 h.s. 95 41 58                      | 1426                             |
| Pausukhál " 328 10 40                               | 382                              | Tempu La " 128 0 40                                 | 1425                             |
|                                                     |                                  | Mo Chu " 173 47 42                                  | 1425                             |
| <b>Kirsong h.s.</b>                                 |                                  | <b>Komai No. 2 h.s.</b>                             |                                  |
| Tendong h.s. 1 52 30                                | 1463                             | Chamaigaon No. 2 h.s. 71 43 6                       | 1429                             |
| Senchal No. 1 " 13 37 25                            | 1450                             | Tempu La " 113 54 45                                | 1428                             |
| Darjeeling Observatory " 18 37 59                   | 1451                             | Mo Chu " 161 36 34                                  | 1428                             |
| Tonglu " 36 15 19                                   | 1450                             |                                                     |                                  |
| Senan Monastery " 48 56 52                          | 1475                             |                                                     |                                  |
| Lampherain " 71 18 46                               | 1462                             | <b>Komalt h.s.</b>                                  |                                  |
| Lenkabui " 77 50 54                                 | 1464                             | Palikhot h.s. 23 25 17                              | 601                              |
| Longjong " 98 12 19                                 | 1462                             | Kapoli " 108 39 21                                  | 600                              |
|                                                     |                                  | Manbhodevi " 187 57 30                              | 600                              |

| Name of Station with Azimuths of surrounding Points                                                                                                                                                                                          | No. of Triangle giving Distance                      | Name of Station with Azimuths of surrounding Points                                                                                                                                                                  | No. of Triangle giving Distance                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>Kot h.s.</b><br>Khaparchula h.s. 300 16 39<br>Khamlek h.s. 347 49 41                                                                                                                                                                      | 1100<br>1100                                         | <b>Kumkarna h.s.</b><br>Rámnagar, LXX h.s. 33 29 39<br>Someswar Fort h.s. 99 46 47<br>Kátáha " 280 15 40<br>Parsauni East s. 308 19 16<br>Parsauni West " 316 4 14<br>Tarharwa, LXXII 354 38 49                      | 1242<br>1243<br>1256<br>1257<br>1258<br>1242         |
| <b>Kotah s.</b><br>Rhiar h.s. 179 51 14<br>Badantoli " 216 42 26<br>Bijaon " 285 55 11                                                                                                                                                       | 730<br>731<br>730                                    | <b>Kuna h.s.</b><br>*Kanúí h.s. 61 9 55<br>Gusana " 117 13 7<br>Birga " 121 34 57<br>Maidrath Bungalow 230 53 9                                                                                                      | 271<br>271<br>272<br>273                             |
| <b>Kotalgaon h.s.</b><br>Deolakot h.s. 76 50 28<br>Baidhár " 196 36 7<br>Dobadhár " 209 38 20                                                                                                                                                | 1106<br>1107<br>1106                                 | <b>Kund h.s.</b><br>Phaldakot h.s. 80 43 3<br>Kuthal " 142 23 51<br>Dhari " 302 35 54                                                                                                                                | 357<br>358<br>357                                    |
| <b>Koti h.s.</b><br>Banawa h.s. 20 26 58<br>Mashak Hill Temple 57 51 36<br>Hartar Hill Temple 104 47 48<br>*Kanúí " 145 51 59<br>Tikeri Hill Temple 151 54 36<br>Bhandrauli " 163 12 58<br>Dungri " 203 6 56<br>Konain Hill Temple 269 20 24 | 253<br>252<br>254<br>250<br>261<br>251<br>250<br>253 | <b>Kundhár h.s.</b><br>Pilkhunta h.s. 18 56 48<br>Vishnugarh " 104 18 26<br>Patari " 142 46 23                                                                                                                       | 927<br>927<br>928                                    |
| <b>Kotidánda h.s.</b><br>Gwanagarh h.s. 59 2 8<br>Argam h.s. 199 10 20<br>Tapon No. 2 " 204 8 0<br>Tapon No. 1 " 207 31 56<br>Pilkhunta " 242 54 45<br>Jatropáni h.s. 317 35 38                                                              | 922<br>925<br>947<br>946<br>924<br>922               | <b>Kungri Bingri h.s.</b><br>Bamlás No. 5 h.s. 14 13 39<br>Chaldu No. 2 " 216 31 30<br>Chitichun No. 2 " 239 5 6<br>Chanambaniali No. 1 " 269 21 41<br>Chanambaniali No. 2 " 271 44 11<br>Chitichun No. 1 " 327 44 5 | 1163<br>1168<br>1185<br>1184<br>1176<br>1168         |
| <b>Kotikhál No. 1 h.s.</b><br>Gunadánda h.s. 39 2 51<br>Gandkhola " 98 56 3<br>Banjkot " 297 33 6                                                                                                                                            | 556<br>555<br>555                                    | <b>Kuria s.</b><br>Khamari-ka-dánda h.s. 143 33 53<br>Biloti " 227 46 58                                                                                                                                             | 752<br>752                                           |
| <b>Kotikhál No. 2 h.s.</b><br>Gunadánda h.s. 35 4 43<br>Gandkhola " 103 4 38<br>Banjkot " 293 48 27                                                                                                                                          | 558<br>557<br>557                                    | <b>Kurkuti h.s.</b><br>Bunga h.s. 40 26 18<br>Kurkutidhár " 142 1 11<br>Sathdunga " 282 36 29                                                                                                                        | 985<br>985<br>986                                    |
| <b>Kotra h.s.</b><br>Dehra Dún Base-line W. End (VIII)† 22 59 56<br>Rajawala Bungalow 25 55 40<br>Sabaspur s. 58 15 9<br>Ambári h.s. 123 14 5<br>Súrna " 137 46 53<br>Dehra Dún Base-line E. End (IX)† 341 53 25                             | 136<br>161<br>163<br>137<br>138<br>136               | <b>Kurkutidhár h.s.</b><br>Pularanda h.s. 7 35 39<br>Chotakána " 23 42 35<br>Bámpa " 108 4 11<br>Rámkuta " 142 29 39<br>Dámjan " 173 44 8<br>Sathdunga " 307 14 27<br>Kurkuti " 322 0 28<br>Bunga " 350 30 10        | 961<br>960<br>962<br>964<br>963<br>983<br>985<br>960 |
| <b>Ku h.s.</b><br>*Nága h.s. 80 8 54<br>Jadhang " 138 41 50<br>Sonam " 170 18 47                                                                                                                                                             | 495<br>494<br>494                                    |                                                                                                                                                                                                                      |                                                      |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

† These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points |                   | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |      |
|-----------------------------------------------------|-------------------|---------------------------------|-----------------------------------------------------|---------------------------------|------|
| <b>Kurmuria h.s.</b>                                | ° ' "             |                                 | <b>Lahúrdhura h.s.</b>                              | ° ' "                           |      |
| Hagdanu                                             | h.s. 29 45 52     | 1077                            | Hagdanu                                             | h.s. 33 29 41                   | 1072 |
| Daukuri                                             | " 87 30 41        | 1076                            | Daukuri                                             | " 93 41 26                      | 1073 |
| Supi                                                | " 92 12 8         | 1082                            | Supi                                                | " 103 31 43                     | 1082 |
| Danchar                                             | " 281 14 6        | 1081                            | Kurmuria                                            | " 149 51 12                     | 1076 |
| Chotri                                              | " 291 24 25       | 1081                            | Punya                                               | " 248 22 45                     | 1071 |
| Lahúrdhura                                          | " 329 50 58       | 1076                            | Danchar                                             | " 273 37 48                     | 1078 |
|                                                     |                   |                                 | Chotri                                              | " 285 13 19                     | 1080 |
|                                                     |                   |                                 | Balchandánda                                        | " 317 51 46                     | 1071 |
| <b>Kurseong h.s.</b>                                | h.s.              |                                 | <b>Lákhun, XXXI</b>                                 |                                 |      |
| Durbujhora                                          | " 2 46 57         | 1304                            | Aogapur, XXIX                                       | 116 24 19'70                    | 36   |
| Tingling                                            | " 63 0 58         | 1296                            | Dhaurahra, XXX                                      | 174 13 3'37                     | 36   |
| Phugarhi                                            | " 76 20 56        | 1295                            | Chalua, XXXII                                       | 226 20 31'92                    | 37   |
| Morig                                               | " 106 53 36       | 1335                            | Bela, XXXIII                                        | 278 55 17'63                    | 38   |
| Marma                                               | " 118 13 34       | 1330                            | Khánpur, XXXIV                                      | 346 27 13'52                    | 39   |
| Hope Town                                           | No. 3 " 168 43 16 | 1336                            |                                                     |                                 |      |
| Margaret's Hope                                     | No. 2 " 181 44 22 | 1341                            |                                                     |                                 |      |
| Margaret's Hope                                     | No. 1 " 188 44 20 | 1295                            | <b>Láldhang s.</b>                                  |                                 |      |
| Dhobijhora                                          | " 213 25 4        | 1338                            | Barikothirau                                        | h.s. 111 42 19                  | 680  |
| Dow Hill                                            | " 223 10 57       | 1340                            | Sidhon-ki-dhang                                     | " 167 58 19                     | 680  |
| Selim                                               | " 290 24 40       | 1297                            | Dhela, V                                            | " 252 16 51                     | 681  |
| Garidhura                                           | " 349 9 36        | 1310                            |                                                     |                                 |      |
| <b>Kuthal h.s.</b>                                  | h.s.              |                                 | <b>Láldhár h.s.</b>                                 | h.s.                            |      |
| Phaldakot                                           | " 29 4 36         | 329                             | Silabasila                                          | h.s. 118 1 50                   | 627  |
| Marhal                                              | " 93 41 29        | 329                             | Chinal                                              | " 194 46 57                     | 626  |
| Bannali                                             | " 98 57 3         | 356                             | Bhadargarhi                                         | " 292 42 39                     | 626  |
| Dhuru                                               | " 127 22 43       | 354                             | Sidhon-ka-thán                                      | " 296 38 42                     | 686  |
| Dhari                                               | " 312 47 41       | 330                             | Chilkia                                             | s. 342 32 28                    | 685  |
| Kund                                                | " 322 22 45       | 358                             |                                                     |                                 |      |
| <b>Kuthia, XXVIII</b>                               |                   |                                 | <b>Lambatach h.s.</b>                               |                                 |      |
| Saidhari, XXVII                                     | 60 1 14'32        | 33                              | Bajamara                                            | h.s. 0 7 9'0                    | 280  |
| Hilgi, XXVI                                         | 120 21 5'52       | 33                              | Kidarkanta                                          | " 268 57 0'1                    | 279  |
| Dhaurahra, XXX                                      | 287 46 45'73      | 35                              | Bahak                                               | " 313 27 41'2                   | 279  |
| Aogapur, XXIX                                       | 356 9 25'24       | 34                              |                                                     |                                 |      |
| <b>Lachmipur, CXVI</b>                              |                   |                                 | <b>Lambichaur s.</b>                                |                                 |      |
| Musaladanga, CXV                                    | 30 32 46'19       | 124                             | Khamari-ka-dánda                                    | h.s. 158 44 14                  | 753  |
| Dipnagar, CXIV                                      | 87 22 5'60        | 124                             | Biloti                                              | " 234 8 23                      | 753  |
| Bandarjula, CXVIII                                  | 267 34 18'26      | 126                             |                                                     |                                 |      |
| Tagria, CXVII                                       | 331 18 2'39       | 125                             | <b>Lamdhár h.s.</b>                                 |                                 |      |
| <b>Ládhaundhura h.s.</b>                            | h.s.              |                                 | Pinkot                                              | h.s. 131 18 11                  | 607  |
| Gadura                                              | " 120 46 41       | 852                             | Garril                                              | " 180 4 1                       | 699  |
| Macháli                                             | " 137 28 22       | 843                             | Airideo                                             | " 222 22 39                     | 607  |
| Sidh-ka-dhura                                       | " 171 17 7        | 854                             | Kálimat                                             | No. 1 " 277 57 50               | 608  |
| Narsing-ka-dánda                                    | " 188 19 6        | 841                             | Siabi Devi                                          | " 328 55 45                     | 611  |
| Launchaura                                          | " 263 12 52       | 855                             |                                                     |                                 |      |
| Ganaphor                                            | " 286 31 33       | 841                             | <b>Lamkishun h.s.</b>                               |                                 |      |
| Tola                                                | " 298 38 20       | 855                             | Kandi                                               | h.s. 59 9 15                    | 1064 |
|                                                     |                   |                                 | Bashikanág                                          | " 124 49 46                     | 994  |
| <b>Ladnia, XCVIII</b>                               |                   |                                 | Shaulkul                                            | " 172 38 0                      | 1069 |
| Bhela, XCVII                                        | 49 22 45'74       | 104                             | Harchanddeo                                         | " 178 50 59                     | 1068 |
| Janjipati, XCVI                                     | 105 26 22'77      | 104                             | Khumlek                                             | h.s. 193 18 50                  | 994  |
| Harpur, C                                           | 292 12 33'08      | 106                             | Hania-ka-dhura                                      | h.s. 244 45 46                  | 995  |
| Sauraha, XCIX                                       | 359 26 32'79      | 105                             | Masurbio                                            | " 281 5 27                      | 1028 |
|                                                     |                   |                                 | Iriarikot                                           | " 300 41 39                     | 997  |
|                                                     |                   |                                 | Bambhil                                             | " 344 17 11                     | 997  |
|                                                     |                   |                                 | Kol                                                 | " 344 47 37                     | 1065 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Lampheram h.s.</b>                               |                                 | <b>Latpanchor No. 1 h.s.</b>                        |                                 |
| Singalila h.s. 21 19 57                             | 1454                            | Bandartak h.s. 10 2 20                              | 1361                            |
| Kangrang La " 152 55 23                             | 1455                            | Selim " 62 11 56                                    | 1345                            |
| Daiu La " 192 41 12                                 | 1458                            | Mahaldaram " 107 1 55                               | 1345                            |
| Pongmerong " 221 53 46                              | 1459                            | Sitong " 164 6 40                                   | 1346                            |
| Longjong " 228 8 3                                  | 1462                            | Seudim " 186 38 5                                   | 1351                            |
| Kirsong " 251 9 9                                   | 1462                            | Geabdat " 261 7 30                                  | 1347                            |
| Darjeeling Observatory " 328 0 27                   | 1454                            | Ghoramara " 318 19 5                                | 1355                            |
|                                                     |                                 | Jojilling No. 1 " 352 41 16                         | 1356                            |
|                                                     |                                 | Jojilling No. 2 " 358 44 49                         | 1359                            |
| <b>Langpiar h.s.</b>                                |                                 | <b>Latpanchor No. 2 h.s.</b>                        |                                 |
| Goting h.s. 162 42 27                               | 969                             | Sitong h.s. 152 29 21                               | 1352                            |
| Bamlas No. 1 " 224 22 35                            | 966                             | Seudim " 181 14 12                                  | 1352                            |
| Dámjan " 265 51 59                                  | 965                             | Geabdat " 264 5 30                                  | 1353                            |
| Rámkuta " 338 57 20                                 | 965                             |                                                     |                                 |
| <b>Langurgarhi h.s.</b>                             |                                 | <b>Launchaura h.s.</b>                              |                                 |
| Charekh h.s. 45 42 1                                | 400                             | Garaphor h.s. 20 28 56                              | 856                             |
| Dasmeri " 100 58 19                                 | 401                             | Tola " 59 5 7                                       | 855                             |
| Kalagarhi " 352 36 55                               | 400                             | Ládhaundhura " 83 16 38                             | 855                             |
| Kájigarhi " 358 20 19                               | 403                             | Narsing-ka-dánda " 125 25 6                         | 845                             |
|                                                     |                                 | Khumbale " 168 16 12                                | 847                             |
|                                                     |                                 | Jhum h.s. 175 8 7                                   | 844                             |
|                                                     |                                 | Kánádeo h.s. 229 42 20                              | 844                             |
| <b>Lárulek h.s.</b>                                 |                                 | <b>Lenkabui h.s.</b>                                |                                 |
| Dhaj h.s. 10 31 11                                  | 1036                            | Longjong h.s. 168 10 8                              | 1464                            |
| Lori h.s. 88 37 27                                  | 1036                            | Kirsong " 257 46 8                                  | 1464                            |
| Jurung " 128 34 27                                  | 1037                            |                                                     |                                 |
| Ghanádhura " 182 48 11                              | 1049                            | <b>Lethidhár h.s.</b>                               |                                 |
| Miathamb " 216 16 42                                | 1053                            | Bhír h.s. 55 13 47                                  | 1367                            |
| Pathur " 226 14 27                                  | 1050                            | Pumongzong " 100 16 52                              | 1366                            |
| Pokridhura " 231 33 53                              | 1055                            | Nimlu " 172 51 40                                   | 1366                            |
| Dharij " 330 48 30                                  | 1038                            |                                                     |                                 |
| Titarlek " 351 49 28                                | 1044                            | <b>Lethi River s.</b>                               |                                 |
|                                                     |                                 | Bhír h.s. 122 11 12                                 | 1368                            |
| <b>Laspa h.s.</b>                                   |                                 | Nimlu " 187 33 33                                   | 1368                            |
| Martoli h.s. 166 34 13                              | 1130                            |                                                     |                                 |
| Nnichu-ka-dhura " 196 11 48                         | 1136                            | <b>Lingara h.s.</b>                                 |                                 |
| Birjeganj " 210 56 14                               | 1131                            | Pariapál h.s. 167 44 53                             | 931                             |
| Rálam " 237 25 37                                   | 1129                            | Badrináth Temple " 175 1 57                         | 1213                            |
| Athánsi " 324 2 49                                  | 1129                            | Tikdhár " 184 54 21                                 | 930                             |
|                                                     |                                 | Patari " 246 31 41                                  | 929                             |
| <b>Láta h.s.</b>                                    |                                 | Pándab Chauki Hill Staff " 293 37 10                | 948                             |
| Domban h.s. 62 55 5                                 | 952                             | Vishnugarh " 339 33 15                              | 929                             |
| Chhatar " 119 25 16                                 | 952                             |                                                     |                                 |
| Sidhár " 144 23 59                                  | 953                             | <b>Lingtu h.s.</b>                                  |                                 |
| Chauri Binek " 191 50 50                            | 955                             | Richi La h.s. 17 46 43                              | 1485                            |
| Bujantoni " 215 55 54                               | 954                             | Khampung " 36 19 31                                 | 1488                            |
|                                                     |                                 | Rhenok " 51 58 34                                   | 1510                            |
| <b>Latona, CIII</b>                                 |                                 |                                                     |                                 |
| Barhata, CI 129 44 26.43                            | 109                             |                                                     |                                 |
| Divárganj, CII 185 38 35.53                         | 109                             |                                                     |                                 |
| Chuni, CVI 246 48 2.36                              | 110                             |                                                     |                                 |
| Rámnagar, CVII 304 56 13.45                         | 113                             |                                                     |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Lingtu h.s.—(Contd.)</b>                         |                                 | <b>Longjong h.s.</b>                                |                                 |
| Chumsering h.s. 54 18 11                            | 1485                            | Lampheram h.s. 48 12 32                             | 1462                            |
| Tiger Hill " 58 59 49                               | 1483                            | Kirsong " 278 7 11                                  | 1462                            |
| Darjeeling Observatory " 64 53 8                    | 1484                            | Tendong " 328 26 28                                 | 1463                            |
| Lingpui Monastery " 69 51 11                        | 1510                            | Senan Monastery " 336 15 46                         | 1475                            |
| Sandakphu No. 1 " 77 6 8                            | 1483                            | Lenkabui " 348 9 46                                 | 1464                            |
| Simugupchurhi " 181 2 38                            | 1498                            |                                                     |                                 |
| Chukarehi " 207 28 22                               | 1502                            | <b>Longsol h.s.</b>                                 |                                 |
| Jandorhi " 222 38 13                                | 1500                            | Singsa h.s. 10 30 19                                | 1393                            |
| Senchel La " 256 57 39                              | 1504                            | Piangling Hill Staff 81 54 48                       | 1436                            |
| Gyi-mo-chi " 266 42 29                              | 1497                            | Songchonglu " 83 7 49                               | 1393                            |
|                                                     |                                 | Saihur " 139 20 7                                   | 1384                            |
| <b>Lisani h.s.</b>                                  |                                 | Pongril Upper " 174 23 47                           | 1408                            |
| *Deoban h.s. 207 42 58                              | 228                             | Pongril Lower " 179 52 50                           | 1412                            |
| Chakrata Post Office 243 52 16                      | 234                             | Nok " 186 22 31                                     | 1407                            |
| Hain " 277 12 54                                    | 234                             | Nimlu " 233 40 30                                   | 1407                            |
| Chilmeri (new) " 278 4 6                            | 228                             |                                                     |                                 |
| *Naga " 348 40 5                                    | 229                             | <b>Lori h.s.</b>                                    |                                 |
|                                                     |                                 | Iriarikot h.s. 26 14 54                             | 1032                            |
| <b>Litála h.s.</b>                                  |                                 | Hania-ka-dhura " 130 57 6                           | 1033                            |
| Dakchhol h.s. 100 31 28                             | 1097                            | Jurung " 173 1 33                                   | 1035                            |
| Tána " 119 24 59                                    | 1095                            | Larilek " 268 35 28                                 | 1036                            |
| Danchar " 187 26 34                                 | 1110                            | Dhaj h.s. 328 28 25                                 | 1032                            |
| Balchandanda " 188 46 35                            | 1094                            |                                                     |                                 |
| Girgaon " 212 43 28                                 | 1110                            | <b>Lujnidhura No. 1 h.s.</b>                        |                                 |
| Suwalekdhura " 271 46 15                            | 1093                            | Jhum h.s. 127 10 48                                 | 1016                            |
| Khaparchula " 308 15 51                             | 1093                            | Nagarchula h.s. 147 20 7                            | 1017                            |
|                                                     |                                 | Thakil " 166 32 15                                  | 1016                            |
| <b>Lobchula h.s.</b>                                |                                 | Kalimat No. 4 " 166 52 3                            | 1020                            |
| Chorgalia h.s. 42 18 20                             | 771                             | Nil " 173 29 8                                      | 1023                            |
| Patrani " 92 25 4                                   | 770                             | Tamli " 300 12 56                                   | 1020                            |
| Birond, VIII " 134 52 34                            | 770                             |                                                     |                                 |
| Maharudra " 260 53 15                               | 773                             | <b>Lujnidhura No. 2 h.s.</b>                        |                                 |
| Timlidhar " 314 50 45                               | 772                             | Tamli h.s. 302 26 12                                | 1022                            |
|                                                     |                                 | Maurkot " 353 3 41                                  | 1022                            |
| <b>Lohagarhi h.s.</b>                               |                                 | <b>Luriakanta h.s.</b>                              |                                 |
| Tineling h.s. 179 43 31                             | 1306                            | Manura h.s. 22 2 9                                  | 656                             |
| Phubsering " 194 1 13                               | 1332                            | Jar Pathar " 61 39 6                                | 738                             |
| Durbijhora " 220 14 50                              | 1307                            | Deopathar " 82 27 38                                | 656                             |
| Chenga " 236 20 56                                  | 1309                            | Harchan " 304 10 28                                 | 737                             |
| Selim " 237 38 38                                   | 1306                            | Bhim Tal " 311 30 46                                | 657                             |
| Morsapur s. 347 7 52                                | 1313                            | Chilpokra " 348 20 0                                | 734                             |
|                                                     |                                 |                                                     |                                 |
| <b>Lohakhand h.s.</b>                               |                                 | <b>Mabegarh, I</b>                                  |                                 |
| Ragehi h.s. 270 31 6                                | 515                             | Sidhwala No. 1 h.s. 0 56 21                         | 394                             |
| Mohankhal h.s. 305 28 49                            | 515                             | Mahesari, LII† 36 0 6.22                            | 5                               |
| Nainidevi No. 1 " 336 10 45                         | 516                             | Bijnagar " 83 48 31                                 | 347                             |
|                                                     |                                 | Chandipahar, LIV† 101 23 45.01                      | 1                               |
| <b>Lohapania, XLIV</b>                              |                                 | Jaspalgarh " 102 21 18                              | 361                             |
| Saibara, XLIII 52 54 58.91                          | 49                              | Ghugtigarh " 125 37 9                               | 322                             |
| Manichauk, XLII 111 14 51.67                        | 49                              | Naugaon No. 1 " 150 5 33                            | 311                             |
| Tulaipur, XLVI 284 46 40.01                         | 51                              | Ghandial h.s. 175 18 29.4                           | 231                             |
| Bansola, XLV 350 0 55.58                            | 50                              | Ghandial, LVI† 175 19 13.97                         | 1                               |
|                                                     |                                 | Dhunga h.s. 192 3 24                                | 312                             |
|                                                     |                                 | Mániknath h.s. 200 6 25.5                           | 283                             |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.  
 † These stations appertain to the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Mábegarh, I—(Contd.)</b>                         |                                 | <b>Mahargaon h.s.</b>                               |                                 |
| Rángarh, II                                         | 229 41 35' 72                   | Gujarugarh                                          | h.s. 36 51 23                   |
| Dikhet                                              | h.s. 240 50 38                  | Saitangarhi                                         | " 77 2 57                       |
| Dameri                                              | " 241 42 4                      | Gnibantni                                           | " 107 36 14                     |
| Ghungti, IV                                         | 286 2 59' 12                    | Nadatopa                                            | " 133 17 19                     |
| Charekh                                             | " 298 7 47                      | Choprakot                                           | " 182 43 54                     |
| Girijwála, III                                      | 326 47 13' 28                   |                                                     |                                 |
| Jamangarh                                           | " 328 35 39                     | <b>Mahárudra h.s.</b>                               |                                 |
| *Harpálsid, XLVIII                                  | 337 58 40' 22                   | Timlidhár                                           | h.s. 33 37 5                    |
|                                                     |                                 | Lobchula                                            | " 80 57 27                      |
|                                                     |                                 | Garaphor                                            | " 260 25 0                      |
|                                                     |                                 | Matiabánj                                           | " 296 6 9                       |
|                                                     |                                 | Kaualek                                             | " 343 26 59                     |
| <b>Macháli h.s.</b>                                 |                                 | <b>Mahesari, LII†</b>                               |                                 |
| Mulákot                                             | h.s. 208 37 3                   | Chándipahár, LIV†                                   | 184 33 18' 10                   |
| Páti                                                | " 225 55 4                      | Mábegarh, I                                         | 215 50 54' 81                   |
| Narsing-ka-dánda                                    | " 273 54 7                      | Girijwála, III                                      | 264 32 15' 68                   |
| Ládhauudhura                                        | " 317 25 35                     |                                                     |                                 |
| Gadura                                              | " 332 33 22                     | <b>Maidan h.s.</b>                                  |                                 |
| <b>Madan Bhir No. 1 h.s.</b>                        |                                 | Káluwála                                            | s. 53 48 34                     |
| Madan Bhir                                          | No. 2 h.s. 111 46 53            | Nágsidh                                             | h.s. 75 36 21                   |
| Kailakhur                                           | " 141 41 16                     | Birási House                                        | " 89 22 7                       |
| Rhiar                                               | " 178 6 53                      | Kálimatti                                           | " 122 53 7                      |
| Bijaon                                              | " 236 28 42                     | Málkot                                              | " 296 31 18                     |
| Khamari-ka-dánda                                    | " 245 45 25                     | Matarkhani                                          | " 310 34 3                      |
| Gatgar                                              | " 271 20 49                     | Bhogpur Mark                                        | " 336 37 34                     |
|                                                     |                                 | Ránpokhri                                           | s. 357 56 1                     |
| <b>Madan Bhir No. 2 h.s.</b>                        |                                 | <b>Mainajadi h.s.</b>                               |                                 |
| Gaibua-ka-tait                                      | h.s. 97 50 11                   | Surabduli                                           | h.s. 64 27 20                   |
| Bandarjuri                                          | No. 2 " 101 21 34               | Danapáni                                            | " 86 34 49                      |
| Bandarjuri                                          | No. 1 " 115 36 12               | Barsoti                                             | " 327 18 43                     |
| Bhadargarhi                                         | " 133 24 12                     |                                                     |                                 |
| Khamari-ka-dánda                                    | " 260 4 20                      | <b>Majarkhána h.s.</b>                              |                                 |
| Madan Bhir                                          | No. 1 " 291 45 57               | Dhian                                               | h.s. 33 37 5                    |
| Garapu                                              | s. 357 56 45                    | Deuli                                               | " 48 58 14                      |
| Baurkháta                                           | " 359 32 17                     |                                                     |                                 |
| <b>Madanpur, LXXXV</b>                              |                                 | <b>Majhawa, XLVII</b>                               |                                 |
| Amwa, LXXXIII                                       | 118 19 18' 77                   | Básadela, XLV                                       | 104 20 23' 20                   |
| Bulákipur, LXXXIV                                   | 180 52 15' 36                   | Tulsipur, XLVI                                      | 160 21 50' 40                   |
| Sondahi, LXXXVI                                     | 232 11 10' 15                   | Ganespur, XLVIII                                    | 222 10 35' 54                   |
| Humaunpur, LXXXVII                                  | 280 12 49' 84                   | Pipari, XLIX                                        | 287 13 50' 02                   |
| <b>Magru-ka-dánda h.s.</b>                          |                                 | <b>Majin h.s.</b>                                   |                                 |
| Sikurkot                                            | h.s. 12 45 44                   | Gurdhári                                            | h.s. 15 58 51                   |
| Akwa                                                | " 26 14 52                      | Sumári                                              | " 277 0 14                      |
| Alna                                                | " 82 2 39                       | Kathugarh                                           | " 306 45 26                     |
| Harap                                               | " 144 16 55                     | Kankhwála                                           | " 330 2 52                      |
| Daj                                                 | " 249 43 58                     |                                                     |                                 |
| <b>Mahaldaram h.s.</b>                              |                                 | <b>Maláni h.s.</b>                                  |                                 |
| Senchal                                             | No. 2 h.s. 158 40 11            | Dhela, V                                            | 24 11 10                        |
| Senchal                                             | No. 1 " 171 37 25               | Silabasila                                          | h.s. 340 25 39                  |
| Sitong                                              | " 269 4 26                      |                                                     |                                 |
| Latpanchor                                          | No. 1 " 286 59 21               |                                                     |                                 |
| Selim                                               | " 348 18 52                     |                                                     |                                 |

\* This station appertains to the Budhon Meridional Series.

† These stations appertain to the Great Arc Meridional Series—Section 24°-30°.



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Málkot h.s.</b>                                  |                                 | <b>Mangwa h.s.</b>                                  |                                 |
| Bhogpur Mark                                        | o ' "                           | Sitong                                              | h.s. o 9 46                     |
| Rámpokhri                                           | s. 3 41 23                      | Senchal                                             | No. 1 " 57 21 6                 |
| Tháno House                                         | 68 49 29                        | Geabdat                                             | " 337 52 26                     |
| Káluwála                                            | h. " 70 20 37                   |                                                     |                                 |
| Nágsidh                                             | h.s. 83 18 51                   |                                                     |                                 |
| Birasi House                                        | 100 37 21                       |                                                     |                                 |
| Maidap                                              | " 116 32 5                      |                                                     |                                 |
| Kálimatti                                           | " 120 32 11                     |                                                     |                                 |
| Matarkhani                                          | " 319 19 48                     |                                                     |                                 |
|                                                     |                                 | <b>Manichauk, XLII.</b>                             |                                 |
| <b>Manbhodevi h.s.</b>                              |                                 | Ierápur, XLI                                        | 43 19 31'66                     |
| Komalt                                              | h.s. 7 58 5                     | Newáda, XL                                          | 108 15 26'37                    |
| Kapoli                                              | " 42 47 39                      | Lohápania, XLIV                                     | 291 10 15'17                    |
| Adgaon                                              | " 80 47 3                       | Saibara, XLIII                                      | 357 24 8'89                     |
| Jaorasi                                             | No. 1 " 92 49 27                |                                                     |                                 |
| Jaorasi                                             | No. 2 " 93 5 50                 |                                                     |                                 |
| Khatsari                                            | " 137 57 13                     |                                                     |                                 |
| Pájiana                                             | " 147 8 34                      |                                                     |                                 |
| Nisania                                             | " 166 47 25                     |                                                     |                                 |
| Bhalkot                                             | " 282 54 23                     |                                                     |                                 |
| Pinkot                                              | " 358 29 2                      |                                                     |                                 |
|                                                     |                                 | <b>Mániknáth h.s.</b>                               |                                 |
| <b>Manda h.s.</b>                                   |                                 | Mábegarh, I                                         | h.s. 20 12 40'2                 |
| Ránigarh, II                                        | h.s. 69 0 55                    | Ghandiál                                            | " 55 12 51'6                    |
| Ulkagarh                                            | h.s. 196 5 4                    | Ragshi                                              | " 259 43 56'6                   |
| Gandkhota                                           | " 218 23 41                     | Gwanagarh                                           | " 292 33 23'0                   |
| Gunalánda                                           | " 249 51 24                     | Ránigarh, II                                        | " 351 38 10'5                   |
| Piplimath                                           | " 293 20 30                     |                                                     |                                 |
| Ameli                                               | No. 1 " 328 19 59               |                                                     |                                 |
| Ameli                                               | No. 2 " 328 44 37               |                                                     |                                 |
|                                                     |                                 | <b>Mánikpur, CXI</b>                                |                                 |
| <b>Mandani h.s.</b>                                 |                                 | Ghiba, CIX                                          | 101 58 23'24                    |
| Mansuna                                             | h.s. 21 30 50                   | Nirpur, CX                                          | 151 19 17'41                    |
| Jangi                                               | No. 1 " 35 23 25                | Kamaláda, CXII                                      | 204 45 29'81                    |
| Kálásila                                            | " 47 24 20                      | Banghora, CXIII                                     | 264 5 11'78                     |
| Páwálgarh                                           | " 70 43 51                      |                                                     |                                 |
| Khamsintoli Hill Staff                              | " 97 43 15                      |                                                     |                                 |
| Gaurikund Hill Staff                                | 110 0 46                        |                                                     |                                 |
| Madmaheshwar Hill Staff                             | 267 43 17                       |                                                     |                                 |
| Bisuri                                              | " 331 29 17                     |                                                     |                                 |
| Tingri                                              | " 352 51 48                     |                                                     |                                 |
|                                                     |                                 | <b>Manil h.s.</b>                                   |                                 |
| <b>Mandewa h.s.</b>                                 |                                 | Kankra                                              | No. 1 h.s. 45 11 42             |
| Rámnagar, LXX                                       | h.s. 21 18 34                   | Silong                                              | h.s. 104 19 15                  |
| Someshwar Fort                                      | h.s. 99 49 50                   | Patori                                              | " 134 36 47                     |
| Tarharwa, LXXII                                     | 343 50 12                       | Bujgala                                             | " 140 1 31                      |
|                                                     |                                 | Talanti                                             | " 251 19 4                      |
|                                                     |                                 | Chorkharak                                          | " 291 39 27                     |
| <b>Mandhla h.s.</b>                                 |                                 |                                                     |                                 |
| Simatkhal                                           | h.s. 25 53 46                   |                                                     |                                 |
| Khamlekgarhi                                        | " 120 52 0                      |                                                     |                                 |
| Kapoli                                              | " 267 27 1                      |                                                     |                                 |
| Dang                                                | No. 1 " 339 9 39                |                                                     |                                 |
| Dang                                                | No. 2 " 339 25 10               |                                                     |                                 |
| Debharakot                                          | " 354 56 14                     |                                                     |                                 |
|                                                     |                                 | <b>Mansuna h.s.</b>                                 |                                 |
|                                                     |                                 | Jangi                                               | No. 2 h.s. 90 44 16             |
|                                                     |                                 | Jangi                                               | No. 1 " 119 29 50               |
|                                                     |                                 | Mandani                                             | " 201 29 44                     |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Manúla, CVIII</b>                                |                                 |
|                                                     |                                 | Rámnagar, CVII                                      | 72 32 47'06                     |
|                                                     |                                 | Chuni, CVI                                          | 131 22 28'57                    |
|                                                     |                                 | Ghiba, CIX                                          | 186 57 22'52                    |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Manura h.s.</b>                                  |                                 |
|                                                     |                                 | Dhanik                                              | h.s. 98 19 16                   |
|                                                     |                                 | Deopathar                                           | " 148 7 47                      |
|                                                     |                                 | Jar Pathar                                          | " 158 14 28                     |
|                                                     |                                 | Sher-ka-dánda                                       | " 196 9 47                      |
|                                                     |                                 | Luriakanta                                          | " 202 1 37                      |
|                                                     |                                 | Kalikhán                                            | " 207 19 36                     |
|                                                     |                                 | Harchan                                             | " 262 18 3                      |
|                                                     |                                 | Bhím Tál                                            | " 281 17 11                     |
|                                                     |                                 | Chilpokra                                           | " 327 33 22                     |

| Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangles giving Distance |
|-----------------------------------------------------|----------------------------------|-----------------------------------------------------|----------------------------------|
| <b>Margaret's Hope No. 1 h.s.</b>                   |                                  | <b>Masi, XXXV</b>                                   |                                  |
| Kurseong h.s. 8 44 36                               | 1295                             | Khánpur, XXXIV 92 48 49 67                          | 40                               |
| Margaret's Hope No. 2 " 29 19 13                    | 1342                             | Bela, XXXIII 153 5 55 97                            | 40                               |
| Phugarhi " 44 5 48                                  | 1294                             | Atkonawa, XXXVI 218 15 12 55                        | 41                               |
| Marna " 57 43 29                                    | 1330                             | Anárkali, XXXVII 279 28 15 33                       | 42                               |
| Hope Town No. 3 " 110 12 21                         | 1337                             |                                                     |                                  |
| Hope Town No. 2 " 133 50 59                         | 1303                             | <b>Masurbio h.s.</b>                                |                                  |
| Hope Town No. 1 " 144 32 27                         | 1293                             | Iriarikot h.s. 0 34 58                              | 1028                             |
| Senchal No. 2 " 176 20 54                           | 1301                             | Lankishun " 101 10 28                               | 1028                             |
| Sonada " 182 21 40                                  | 1339                             | Shaulkul " 120 47 36                                | 1070                             |
| Dow Hill " 323 20 25                                | 1338                             | Dhaj " 291 51 34                                    | 1029                             |
| Dhobijhora " 344 43 37                              |                                  | Kamroli h.s. 306 20 23                              | 1030                             |
| <b>Margaret's Hope No. 2 h.s.</b>                   |                                  | <b>Matarkhani h.s.</b>                              |                                  |
| Kurseong h.s. 1 44 24                               | 1341                             | Ránipokhri s. 63 46 9                               | 193                              |
| Margaret's Hope No. 1 " 209 18 59                   | 1342                             | Maidan h.s. 130 35 44                               | 194                              |
| Dhobijhora " 318 4 47                               | 1341                             | Máikot " 139 20 42                                  | 193                              |
| <b>Marhal h.s.</b>                                  |                                  | <b>Mathia, LXV</b>                                  |                                  |
| Jalbali h.s. 8 44 54                                | 328                              | Morairi, LXIII 102 39 3 09                          | 71                               |
| Birbhaddar s. 55 42 3                               | 352                              | Chanda, LXIV 161 21 40 14                           | 71                               |
| Jámankháta (new) h.s. 64 50 20                      | 351                              | Balua, LXVI 232 3 13 41                             | 72                               |
| Dhuru " 163 59 40                                   | 354                              | Upasai, LXVII 289 23 42 70                          | 73                               |
| Kuthal " 273 39 28                                  | 329                              |                                                     |                                  |
| Phaldakot " 331 23 51                               | 328                              | <b>Matiabánj h.s.</b>                               |                                  |
| Julendi " 350 14 14                                 | 359                              | Kauatek h.s. 62 17 57                               | 775                              |
| <b>Marma h.s.</b>                                   |                                  | Mahárudra " 116 9 29                                | 775                              |
| Hope Town No. 1 h.s. 214 47 25                      | 1331                             | Garaphor " 207 40 57                                | 776                              |
| Hope Town No. 3 " 216 54 35                         | 1336                             | Shiala No. 1 " 274 40 18                            | 777                              |
| Margaret's Hope No. 1 " 237 41 52                   | 1330                             | Shiala No. 2 " 275 2 19                             | 816                              |
| Kurseong " 298 12 13                                | 1330                             |                                                     |                                  |
| <b>Martoli h.s.</b>                                 |                                  | <b>Mattan Chena h.s.</b>                            |                                  |
| Mápa-ka-dhura Hill Mark 134 51 41                   | 1139                             | Silingdhár h.s. 45 19 10                            | 806                              |
| Pánchhu-ka-dhura h.s. 152 55 2                      | 1139                             | Chanoli " 60 10 28                                  | 814                              |
| Ránikot " 165 47 22                                 | 1143                             | Choursan No. 2 " 127 57 8                           | 806                              |
| Bampassia " 187 12 53                               | 1137                             | Arkholi No. 1 " 218 41 25                           | 809                              |
| Martoli s. 195 37 42                                | 1133                             |                                                     |                                  |
| Birjeganj h.s. 293 7 27                             | 1132                             | <b>Maurkot h.s.</b>                                 |                                  |
| Rálam " 296 45 6                                    | 1130                             | Paniagiri h.s. 23 32 0                              | 1014                             |
| Laspa " 346 33 46                                   | 1130                             | Kánádeo " 118 3 18                                  | 1014                             |
|                                                     |                                  | Nagarchula " 158 29 48                              | 1015                             |
|                                                     |                                  | Lujnidhura No. 2 " 173 3 58                         | 1022                             |
|                                                     |                                  | Tamli " 221 4 36                                    | 1019                             |
|                                                     |                                  |                                                     |                                  |
| <b>Martoli s.</b>                                   |                                  | <b>Menadugri h.s.</b>                               |                                  |
| Martoli h.s. 15 37 59                               | 1133                             | Pariapál h.s. 24 50 6                               | 933                              |
| Rálam " 320 2 16                                    | 1133                             | Kúdalpáta Hill Staff 173 6 0                        | 936                              |
| Birjeganj " 327 5 34                                | 1134                             | Ánádeh " 231 36 3                                   | 935                              |
|                                                     |                                  | Uniakarak " 278 28 0                                | 933                              |
|                                                     |                                  | Susála " 304 37 31                                  | 944                              |
| <b>Masaha, LXXXI</b>                                |                                  |                                                     |                                  |
| Rúpdi, LXXXIX 107 5 35 29                           | 87                               | <b>Merig h.s.</b>                                   |                                  |
| Dipáhi, LXXX 163 55 23 52                           | 87                               | Kurseong h.s. 286 51 45                             | 1336                             |
| Sinaria, LXXXII 220 44 51 96                        | 88                               | Phubsoring " 330 21 49                              | 1334                             |
| Amwa, LXXXIII 279 43 58 46                          | 89                               | Tingling " 349 48 33                                | 1334                             |

| Name of Station with Azimuths of surrounding Points                                                                                                                                 | No. of Triangle giving Distance              | Name of Station with Azimuths of surrounding Points                                                                                                                                         | No. of Triangle giving Distance               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>Merug La h.s.</b><br>Gyi-no chi h.s. 26 49 5<br>Seuchel La " 313 54 35                                                                                                           | 1505<br>1505                                 | <b>Mo Chu h.s.</b><br>Chamaigaon No. 2 h.s. 54 47 41<br>Chamaigaon No. 1 " 74 35 33<br>Tempu La " 78 47 51<br>Mo Chu " 337 15 2<br>Komai No. 2 h.s. 341 36 21<br>Komai No. 1 " 353 47 36    | 1423<br>1423<br>1424<br>1427<br>1428<br>1425  |
| <b>Miathamb h.s.</b><br>Khina h.s. 8 32 53<br>Pathar " 25 1 27<br>Larilek " 36 20 15<br>Ghanadhura " 83 37 30<br>Dhapiadhura " 128 20 11<br>Pokridhura " 327 29 8                   | 1062<br>1052<br>1053<br>1052<br>1058<br>1054 | <b>Mo Chu s.</b><br>Tempu La h.s. 138 37 9<br>Mo Chu " 157 15 58                                                                                                                            | 1427<br>1427                                  |
| <b>Mihunwala s.</b><br>Chuarpur No. 1 s. 61 1 45<br>Sidh Tiba h.s. 180 27 48<br>Ambari " 282 50 20                                                                                  | 142<br>141<br>141                            | <b>Mohankhal h.s.</b><br>Ringalbanj h.s. 119 44 21<br>Lohakhand " 125 32 8<br>Ragshi h.s. 197 16 1<br>Nagnath No. 2 h.s. 313 4 6                                                            | 513<br>515<br>513<br>514                      |
| <b>Milam No. 1 h.s.</b><br>Panchhu-ka-dhura h.s. 17 32 5<br>Shillong No. 1 " 204 49 9<br>Shillong No. 2 " 232 15 18<br>Sangong " 294 11 23<br>Bampassia " 333 11 43                 | 1140<br>1148<br>1149<br>1145<br>1140         | <b>Moila h.s.</b><br>Kandul Hill Temple h.s. 159 37 34<br>Sainj h.s. 169 51 52<br>*Kanui " 170 54 31<br>Chilar " 206 42 40<br>Dungri " 226 29 0<br>*Deoban " 295 32 59<br>*Naga " 343 14 18 | 259<br>244<br>241<br>243<br>242<br>240<br>240 |
| <b>Milam No. 2 h.s.</b><br>Milam s. 2 7 7<br>Mapa-ka-dhura Hill Mark 9 4 41<br>Panchhu-ka-dhura h.s. 24 49 16<br>Sangong " 268 51 28<br>Bampassia " 327 36 58<br>Raukot " 351 58 11 | 1146<br>1142<br>1141<br>1144<br>1141<br>1142 | <b>Moinam h.s.</b><br>Darjeeling Observatory h.s. 21 28 24<br>Tonglu " 42 52 15<br>Kinchipung " 46 36 40<br>Pemionchi Monastery " 77 33 8<br>Tendong " 354 23 9                             | 1438<br>1437<br>1447<br>1465<br>1437          |
| <b>Milam s.</b><br>Milam No. 2 h.s. 182 7 6<br>Sangong " 242 1 9<br>Raukot " 342 19 28                                                                                              | 1146<br>1146<br>1147                         | <b>Mongpu Rock h.s.</b><br>Sitong h.s. 8 3 47<br>Tukdah " 136 9 7<br>Seudim " 351 53 39                                                                                                     | 1366<br>1367<br>1366                          |
| <b>Minai, CV</b><br>Chuni, CVI 5 50 16 22<br>Diwanganj, CII 67 31 5 24<br>Baisi, CIV 125 7 34 87<br>Nirpur, CX 261 10 19 26<br>Ghiba, CIX 311 2 27 38                               | 111<br>111<br>116<br>118<br>112              | <b>Morairi, LXIII</b><br>Bagapur, LXI 95 23 2 80<br>Supur, LXII 160 32 52 48<br>Chanda, LXIV 223 17 30 70<br>Mathia, LXV 282 34 31 26                                                       | 69<br>69<br>70<br>71                          |
| <b>Mintidhar h.s.</b><br>Jhangach h.s. 19 23 57<br>Sindi " 241 27 25<br>Kankhwala " 296 28 4<br>Gurdhari " 315 1 18                                                                 | 371<br>374<br>372<br>371                     | <b>Morapur s.</b><br>Lohagarhi h.s. 167 8 0<br>Chenga " 210 0 17                                                                                                                            | 1313<br>1313                                  |
| <b>Mirzapur, XCIV</b><br>Bishanpur, XCIII 40 42 27 82<br>Narhar, XCII 94 26 40 50<br>Janjipati, XCVI 285 52 8 02<br>Barsam, XCV 347 35 59 23                                        | 100<br>100<br>102<br>101                     | <b>Motiana h.s.</b><br>Kahimat No. 1 h.s. 86 30 38<br>Kalamkot " 338 51 54                                                                                                                  | 711<br>711                                    |

\* These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Motiapathar h.s.</b>                             |                                 | <b>Muttrapuri h.s.</b>                              |                                 |
| Deothal h.s. 25 43 23                               | 644                             | Rariabunga h.s. 12 31 6                             | 763                             |
| Muktisar " 100 28 15                                | 645                             | Gwaldekot " 16 14 27                                | 859                             |
| Gurudeodhura " 338 37 28                            | 644                             | Sungarkhál " 44 50 51                               | 857                             |
| Sekadánda " 348 34 8                                | 749                             | Bandani " 89 59 21                                  | 762                             |
|                                                     |                                 | Jagesar h.s. 201 13 3                               | 762                             |
|                                                     |                                 | Balkot h.s. 266 44 14                               | 765                             |
|                                                     |                                 | Mulákot " 317 49 30                                 | 764                             |
| <b>Motichúr s.</b>                                  |                                 | †Nága h.s.                                          |                                 |
| *Chándipahár, LIV h.s. 15 42 39                     | 349                             | Moila h.s. 163 16 8                                 | 240                             |
| †Sonárkoti h.s. 56 35 56                            | 349                             | Lisani " 168 40 36                                  | 229                             |
|                                                     |                                 | Chaudeshwar " 171 8 17                              | 231                             |
|                                                     |                                 | Koruwa Bungalow " 187 36 43                         | 227                             |
| <b>Muktisar h.s.</b>                                |                                 | ‡Deoban " 188 18 0                                  | 211                             |
| Gagar h.s. 52 11 17                                 | 646                             | Chilmeri (new) " 208 12 8                           | 212                             |
| Pathargarhi " 88 30 30                              | 647                             | Hain " 232 18 43                                    | 210                             |
| Motiapathar " 280 25 20                             | 645                             | Tharona " 236 53 19                                 | 214                             |
| Sekadánda " 307 40 39                               | 749                             | Mákháta Bungalow " 249 28 23                        | 225                             |
| Deothal " 343 6 12                                  | 645                             | Silgur " 269 11 48                                  | 209                             |
|                                                     |                                 | Pir Deota Hill Temple 274 34 4                      | 222                             |
|                                                     |                                 | Kailu Deota Hill Temple 275 41 11                   | 223                             |
|                                                     |                                 | Badráj Devi Hill Temple 321 6 31                    | 219                             |
|                                                     |                                 | Rantumma " 339 23 26                                | 200                             |
| <b>Mulákot h.s.</b>                                 |                                 | <b>Naga h.s.</b>                                    |                                 |
| Páti h.s. 3 47 38                                   | 851                             | Nilang No. 1 h.s. 60 21 10                          | 490                             |
| Macháli " 28 38 43                                  | 842                             | Nilang No. 2 " 95 41 11                             | 490                             |
| Rariabunga " 95 7 17                                | 764                             | Jadhang " 164 19 19                                 | 491                             |
| Gwaldekot " 124 37 52                               | 859                             | Souam " 197 13 6                                    | 492                             |
| Muttrapuri " 137 52 47                              | 764                             | Ku " 260 7 27                                       | 495                             |
| Balkot " 180 57 0                                   | 765                             |                                                     |                                 |
| Bariar " 222 16 44                                  | 863                             |                                                     |                                 |
| Papoli " 223 14 56                                  | 861                             |                                                     |                                 |
| Jhum h.s. 277 1 59                                  | 766                             |                                                     |                                 |
| Bhabalta h.s. 285 47 23                             | 849                             |                                                     |                                 |
| Narsing-ka-dánda " 335 1 24                         | 782                             |                                                     |                                 |
| <b>Mundhura No. 1 h.s.</b>                          |                                 | <b>Nagarchula h.s.</b>                              |                                 |
| Tána h.s. 116 23 33                                 | 1096                            | Thúladánda h.s. 2 42 18                             | 1024                            |
| Balchandánda " 165 49 44                            | 1090                            | Kánádeo " 24 52 44                                  | 1012                            |
| Suwálekdhura " 267 43 24                            | 1089                            | Jhum h.s. 108 36 13                                 | 1012                            |
| Khaparchula " 312 6 56                              | 1089                            | Kandegaon h.s. 155 58 11                            | 1025                            |
|                                                     |                                 | Thákil " 182 15 10                                  | 1019                            |
|                                                     |                                 | Deuli " 215 39 51                                   | 1041                            |
|                                                     |                                 | Dhian " 223 15 44                                   | 1045                            |
|                                                     |                                 | Kálimat No. 4 " 223 32 26                           | 1021                            |
|                                                     |                                 | Tamli " 318 5 0                                     | 1018                            |
|                                                     |                                 | Lujnidhura No. 1 " 327 18 29                        | 1017                            |
|                                                     |                                 | Maurkot " 338 27 59                                 | 1015                            |
| <b>Mundhura No. 2 h.s.</b>                          |                                 | <b>Nagnáth No. 1 h.s.</b>                           |                                 |
| Balchandánda h.s. 164 44 20                         | 1092                            | Kankhul h.s. 1 25 57                                | 547                             |
| Suwálekdhura " 267 56 54                            | 1091                            | Khal-ka-dánda " 119 15 5                            | 446                             |
| Khaparchula " 312 35 47                             | 1091                            | Tungnáth " 154 1 11                                 | 441                             |
|                                                     |                                 | Neolpanga " 236 12 25                               | 445                             |
|                                                     |                                 | Ramchana " 248 15 16                                | 443                             |
|                                                     |                                 | Nagnáth No. 8 " 285 59 33                           | 546                             |
|                                                     |                                 | Deangan " 294 1 49                                  | 443                             |
|                                                     |                                 | Kandára " 337 9 27                                  | 530                             |
| <b>Musaldanga, CXV</b>                              |                                 | <b>Nagnáth No. 2 h.s.</b>                           |                                 |
| Banghora, CXIII 91 34 59 01                         | 123                             | Ranoun h.s. 41 4 11                                 | 525                             |
| Dipnagar, CXIV 147 39 11 86                         | 123                             | Chutwapipal " 43 16 15                              | 527                             |
| Lachmipur, CXVI 210 30 15 32                        | 124                             |                                                     |                                 |
| Tagria, CXVII 269 5 26 29                           | 125                             |                                                     |                                 |
| <b>Músápáni h.s.</b>                                |                                 |                                                     |                                 |
| Soagpa h.s. 183 31 34                               | 940                             |                                                     |                                 |
| Bázkúli " 199 23 47                                 | 942                             |                                                     |                                 |
| Chára " 242 15 30                                   | 939                             |                                                     |                                 |
| Ánádeb " 297 52 9                                   | 939                             |                                                     |                                 |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30°.

† This station is identical with Sunárkoti h.s. of the Great Arc Meridional Series—Section 24°-30°.

‡ These stations appertain to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Nagnáth No. 2 h.s.—(Contd.)</b> ° ' "            |                                 | <b>Nainidevi No. 3 h.s.</b> ° ' "                   |                                 |
| Gwanagarh h.s. 44 45 59                             | 486                             | Ringalbanj h.s. 150 13 4                            | 524                             |
| Chilarimar h.s. 91 27 2                             | 528                             | Khatersami Hill Mark 219 40 32                      | 523                             |
| Nainidevi No. 1 " 100 1 43                          | 485                             | Nainidevi No. 1 " 276 4 17                          | 523                             |
| Khatersami " 118 5 16                               | 520                             |                                                     |                                 |
| Khatersami Hill Mark " 122 28 19                    | 517                             |                                                     |                                 |
| Mohankhál " 133 6 13                                | 514                             |                                                     |                                 |
| Ragsi h.s. 161 54 42                                | 485                             | <b>Naini Tál Lake h.s.</b>                          |                                 |
|                                                     |                                 | Chinar h.s. 141 26 18                               | 746                             |
|                                                     |                                 | Sher-ka-dánda " 205 18 21                           | 746                             |
| <b>Nagnáth No. 3 h.s.</b>                           |                                 | <b>Naithána h.s.</b>                                |                                 |
| Nagnáth No. 1 h.s. 106 0 16                         | 546                             | Naogarh h.s. 97 55 24                               | 380                             |
| Neolpanga " 219 16 25                               | 546                             | Pali " 149 29 28                                    | 386                             |
|                                                     |                                 | Bangarni " 155 41 14                                | 384                             |
| <b>Nágsidh h.s.</b>                                 |                                 | Ránigarh, II 205 47 7                               | 380                             |
| Doiwála, LV* 25 16 1                                | 149                             | Kimna " 254 54 37                                   | 382                             |
| Dehra Dún s. 152 16 1                               | 152                             | Pansukhál " 277 22 32                               | 381                             |
| Nálapáni h.s. 179 10 58                             | 151                             |                                                     |                                 |
| Kálimatti " 232 38 5                                | 150                             | <b>Nálapáni h.s.</b>                                |                                 |
| Maidan " 255 32 55                                  | 195                             | Dehra Dún s. 80 32 53                               | 152                             |
| Máلكot " 263 14 38                                  | 191                             | Dehra Dún Mission School 82 4 13                    | 173                             |
| Bhogpur Mark 279 58 17                              | 195                             | Dehra Dún Church 108 37 16                          | 172                             |
| Ráinipokhri s. 290 50 13                            | 149                             | Dehra Dún Magazine House 112 23 59                  | 175                             |
|                                                     |                                 | Angaíta No. 1 h.s. 129 57 38                        | 172                             |
| <b>Nag Tiba h.s.</b>                                |                                 | Angaíta No. 2 " 133 26 22                           | 173                             |
| Banog, (X)† 47 20 35.1                              | 275                             | Dehra Dún, Body-guard Temple 141 8 0                | 178                             |
| Bajansura h.s. 129 27 11.6                          | 276                             | Rájpur " 170 51 25                                  | 153                             |
| Buhak " 201 14 14.7                                 | 277                             | Timli " 215 34 49                                   | 181                             |
| *Sirkanda H.S. (new) 325 47 4.5                     | 275                             | Kálimatti " 306 33 38                               | 151                             |
|                                                     |                                 | Nágsidh " 359 10 55                                 | 151                             |
| <b>Naichu-ka-dhura h.s.</b>                         |                                 | <b>Nandatopa h.s.</b>                               |                                 |
| Birjeganj h.s. 4 5 56                               | 1135                            | Saitangarhi h.s. 16 44 6                            | 471                             |
| Laspa " 16 12 45                                    | 1136                            | Devitonk h.s. 83 10 31                              | 471                             |
| Bálam " 347 41 35                                   | 1135                            | Panjikhál h.s. 138 38 56                            | 572                             |
|                                                     |                                 | Kainur " 146 43 59                                  | 561                             |
| <b>Nainidevi No. 1 h.s.</b>                         |                                 | Panjing " 147 11 30                                 | 574                             |
| Gandkhola h.s. 45 42 59                             | 487                             | Kanokhál " 189 54 26                                | 573                             |
| Sitaragarh " 72 48 29                               | 512                             | Ríngoni " 253 38 7                                  | 473                             |
| Nainidevi No. 3 " 96 5 6                            | 523                             | Jaorasi No. 1 " 309 5 26                            | 472                             |
| Ringalbanj " 142 41 5                               | 484                             | Mahargaon " 313 14 48                               | 565                             |
| Lohakhand " 156 12 23                               | 516                             | Gaibantni " 342 38 10                               | 578                             |
| Khatersami Hill Mark " 193 39 55                    | 518                             |                                                     |                                 |
| Khatersami " 207 52 30                              | 520                             |                                                     |                                 |
| Ragsi h.s. 213 24 40                                | 484                             | <b>Naogarh h.s.</b>                                 |                                 |
| Nagnáth No. 2 h.s. 279 57 55                        | 485                             | Dhunga h.s. 49 14 37                                | 326                             |
| Chilarimar " 297 35 0                               | 529                             | Naugaon No. 1 " 78 17 53                            | 325                             |
| Ranoun " 304 54 13                                  | 525                             | Dhari " 98 49 59                                    | 332                             |
| Chutwapipal " 317 52 16                             | 526                             | Phaldakot " 99 7 37                                 | 325                             |
| Nainidevi No. 2 " 323 13 27                         | 521                             | Deoprayág " 195 20 8                                | 379                             |
| Gwanagarh h.s. 359 31 8                             | 486                             | Jhangarh " 218 37 44                                | 362                             |
|                                                     |                                 | Pali " 219 42 39                                    | 386                             |
| <b>Nainidevi No. 2 h.s.</b>                         |                                 | Ránigarh, II 250 29 35                              | 362                             |
| Sitaragarh h.s. 81 25 26                            | 521                             | Pansukhál " 277 39 28                               | 378                             |
| Nainidevi No. 1 " 143 13 45                         | 521                             | Naithána " 277 51 50                                | 380                             |
| Khatersami " 190 4 29                               | 522                             |                                                     |                                 |

\* These stations appertain to the Great Arc Meridional Series—Section 24°-30°.

† This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Naonangarhi, LXXI</b>                            |                                 | <b>Naurangia h.s.</b>                               |                                 |
| Bakwa, LXIX                                         | o ' "                           | Balua, LXVI                                         | o ' "                           |
| Rámnagar, LXX                                       | 107 52 50.12                    | Tribeni                                             | h.s. 12 47 51                   |
| Chandktigar Hill Mark (helio.)                      | 159 16 12.28                    | H 13 Peak                                           | 83 7 44                         |
| Tarharwa, LXXII                                     | 189 43 52                       | Deochili Peak                                       | 148 27 51                       |
| Sathwaria, LXXIII                                   | 221 1 37.43                     | Someshwar Fort                                      | 198 30 58                       |
|                                                     | 281 21 7.17                     | Bájra, LXVIII                                       | " 286 19 52                     |
|                                                     |                                 |                                                     | 342 33 46                       |
| <b>Narainpur s.</b>                                 |                                 | <b>Neolpanga h.s.</b>                               |                                 |
| Sohoria                                             | s. 139 17 38                    | Nagnáth                                             | No. 3 h.s. 39 17 39             |
| Madho Mark                                          | 176 26 7                        | Nagnáth                                             | No. 1 " 56 14 22                |
| Barar                                               | h.s. 246 32 18                  | Khal-ka-dánda                                       | " 68 26 20                      |
| Pipra                                               | s. 328 6 31                     | Deodekni                                            | " 93 36 11                      |
|                                                     |                                 | Ramchana                                            | " 203 33 12                     |
| <b>Narhar, XCII</b>                                 |                                 | <b>Newáda, XL</b>                                   |                                 |
| Chandarsanpur, XCI                                  | 35 12 36.23                     | Tilaktpur, XXXIX                                    | 45 7 58.07                      |
| Jarol, XC                                           | 85 0 7.62                       | Dadaura, XXXVIII                                    | 108 5 10.73                     |
| Mirzapur, XCIV                                      | 274 22 0.33                     | Manichauk, XLII                                     | 228 10 27.53                    |
| Bishanpur, XCIII                                    | 345 21 2.08                     | Isrápur, XLI                                        | 349 10 29.14                    |
| <b>Narsing-ka-dánda h.s.</b>                        |                                 | <b>Newáni, CXXVI</b>                                |                                 |
| Ládhaundhura                                        | h.s. 8 19 31                    | Chotáki, CXXV                                       | 55 39 45.58                     |
| Sidh-ka-dhura                                       | " 30 16 7                       | Rámganj, CXXII                                      | 105 28 33.54                    |
| Macháli                                             | " 93 57 19                      | Kanchabári, CXXIV                                   | 164 2 5.17                      |
| Páti                                                | " 136 51 49                     |                                                     |                                 |
| Mulákot                                             | " 155 2 56                      | <b>Nil h.s.</b>                                     |                                 |
| Jhum                                                | H.S. 226 43 57                  | Kálimat                                             | No. 4 h.s. 59 21 15             |
| Bhabalta                                            | h.s. 238 3 57                   | Lujnidhura                                          | No. 1 " 353 28 43               |
| Kúnádeo                                             | " 285 15 19                     |                                                     |                                 |
| Lauuchaura                                          | " 305 21 45                     | <b>Nilang No. 1 h.s.</b>                            |                                 |
| Garaphor                                            | " 323 16 5                      | †Khargu                                             | h.s. 65 25 42                   |
|                                                     |                                 | ‡Snowy Peak R.                                      | 111 18 22                       |
| <b>Nauáli h.s.</b>                                  |                                 | Nilang                                              | No. 2 " 187 17 24               |
| Dankarak                                            | h.s. 46 46 20                   | Naga                                                | " 240 17 48                     |
| Badhangarhi                                         | " 64 58 11                      |                                                     |                                 |
| Chorkharak                                          | " 102 49 24                     | <b>Nilang No. 2 h.s.</b>                            |                                 |
| Talanti                                             | " 137 1 32                      | Nilang                                              | No. 1 h.s. 7 17 41              |
| Khabakhál                                           | " 142 50 10                     | ‡Snowy Peak R.                                      | 61 11 52                        |
| Balán                                               | " 233 24 0                      | Jadhang                                             | " 222 21 7                      |
| Shikáni                                             | H.S. 291 46 52                  | Sonam                                               | " 235 4 54                      |
| Panothal                                            | h.s. 332 20 48                  | Naga                                                | " 275 38 6                      |
| <b>Naugaon No. 1 h.s.</b>                           |                                 | <b>Nim No. 1 h.s.</b>                               |                                 |
| Ghugtigarh                                          | h.s. 47 37 30                   | Nim                                                 | No. 2 h.s. 117 37 31            |
| Kúgra                                               | " 55 44 32                      | Samsingam Hill Mark                                 | 238 28 34                       |
| Chándipahár, LIV*                                   | " 69 43 12                      | Daling Fort                                         | " 262 17 40                     |
| Phaldakot                                           | " 174 55 38                     | Daling                                              | " 298 46 17                     |
| Nogarh                                              | " 258 12 30                     | Peshagam Hill Mark                                  | 302 26 59                       |
| Dhunga                                              | " 292 1 48                      |                                                     |                                 |
| Bínak                                               | " 317 43 38                     | <b>Nim No. 2 h.s.</b>                               |                                 |
| Mábegarh, I                                         | 330 3 21                        | Samsingam Hill Mark                                 | h.s. 254 32 52                  |
| Jaspalgarh                                          | " 343 27 41                     | Daling Fort                                         | h.s. 269 1 41                   |
|                                                     |                                 | Nim                                                 | No. 1 " 297 37 20               |
| <b>Naugaon No. 2 h.s.</b>                           |                                 |                                                     |                                 |
| Bánskhera                                           | No. 2 s. 23 0 30                |                                                     |                                 |
| Bánskhera                                           | No. 1 " 43 51 14                |                                                     |                                 |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30'.

† This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

‡ This peak is identical with Bhágrathi-Baspa Watershed No. 7 of the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Nimju h.s.</b>                                   |                                 | <b>Nisania h.s.</b>                                 |                                 |
| Pumongzong                                          | h.s. 41 15 40                   | 1395 Adgaon                                         | h.s. 45 31 57                   |
| Nimlu                                               | " 113 21 27                     | 1395 Jaorasi                                        | No. 2 " 58 29 39                |
| Daling Fort                                         | " 259 30 15                     | 1397 Jaorasi                                        | No. 1 " 58 31 38                |
|                                                     |                                 | Ringoni                                             | " 114 27 18                     |
|                                                     |                                 | Dudatoli                                            | " 127 15 51                     |
| <b>Nimkflu h.s.</b>                                 |                                 | Pajiana                                             | " 137 8 21                      |
| Saihur                                              | h.s. 66 2 36                    | Suilidanda                                          | " 156 16 39                     |
| Deolo                                               | " 98 33 38                      | Kankra                                              | No. 2 " 178 54 56               |
| Chumsering                                          | " 152 22 50                     | 1430 Kankra                                         | No. 1 h.s. 182 57 20            |
|                                                     |                                 | 1431 Debara                                         | h.s. 235 29 44                  |
|                                                     |                                 | Maubhodevi                                          | " 346 46 47                     |
| <b>Nimlu h.s.</b>                                   |                                 |                                                     |                                 |
| Lethi River                                         | s. 7 34 0                       | 1388                                                |                                 |
| Pumongzong                                          | h.s. 21 59 29                   | 1381                                                |                                 |
| Bhir                                                | " 26 12 20                      | 1388                                                |                                 |
| Singea                                              | " 39 12 30                      | 1418                                                |                                 |
| Deotharim                                           | " 53 24 42                      | 1422                                                |                                 |
| Longsol                                             | " 53 41 4                       | 1407                                                |                                 |
| Songchonglu                                         | " 75 52 45                      | 1378                                                |                                 |
| Pongril Lower                                       | " 110 33 18                     | 1412                                                |                                 |
| Pongril Upper                                       | " 115 0 36                      | 1408                                                |                                 |
| Deolo                                               | " 117 24 7                      | 1379                                                |                                 |
| Saihur                                              | " 121 12 22                     | 1378                                                |                                 |
| Nok                                                 | " 131 38 21                     | 1407                                                |                                 |
| Khampung                                            | " 179 23 40                     | 1479                                                |                                 |
| Pankasari                                           | " 211 7 13                      | 1494                                                |                                 |
| Sihbong                                             | " 211 53 21                     | 1405                                                |                                 |
| Sathi La                                            | " 217 29 24                     | 1480                                                |                                 |
| Chamaigaon                                          | No. 1 " 271 4 54                | 1415                                                |                                 |
| Daling Fort                                         | " 271 33 17                     | 1396                                                |                                 |
| Chamaigaon                                          | No. 2 " 286 0 21                | 1417                                                |                                 |
| Daling                                              | " 290 23 37                     | 1398                                                |                                 |
| Nimju                                               | " 293 20 56                     | 1395                                                |                                 |
| Gorubathán                                          | " 313 44 33                     | 1414                                                |                                 |
| Lethidhár                                           | " 352 51 28                     | 1386                                                |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Nimidhár h.s.</b>                                |                                 | <b>Nisu h.s.</b>                                    |                                 |
| Sikalnág                                            | h.s. 219 41 32                  | 1208 Chachaila                                      | h.s. 190 6 17                   |
| Gwáldam                                             | No. 3 " 250 30 35               | 1208 Doti                                           | " 303 47 21                     |
| Gwáldam                                             | No. 2 " 320 5 55                |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Nirpánia No. 1 h.s.</b>                          |                                 | <b>Niti No. 1 h.s.</b>                              |                                 |
| Sumdhár                                             | h.s. 68 54 31                   | 980 Ganeshganga                                     | h.s. 2 31 28                    |
| Barbalek                                            | " 113 15 30                     | 980 Kiunglung                                       | " 42 20 34                      |
| Nirpánia                                            | No. 2 " 164 4 5                 | 987 Niti                                            | No. 3 " 322 14 58               |
| Elpadhura                                           | " 218 53 43                     | 981 Niti                                            | No. 2 " 324 12 24               |
| Shialek                                             | " 226 9 38                      |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Nirpánia No. 2 h.s.</b>                          |                                 | <b>Niti No. 2 h.s.</b>                              |                                 |
| Sumdhár                                             | h.s. 37 13 2                    | 981 Kiunglung                                       | h.s. 62 46 51                   |
| Barbalek                                            | " 92 27 8                       | 981 Niti                                            | No. 1 " 144 12 39               |
| Shialek                                             | " 239 0 26                      |                                                     |                                 |
| Nirpánia                                            | No. 1 " 344 3 49                |                                                     |                                 |
|                                                     |                                 |                                                     |                                 |
| <b>Nirpur, CX</b>                                   |                                 | <b>Niti No. 3 h.s.</b>                              |                                 |
| Ghibu, CIX                                          | 20 8 53.00                      | 987 Kiunglung                                       | h.s. 62 23 14                   |
| Minai, CV                                           | 81 15 22.40                     | 987 Niti                                            | No. 1 " 142 15 14               |
| Kamaldaha, CXII                                     | 275 0 5.12                      |                                                     |                                 |
| Mánikpur, CXI                                       | 331 16 40.45                    |                                                     |                                 |
|                                                     |                                 | <b>Nok h.s.</b>                                     |                                 |
|                                                     |                                 | 1407 Longsol                                        | h.s. 6 22 37                    |
|                                                     |                                 | 1409 Pongril Upper                                  | " 52 55 7                       |
|                                                     |                                 | 1407 Nimlu                                          | " 311 37 53                     |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Nuksarbári s.</b>                                |                                 |
|                                                     |                                 | 1317 Tingling                                       | h.s. 179 55 35                  |
|                                                     |                                 | 1317 Selim                                          | " 212 28 7                      |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Olkúgri h.s.</b>                                 |                                 |
|                                                     |                                 | 708 Pathargarhi                                     | h.s. 64 34 0                    |
|                                                     |                                 | 707 Siahi Devi                                      | " 145 15 24                     |
|                                                     |                                 | 707 Gaia                                            | " 178 25 30                     |
|                                                     |                                 | 709 Kalamkot                                        | " 215 17 36                     |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Pagriangbong h.s.</b>                            |                                 |
|                                                     |                                 | 1421 Deotharim                                      | h.s. 216 6 11                   |
|                                                     |                                 | 1420 Singea                                         | " 259 37 30                     |
|                                                     |                                 | 1420 Pumongzong                                     | " 339 37 12                     |

| Name of Station with Azimuths of surrounding Points | No. of<br>Triangles giving<br>Distance | Name of Station with Azimuths of surrounding Points | No. of<br>Triangles giving<br>Distance |
|-----------------------------------------------------|----------------------------------------|-----------------------------------------------------|----------------------------------------|
| <b>Pajiana h.s.</b>                                 |                                        | <b>Panjing h.s.—(Contd.)</b>                        |                                        |
| Sulidanda h.s. 202 41 21                            | 603                                    | Piplimath h.s. 97 27 38                             | 476                                    |
| Nisania " 317 4 40                                  | 602                                    | Banjktov " 184 28 24                                | 477                                    |
| Manbhodevi " 327 4 15                               | 602                                    | Kanokhál " 317 38 54                                | 574                                    |
|                                                     |                                        | Nandatopa " 327 9 22                                | 574                                    |
|                                                     |                                        | Kainur " 327 46 32                                  | 562                                    |
| <b>Pali h.s.</b>                                    |                                        | <b>Pankasari h.s.</b>                               |                                        |
| Naogarh h.s. 39 44 34                               | 386                                    | Nimlu h.s. 31 8 24                                  | 1494                                   |
| Jhangarh " 217 10 36                                | 385                                    | Khampung " 106 22 9                                 | 1494                                   |
| Devidat " 253 57 57                                 | 385                                    | Sathi La " 225 53 24                                | 1495                                   |
| Naithána " 329 27 49                                | 386                                    |                                                     |                                        |
| <b>Palikhet h.s.</b>                                |                                        | <b>Panothal h.s.</b>                                |                                        |
| Saonchália, VI h.s. 7 27 47                         | 618                                    | Dankarak h.s. 91 10 3                               | 914                                    |
| Gungináth " 33 10 33                                | 623                                    | Nauáli " 152 22 3                                   | 914                                    |
| Bialakhan " 73 26 57                                | 623                                    | Dhiola " 224 58 10                                  | 917                                    |
| Dang No. 1 " 99 4 59                                | 461                                    | Shikáni h.s. 257 28 11                              | 915                                    |
| Kapoli " 168 54 9                                   | 461                                    |                                                     |                                        |
| Komalt " 203 23 38                                  | 601                                    | <b>Pansu h.s.</b>                                   |                                        |
| Pinkot " 211 47 58                                  | 462                                    | Airideo h.s. 173 13 36                              | 701                                    |
| Kanka " 298 28 10                                   | 618                                    | Shura " 211 7 51                                    | 705                                    |
| Devi-ka-bhawan " 311 12 19                          | 691                                    | Sonargarhi " 222 8 23                               | 703                                    |
|                                                     |                                        | Kálimat No. 1 " 266 6 49                            | 701                                    |
| <b>Pánchhu-ka-dhura h.s.</b>                        |                                        | Gaia " 345 54 49                                    | 702                                    |
| Milam No. 1 h.s. 197 31 28                          | 1140                                   |                                                     |                                        |
| Milam No. 2 " 204 48 38                             | 1141                                   | <b>Pansukhál h.s.</b>                               |                                        |
| Saugong " 232 56 15                                 | 1144                                   | Naithána h.s. 97 24 41                              | 851                                    |
| Bampassia " 290 44 4                                | 1139                                   | Naogarh " 97 45 11                                  | 378                                    |
| Martoli " 332 53 22                                 | 1139                                   | Bangarni " 121 49 0                                 | 393                                    |
|                                                     |                                        | Kimna " 148 11 7                                    | 382                                    |
| <b>Pandubri h.s.</b>                                |                                        | Ránigarh, II " 154 45 1                             | 378                                    |
| Banjktov h.s. 38 50 24                              | 559                                    |                                                     |                                        |
| Gwanagarh h.s. 107 40 9                             | 559                                    | <b>Pápi h.s.</b>                                    |                                        |
| Alimajari h.s. 296 50 26                            | 571                                    | Sikurkot h.s. 96 6 17                               | 886                                    |
| Dudatoli " 332 7 54                                 | 560                                    | Kokru-ka-dánda " 242 9 55                           | 886                                    |
|                                                     |                                        | Bágesar " 291 44 16                                 | 889                                    |
| <b>Paniam No. 1 h.s.</b>                            |                                        | Rupdeo " 335 30 26                                  | 887                                    |
| Bánskhara No. 1 s. 19 58 12                         | 820                                    |                                                     |                                        |
| Biloti h.s. 110 4 48                                | 640                                    | <b>Papoli h.s.</b>                                  |                                        |
| Ghuksa " 194 36 24                                  | 640                                    | Mulákot h.s. 43 17 37                               | 861                                    |
| Birond, VIII " 266 37 10                            | 641                                    | Bariar " 44 35 17                                   | 864                                    |
|                                                     |                                        | Balkot " 110 45 35                                  | 862                                    |
| <b>Paniam No. 2 h.s.</b>                            |                                        | Jhum h.s. 332 15 10                                 | 861                                    |
| Bhim Tál h.s. 149 21 53                             | 748                                    |                                                     |                                        |
| Ghuksa " 185 44 12                                  | 747                                    | <b>Paragawa, LII</b>                                |                                        |
| Birond, VIII " 259 25 27                            | 747                                    | Bankata, LI 34 7 54 14                              | 67                                     |
|                                                     |                                        | Pnthárdi, L 105 12 37 24                            | 67                                     |
| <b>Panjikhál h.s.</b>                               |                                        | Ghaus, LIV 286 13 1 62                              | 68                                     |
| Devitank h.s. 19 54 26                              | 572                                    | Bangra, LIII 336 54 24 98                           | 68                                     |
| Nandatopa h.s. 318 36 22                            | 572                                    |                                                     |                                        |
|                                                     |                                        | <b>Pargáwa, LXXXVIII</b>                            |                                        |
| <b>Panjing h.s.</b>                                 |                                        | Humaunpur, LXXXVII 58 2 26 42                       | 94                                     |
| Jiblikhál h.s. 2 45 57                              | 563                                    | Sondahi, LXXXVI 110 45 58 02                        | 94                                     |
| Devitank h.s. 23 34 53                              | 475                                    | Jarol, XC 291 22 33 00                              | 96                                     |
| Ameli No. 1 h.s. 62 31 48                           | 475                                    | Sháhpur, LXXXIX 354 45 32 83                        | 95                                     |



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Pariapál h.s.</b>                                |                                 | <b>Pathárdi, L</b>                                  |                                 |
| Menadugri h.s. 204 49 47                            | 933                             | Pipari, XLIX 32 14 58 11                            | 55                              |
| Anádeb " 220 38 22                                  | 934                             | Ganespur, XLVIII 103 47 30 77                       | 55                              |
| Uniakarak " 245 51 22                               | 932                             | Paragawa, LII 285 7 36 87                           | 57                              |
| Susila " 246 37 31                                  | 945                             | Bankata, LI 338 15 17 72                            | 56                              |
| Tykdhár " 328 49 9                                  | 931                             |                                                     |                                 |
| Lingara " 347 44 7                                  | 931                             |                                                     |                                 |
| <b>Parkot h.s.</b>                                  |                                 | <b>Pathargarhi h.s.</b>                             |                                 |
| Daj h.s. 215 13 51                                  | 877                             | Gagar h.s. 4 55 14                                  | 647                             |
| Hagdanu " 271 2 39                                  | 876                             | Binek " 78 48 13                                    | 615                             |
| Kokru-ka-dánda " 359 16 58                          | 876                             | Sera " 140 23 35                                    | 614                             |
|                                                     |                                 | Siahi Devi " 179 41 16                              | 613                             |
|                                                     |                                 | Gaia " 217 10 9                                     | 613                             |
|                                                     |                                 | Olkúgri " 244 32 12                                 | 708                             |
|                                                     |                                 | Muktisar " 268 27 54                                | 647                             |
| <b>Parsauni East s.</b>                             |                                 | <b>Páti h.s.</b>                                    |                                 |
| Kumkarna h.s. 128 22 51                             | 1257                            | Gadura h.s. 8 39 29                                 | 853                             |
| Katáha " 153 53 0                                   | 1257                            | Maeháli " 45 56 38                                  | 850                             |
| Bikna Thori s. 187 59 53                            | 1260                            | Mulákot " 183 47 32                                 | 851                             |
| Parsauni West " 227 3 49                            | 1259                            | Narsing-ka-dánda " 316 50 11                        | 850                             |
| <b>Parsauni West s.</b>                             |                                 | <b>Patildhura h.s.</b>                              |                                 |
| Parsauni East s. 79 34 44                           | 1259                            | Sukadhár h.s. 100 28 45                             | 1191                            |
| Kumkarna h.s. 136 7 4                               | 1258                            | Balsi No. 2 " 168 20 10                             | 1191                            |
| Katáha " 170 8 5                                    | 1258                            | Rekakota " 226 10 56                                | 1192                            |
| Bikna Thori s. 204 30 38                            | 1261                            |                                                     |                                 |
| <b>Partitnagar h.s.</b>                             |                                 | <b>Patori h.s.</b>                                  |                                 |
| Cháudipahár, LIV* 7 14 38                           | 202                             | Silong h.s. 56 42 18                                | 535                             |
| Bhingora s. 19 11 56                                | 203                             | Manil " 314 33 53                                   | 534                             |
| †Sonárkoti h.s. 34 28 29                            | 202                             | Kankra No. 1 h.s. 355 53 6                          | 534                             |
| <b>Pátálpáni h.s.</b>                               |                                 | <b>Patrání h.s.</b>                                 |                                 |
| Kharbasia No. 1 h.s. 15 58 22                       | 975                             | Bánskhera No. 2 s. 60 18 11                         | 821                             |
| Kharbasia No. 2 " 18 3 7                            | 974                             | Bánskhera No. 1 " 72 25 22                          | 819                             |
| Kiunglung " 178 36 57                               | 978                             | Biloti h.s. 118 57 35                               | 819                             |
| Ganeshganga " 230 1 36                              | 977                             | Ghuksa " 159 29 11                                  | 769                             |
| Dolu " 305 16 20                                    | 974                             | Birond " 190 14 7                                   | 828                             |
|                                                     |                                 | Birond, VIII " 209 1 56                             | 769                             |
|                                                     |                                 | Lobehula " 272 21 59                                | 770                             |
|                                                     |                                 | Chorgalia " 316 32 50                               | 771                             |
|                                                     |                                 | Chorgalia s. 346 15 56                              | 824                             |
| <b>Patari h.s.</b>                                  |                                 | <b>Paundala h.s.</b>                                |                                 |
| Vishnugarh h.s. 5 20 55                             | 928                             | Ringalbanj h.s. 16 3 54                             | 509                             |
| Lingara " 66 32 44                                  | 929                             | Páwálgarh " 157 54 59                               | 511                             |
| Tykdhár " 150 38 54                                 | 930                             | Kálásila " 235 55 9                                 | 508                             |
| Kundhár " 322 43 53                                 | 928                             | Ragshi h.s. 302 29 32                               | 508                             |
| Pándab Chauki Hill Staff 325 25 50                  | 949                             |                                                     |                                 |
| <b>Pathar h.s.</b>                                  |                                 | <b>Páwálgarh h.s.</b>                               |                                 |
| Lárilok h.s. 46 16 48                               | 1050                            | Ringalbanj h.s. 1 16 51                             | 1219                            |
| Jurung " 84 22 22                                   | 1050                            | Gaurikund Hill Staff 106 56 1                       | 1218                            |
| Ghanádhura " 136 16 9                               | 1051                            | Khamsintoli Hill Staff 221 59 30                    | 1217                            |
| Miathamb " 205 0 15                                 | 1052                            | Mandani " 250 38 37                                 | 530                             |
| Pokridhura " 238 45 57                              | 1054                            | Kálásila " 263 35 2                                 | 510                             |
|                                                     |                                 | Jangi No. 1 " 279 47 36                             | 530                             |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30°.

† This station is identical with Sunárkoti h.s. of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Páwálgarh h.s.—(Contd.)</b>                      |                                 | <b>Pilkhunta h.s.—(Contd.)</b>                      |                                 |
| Jangi No. 2 h.s. 286 11 19                          | 531                             | Argan h.s. 118 33 8                                 | 925                             |
| Ragshi H s. 310 41 36                               | 510                             | Vishnugarh „ 168 46 23                              | 926                             |
| Paundala h.s. 337 54 19                             | 511                             | Kundhár „ 198 55 8                                  | 927                             |
|                                                     |                                 | Chhatar „ 221 37 25                                 | 950                             |
|                                                     |                                 | Domban „ 268 10 4                                   | 951                             |
|                                                     |                                 | Jatropáni h.s. 359 27 58                            | 923                             |
| <b>Pembiringo h.s.</b>                              |                                 |                                                     |                                 |
| Chukarchi h.s. 148 42 19                            | 1506                            |                                                     |                                 |
| Gyi-mo-chi „ 350 13 3                               | 1506                            |                                                     |                                 |
| <b>Phaldakot h.s.</b>                               |                                 | <b>Pininág h.s.</b>                                 |                                 |
| Ghugtigarh h.s. 20 13 12                            | 324                             | Bashikanág h.s. 22 52 3                             | 878                             |
| Julendi „ 94 49 3                                   | 359                             | Gurana „ 64 58 38                                   | 873                             |
| Jalbali „ 111 23 14                                 | 327                             | Hagdaru „ 143 57 3                                  | 879                             |
| Marhal „ 151 24 53                                  | 328                             |                                                     |                                 |
| Kuthal „ 209 3 37                                   | 329                             | <b>Pinkot h.s.</b>                                  |                                 |
| Kund „ 260 40 58                                    | 357                             | Palikhet h.s. 31 50 19                              | 462                             |
| Naogarh „ 279 2 3                                   | 325                             | Kapoli „ 104 50 19                                  | 461                             |
| Dhari „ 279 12 27                                   | 330                             | Manbhodevi „ 178 29 9                               | 463                             |
| Dhunga „ 316 37 57                                  | 331                             | Bhadkot „ 216 56 3                                  | 605                             |
| Naugaon No. 1 „ 354 55 27                           | 324                             | Airideo „ 265 33 40                                 | 606                             |
|                                                     |                                 | Garril „ 298 27 52                                  | 700                             |
|                                                     |                                 | Lamdhar „ 311 15 41                                 | 607                             |
| <b>Phalluk La h.s.</b>                              |                                 |                                                     |                                 |
| Tonglu h.s. 6 33 19                                 | 1456                            | <b>Pipaltar h.s.</b>                                |                                 |
| Saudakphu No. 1 „ 43 21 10                          | 1456                            | Khaparchula h.s. 215 49 6                           | 1090                            |
| Phallut „ 95 54 58                                  | 1457                            | Hania-ka-dhura „ 260 11 39                          | 1099                            |
| <b>Phallut h.s.</b>                                 |                                 |                                                     |                                 |
| Saudakphu No. 1 h.s. 7 40 55                        | 1439                            | <b>Pipari, XLIX</b>                                 |                                 |
| Phalluk La „ 275 52 31                              | 1457                            | Majhawa, XLVII 107 18 35'59                         | 54                              |
| Darjeeling Observatory „ 305 50 43                  | 1440                            | Ganespur, XLVIII 163 9 34'20                        | 54                              |
| Tonglu „ 341 31 0                                   | 1439                            | Pathardi, L 212 12 24'99                            | 55                              |
|                                                     |                                 | Bankata, LI 286 56 44'55                            | 56                              |
| <b>Phansideva s.</b>                                |                                 | <b>Piparia, XIX</b>                                 |                                 |
| Tingling h.s. 149 49 5                              | 1316                            | Semrao, XVII 111 55 39'95                           | 24                              |
| Selun „ 170 40 55                                   | 1316                            | Udepur, XVIII 180 37 17'60                          | 24                              |
|                                                     |                                 | Sultánpur, XX 232 34 23'86                          | 25                              |
| <b>Phubsering h.s.</b>                              |                                 | Kará, XXI 298 10 27'52                              | 26                              |
| Lohagarhi h.s. 14 1 40                              | 1332                            |                                                     |                                 |
| Tingling „ 76 59 48                                 | 1332                            | <b>Piplimath h.s.</b>                               |                                 |
| Phugarhi „ 109 28 25                                | 1333                            | Ameli No. 1 h.s. 7 44 30                            | 476                             |
| Merig „ 150 22 32                                   | 1334                            | Ameli No. 2 „ 12 13 8                               | 552                             |
|                                                     |                                 | Manda „ 113 23 4                                    | 481                             |
| <b>Phugarhi h.s.</b>                                |                                 | Ulkagarh „ 145 41 20                                | 549                             |
| Senchal No. 2 h.s. 203 59 56                        | 1294                            | Gandkhola „ 174 43 18                               | 478                             |
| Margaret's Hope No. 1 „ 224 3 41                    | 1294                            | Gunadanda „ 188 54 26                               | 554                             |
| Kurseong „ 256 19 5                                 | 1295                            | Banjkot „ 237 40 57                                 | 477                             |
| Durbinjhora „ 278 42 19                             | 1305                            | Panjing „ 277 24 6                                  | 476                             |
| Phubsering „ 289 27 48                              | 1333                            |                                                     |                                 |
| Tingling „ 325 31 0                                 | 1296                            | <b>Pipra s.</b>                                     |                                 |
|                                                     |                                 | Narainpur s. 148 6 54                               | 1225                            |
| <b>Pilkhunta h.s.</b>                               |                                 | Madho Mark 168 27 24                                | 1228                            |
| Gwanagarh h.s. 60 30 4                              | 923                             | Barar h.s. 227 49 24                                | 1224                            |
| Kotidanda h.s. 62 59 58                             | 924                             | Kataia s. 339 2 27                                  | 1224                            |

| Name of Station with Azimuths of surrounding Points                                            | No. of Triangle giving Distance                                                                         | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                           |                                                                                                                      |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Pireh h.s.<br>Ghandial, LVI*<br>Sirkanda<br>† Adalākānta<br>Disone<br>Rāj Bonga<br>Rānigār, II | o ' "<br>24 22 18<br>H.S. (old) 83 36 16<br>h.s. 190 15 43<br>" 258 52 27<br>" 286 35 30<br>" 336 53 52 | 301<br>302<br>303<br>306<br>304<br>301              | Pularanda h.s.<br>Chauri Binak<br>Chotakāna<br>Kurkutidhār<br>Bunga                                                                                                                                                                                                                          | o ' "<br>h.s. 76 56 54<br>" 135 54 16<br>" 187 35 2<br>" 195 32 9                                                                                                                                                                         | 958<br>958<br>961<br>959                                                                                             |
| Pokridhura h.s.<br>Lārilak<br>Pathar<br>Khāna<br>Ghanādhura<br>Miathamb                        | h.s. 51 38 16<br>" 58 48 0<br>" 62 30 10<br>" 103 2 20<br>" 147 29 59                                   | 1055<br>1054<br>1062<br>1055<br>1054                | Pumongzong h.s.<br>Bhūr<br>Songchonglu<br>Saihur<br>Pagriangbong<br>Singsa<br>Nimlu<br>Nimju<br>Daling Fort<br>Chamaigaon<br>Daling<br>Chamaigaon<br>Gorubāthān<br>Lethidhār                                                                                                                 | h.s. 30 59 14<br>" 114 29 11<br>" 154 56 11<br>" 159 37 29<br>" 180 27 37<br>" 201 58 50<br>" 221 14 30<br>" 235 11 52<br>No. 1 " 240 16 41<br>" 242 38 28<br>No. 2 " 255 28 57<br>" 270 43 46<br>" 280 16 1                              | 1387<br>1380<br>1380<br>1420<br>1391<br>1381<br>1395<br>1396<br>1416<br>1399<br>1417<br>1413<br>1386                 |
| Pongmerong h.s.<br>Lampheran<br>Kangrang La<br>Dain La<br>Kabur                                | h.s. 41 55 33<br>" 99 17 0<br>" 125 51 21<br>" 189 30 29                                                | 1459<br>1459<br>1460<br>1461                        | Puniagiri h.s.<br>Mūlāsh-ka-lek Peak<br>Puniagiri Hill Mark<br>Banbasa Ghat Mark<br>Bāmāni Bāgh Mark<br>Barmdeo<br>Banera<br>Nagaon Nāth Mark<br>Chui<br>Bodliakharak<br>Shiala<br>Shiala<br>Garaphor<br>Kāmādeo<br>Mānarkot<br>Sirsagarh Peak<br>Baitlani Peak No. 1<br>Baitlani Peak No. 2 | 5 56 50<br>21 13 11<br>29 10 7<br>35 3 58<br>s. 41 4 42<br>" 46 31 10<br>" 47 33 15<br>" 48 45 50<br>h.s. 67 55 16<br>No. 2 " 81 28 15<br>No. 1 " 81 56 0<br>" 120 56 26<br>" 158 49 7<br>" 203 30 39<br>307 31 30<br>319 3 30<br>343 0 0 | 839<br>832<br>833<br>834<br>822<br>831<br>835<br>817<br>830<br>815<br>778<br>778<br>779<br>1014<br>836<br>837<br>838 |
| Pongril Lower h.s.<br>Nimlu<br>Longsol                                                         | h.s. 290 32 44<br>" 359 52 50                                                                           | 1412<br>1412                                        | Porchula h.s.<br>Deolkot<br>Dobadhār<br>Tomik<br>Golpha                                                                                                                                                                                                                                      | h.s. 145 8 41<br>" 180 32 46<br>" 218 55 14<br>s. 241 42 44                                                                                                                                                                               | 1121<br>1122<br>1121<br>1123                                                                                         |
| Pongril Upper h.s.<br>Piangling Hill Staff<br>Nok<br>Nimlu<br>Longsol                          | h.s. 50 33 4<br>232 54 57<br>" 294 59 58<br>" 354 23 43                                                 | 1436<br>1409<br>1408<br>1408                        | Punya h.s.<br>Balchandāna<br>Lahūrdhura<br>Rālam<br>Dhānsi<br>Athānsi<br>Hūm                                                                                                                                                                                                                 | h.s. 22 55 25<br>" 68 26 44<br>" 200 20 54<br>" 227 8 51<br>" 251 28 10<br>" 318 51 14                                                                                                                                                    | 1002<br>1071<br>1128<br>1111<br>1003<br>1002                                                                         |
| Porbhula h.s.<br>Deolkot<br>Dobadhār<br>Tomik<br>Golpha                                        | h.s. 145 8 41<br>" 180 32 46<br>" 218 55 14<br>s. 241 42 44                                             | 1121<br>1122<br>1121<br>1123                        | Pubong h.s.<br>Rāni Chuten<br>Tangsong<br>Kangbul<br>Duteria<br>Duteria                                                                                                                                                                                                                      | h.s. 18 48 38<br>" 266 22 2<br>" 268 49 3<br>No. 2 " 290 32 50<br>No. 1 " 302 22 21                                                                                                                                                       | 1328<br>1344<br>1326<br>1327<br>1326                                                                                 |
| Pulamsamda h.s.<br>Jadhāng<br>Thaga La<br>Thaga La<br>Tang Chok La<br>Sonān                    | h.s. 21 2 55<br>No. 2 " 192 27 57<br>No. 1 " 208 4 49<br>" 260 37 14<br>" 349 52 17                     | 496<br>500<br>498<br>497<br>496                     | Purenā, LV<br>Dharamsingua, LVI<br>Bangra, LIII<br>Ghaus, LIV<br>Bharmi, LVII<br>Saunbarsa, LIX<br>Gharbaria, LVIII                                                                                                                                                                          | 44 15 22.03<br>102 6 17.56<br>154 38 46.74<br>203 1 0.40<br>267 59 24.79<br>335 41 54.79                                                                                                                                                  | 63<br>60<br>60<br>61<br>62<br>64                                                                                     |

\* These stations appertain to the Great Arc Meridional Series—Section 24°-30°.  
† This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance | Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance |
|-----------------------------------------------------|---------------------------------------|-----------------------------------------------------|---------------------------------------|
| <b>Ragshi H.s.</b>                                  |                                       | <b>Ramchana h.s.—(Contd.)</b>                       |                                       |
| Gwanagarh H.s. 16 15 27° 0'                         | 287                                   | Dhangmalkund h.s. 323 34 7                          | 543                                   |
| Mohakhal h.s. 17 16 44                              | 513                                   | Airah " 343 2 18                                    | 541                                   |
| Nainidevi No. 1 " 33 27 4                           | 484                                   | Deangan " 357 9 24                                  | 442                                   |
| Khntersami Hill Mark 43 47 26                       | 517                                   |                                                     |                                       |
| Mamknath h.s. 79 59 13° 0'                          | 287                                   | <b>Rámganj, CXXII</b>                               |                                       |
| Dalsinga h.s. 85 43 24                              | 519                                   | Sonakhoda, CXXI 53 59 36° 11'                       | 130                                   |
| Lohakhand " 90 35 8                                 | 515                                   | Thakurganj, CXX 124 52 11° 27'                      | 130                                   |
| Ringalbanj " 94 10 56                               | 448                                   | Dumdangi, CXXIII 180 26 11° 00'                     | 134                                   |
| Paundala " 122 34 16                                | 508                                   | Kanchabari, CXXIV 218 52 6° 09'                     | 133                                   |
| Pawalgarh " 130 47 0                                | 510                                   | Newani, CXXVI 285 23 22° 83'                        | 132                                   |
| Kalasila " 161 14 4                                 | 449                                   | Chotaki, CXXV 343 11 44° 32'                        | 131                                   |
| Tingri " 181 35 11                                  | 504                                   |                                                     |                                       |
| Bisuri " 198 23 20                                  | 501                                   | <b>Rámkuta h.s.</b>                                 |                                       |
| Bhairkharak " 220 6 34                              | 507                                   | Langpiar h.s. 158 57 39                             | 965                                   |
| Tungnath " 230 22 58                                | 450                                   | Goting " 161 14 16                                  | 963                                   |
| Deodekni " 274 31 21                                | 451                                   | Bamlas No. 1 " 191 13 4                             | 967                                   |
| Jatropani h.s. 304 53 37° 5'                        | 288                                   | Dámjan " 221 41 51                                  | 964                                   |
| Nagnath No. 2 h.s. 341 53 18                        | 485                                   | Kurkutidhar " 322 28 37                             | 964                                   |
|                                                     |                                       |                                                     |                                       |
| <b>Ráj Bonga h.s.</b>                               |                                       | <b>Rámnapur, XXIV</b>                               |                                       |
| Lamkhal Hill Mark 1 38 42                           | 309                                   | Dahlelnagar, XXV 1 49 15° 36'                       | 30                                    |
| Ranigarh, II 20 2 6                                 | 304                                   | Kokra, XXIII 65 18 18° 07'                          | 29                                    |
| Pireh h.s. 106 44 39                                | 303                                   | Ramnapur, XXII 120 56 58° 64'                       | 29                                    |
| * Adalákanta " 146 15 34                            | 305                                   | Hilgi, XXVI 316 53 30° 74'                          | 31                                    |
| Bisone " 174 45 48                                  | 307                                   |                                                     |                                       |
| Dhuan " 303 11 17                                   | 307                                   |                                                     |                                       |
|                                                     |                                       | <b>Rámnapur, LXX</b>                                |                                       |
| <b>Rájpur h.s.</b>                                  |                                       | Bakwa, LXIX 49 42 26° 95'                           | 76                                    |
| Jogiwala House 6 47 39                              | 190                                   | Balua, LXVI 107 17 45                               | 1249                                  |
| Dehra Dún, Body-guard Temple 28 26 34               | 177                                   | Bajra, LXVIII 109 30 40° 35'                        | 76                                    |
| Dehra Dún s. 30 22 23                               | 153                                   | Deochili Peak 168 11 40                             | 1249                                  |
| Dehra Dún Base-line E. End, (IX)† 43 40 14          | 155                                   | Someshwar Fort h.s. 175 50 37                       | 1236                                  |
| Angaila No. 1 h.s. 76 17 20                         | 165                                   | Someshwar " 186 31 59                               | 1238                                  |
| Chuuki " 112 7 29                                   | 154                                   | Mandewa " 201 15 56                                 | 1250                                  |
| Satikadanda " 220 51 31                             | 187                                   | Kumkarna " 213 25 23                                | 1242                                  |
| Belkadanda " 251 8 45                               | 185                                   | Katáha " 227 55 2                                   | 1255                                  |
| Timli " 285 32 3                                    | 181                                   | Tarharwa, LXXII 286 48 48° 51'                      | 78                                    |
| Dwara " 325 19 32                                   | 183                                   | Naonangarhi, LXXI 339 14 17° 93'                    | 77                                    |
| Kalanga " 340 13 9                                  | 182                                   |                                                     |                                       |
| Nalápuni " 350 51 7                                 | 153                                   |                                                     |                                       |
|                                                     |                                       | <b>Rámnapur, CVII</b>                               |                                       |
| <b>Rálam h.s.</b>                                   |                                       | Latona, CIV 124 59 52° 23'                          | 113                                   |
| Punya h.s. 20 23 20                                 | 1128                                  | Chuni, CVI 187 15 59° 26'                           | 113                                   |
| Laspa " 57 27 5                                     | 1129                                  | Manúla, CVIII 252 28 44° 48'                        | 114                                   |
| Martoli " 116 47 1                                  | 1130                                  |                                                     |                                       |
| Birjeganj " 123 15 3                                | 1131                                  | <b>Rámnapur s.</b>                                  |                                       |
| Martoli s. 140 3 54                                 | 1133                                  | Chilkia s. 19 52 30                                 | 699                                   |
| Bampassia h.s. 155 2 8                              | 1137                                  | Sidhon-ka-thán h.s. 279 23 30                       | 688                                   |
| Naichu-ka-dhura " 167 42 6                          | 1135                                  |                                                     |                                       |
| Atháusi " 342 29 53                                 | 1128                                  |                                                     |                                       |
|                                                     |                                       | <b>Rámpur s.</b>                                    |                                       |
| <b>Ramchana h.s.</b>                                |                                       | Bhugani s. 241 7 32                                 | 146                                   |
| Nagnath No. 1 h.s. 68 19 4                          | 443                                   | Dhakrani " 269 4 53                                 | 146                                   |
| Neolpanga " 83 35 3                                 | 445                                   | Dhálipur " 308 22 3                                 | 157                                   |
| Tungnath " 106 21 22                                | 444                                   | Rámpur Mandi " 338 26 19                            | 153                                   |
| Ghuddhar " 283 16 48                                | 544                                   | Ansot, (XI)† 348 58 13                              | 147                                   |
| Banidhura " 295 54 14                               | 442                                   |                                                     |                                       |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

† These stations appertain to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Rámpur s.</b>                                    |                                 | <b>Ránigarh, II—(Contd.)</b>                        |                                 |
| Rasalday h.s. 151 19 37                             | 732                             | Jhangarh h.s. 150 54 36                             | 362                             |
| Badandhura " 216 41 13                              | 733                             | Pireh " 156 59 17                                   | 301                             |
| Bhiar " 246 9 36                                    | 732                             | Mániknáth h.s. 171 39 42·6                          | 282                             |
| <b>Rámpur Mandi s.</b>                              |                                 | Gurdhári h.s. 174 5 45                              | 366                             |
| Rámpur s. 158 26 27                                 | 159                             | Ráj Bonga " 199 58 22                               | 304                             |
| Dhálipur " 281 58 22                                | 159                             | Kankhwála " 201 41 0                                | 365                             |
| Amsot, (XI)* 350 43 14                              | 160                             | Dhano " 202 27 18                                   | 387                             |
| <b>Rámpurua s.</b>                                  |                                 | Devidat " 224 21 36                                 | 363                             |
| Thári s. 153 35 49                                  | 1234                            | Dhuan " 244 4 3                                     | 307                             |
| Baruamathi Hill Tree 226 6 9                        | 1233                            | Gwanagarh h.s. 245 37 2·6                           | 284                             |
| Madho Mark 263 13 46                                | 1232                            | Lamkhál Hill Mark 247 10 17                         | 310                             |
| Bawangarhi " 311 6 50                               | 1232                            | Manda h.s. 248 57 26                                | 483                             |
| <b>Ramri h.s.</b>                                   |                                 | Ameli No. 1 " 291 28 7                              | 483                             |
| Jamargadi h.s. 322 35 30                            | 418                             | Devitank h.s. 296 51 6·5                            | 285                             |
| Jamaugarh " 352 24 40                               | 418                             | Chándkot h.s. 324 46 27                             | 321                             |
| <b>Ramuapur, XXII</b>                               |                                 | Gungti, IV 329 33 36·72                             | 3                               |
| Kokra, XXIII 2 26 1·22                              | 28                              | Pansukhál " 334 43 53                               | 378                             |
| Karái, XXI 55 18 35·83                              | 27                              | <b>Ránikot h.s.</b>                                 |                                 |
| Sultánpur, XX 108 41 41·37                          | 27                              | Mápa-ka-dhura Hill Mark 20 11 1                     | 1142                            |
| Rámuagar, XXIV 300 51 59·18                         | 29                              | Milam s. 162 19 40                                  | 1147                            |
| <b>Rangbul h.s.</b>                                 |                                 | Milam No. 2 h.s. 171 58 22                          | 1142                            |
| Hope Town No. 1 h.s. 2 37 51                        | 1320                            | Martoli " 345 46 31                                 | 1143                            |
| Hope Town No. 2 " 7 13 32                           | 1321                            | <b>Ránipokhri s.</b>                                |                                 |
| Duteria No. 1 " 57 52 30                            | 1322                            | †Jámankhúta h.s. 13 11 12                           | 148                             |
| Ráni Chuten " 59 3 31                               | 1329                            | Doiwála, LV† 64 42 44                               | 148                             |
| Duteria No. 2 " 61 59 24                            | 1324                            | Nágsidh " 110 53 44                                 | 149                             |
| Pubong " 88 50 43                                   | 1326                            | Kálmatti " 156 30 42                                | 150                             |
| Tungsoog " 89 59 18                                 | 1343                            | Maidan " 177 56 6                                   | 192                             |
| Sonada " 334 38 44                                  | 1320                            | Máلكot " 200 44 20                                  | 191                             |
| <b>Rangit h.s.</b>                                  |                                 | Matarkhani " 243 44 33                              | 193                             |
| Darjeeling Observatory h.s. 45 20 16                | 1467                            | <b>Ranoun h.s.</b>                                  |                                 |
| Chukung " 124 44 27                                 | 1468                            | Chutwapipal h.s. 48 5 5                             | 526                             |
| Deolo " 274 36 53                                   | 1467                            | Nainidevi No. 1 " 124 56 57                         | 525                             |
| <b>Ráni Chuten h.s.</b>                             |                                 | Chidarimar " 129 37 24                              | 528                             |
| Pubong h.s. 198 48 13                               | 1328                            | Naguáth No. 2 " 221 3 7                             | 525                             |
| Rangbul " 239 1 26                                  | 1329                            | <b>Rantumma h.s.</b>                                |                                 |
| Duteria No. 1 " 239 51 24                           | 1328                            | Gúlarchat s. 49 47 10                               | 206                             |
| <b>Ránigarh, II</b>                                 |                                 | Sidh Tibá h.s. 72 17 38                             | 205                             |
| Naithána h.s. 25 48 8                               | 380                             | Jám " 112 19 33                                     | 207                             |
| Mábegarh, I " 49 49 20·07                           | 2                               | †Nága " 159 24 20                                   | 209                             |
| Bangarui " 68 54 32                                 | 383                             | Silgur " 211 22 24                                  | 208                             |
| Naogarh " 70 34 10                                  | 362                             | Sherpur " 359 25 54                                 | 205                             |
| Ghandiál h.s. 121 42 18·6                           | 281                             | <b>Raonsil h.s.</b>                                 |                                 |
| Ghandiál, LVI† 121 43 22·90                         | 2                               | Haldwáni s. 40 50 38                                | 717                             |
|                                                     |                                 | Haldwáni t.s. 45 40 30                              | 714                             |
|                                                     |                                 | Biloti h.s. 97 55 41                                | 714                             |
|                                                     |                                 | Bhím Tál " 154 56 38                                | 715                             |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.  
 † These stations appertain to the Great Arc Meridional Series—Section 24°-30°.  
 ‡ This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|--------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Rariabunga h.s.</b>                              |                                | <b>Ringalbanj h.s.—(Contd.)</b>                     |                                 |
| Sungarkhal h.s. 122 36 51                           | 857                            | Paundala h.s. 196 3 9                               | 500                             |
| Bandani " 138 0 7                                   | 763                            | Kálásila " 218 56 11                                | 449                             |
| Muttrapuri " 192 30 22                              | 763                            | Mudmaheshwar Hill Staff " 228 8 44                  | 1214                            |
| Mulákot " 275 3 16                                  | 764                            | Rngshi h.s. 274 5 27                                | 448                             |
|                                                     |                                | Mohankhal h.s. 299 39 35                            | 513                             |
| <b>Rasalday h.s.</b>                                |                                | Nainidevi No. 1 " 322 38 0                          | 484                             |
| Chinal h.s. 80 41 12                                | 690                            | Nainidevi No. 3 " 330 10 48                         | 524                             |
| Dhungalgarh " 118 10 30                             | 689                            | Gwanagarh h.s. 339 52 29                            | 448                             |
| Gujarkot-li-garh " 152 50 22                        | 689                            | Sitaragarh h.s. 357 4 11                            | 512                             |
| Rhiar " 306 33 2                                    | 732                            |                                                     |                                 |
| Rámpur s. 331 18 22                                 | 732                            |                                                     |                                 |
|                                                     |                                | <b>Ringoni h.s.</b>                                 |                                 |
| <b>Rekakota h.s.</b>                                |                                | Nandatopa h.s. 73 41 42                             | 473                             |
| Patildhura h.s. 46 13 50                            | 1192                           | Dudatoli " 157 50 38                                | 467                             |
| Sukadhár " 60 52 24                                 | 1180                           | Suilidánda " 209 6 5                                | 567                             |
| Balsi No. 2 " 102 6 25                              | 1190                           | Kankra No. 2 " 250 45 31                            | 583                             |
| Balsi No. 1 " 103 51 53                             | 1189                           | Nisania " 294 22 22                                 | 466                             |
| Barbnlek " 228 1 10                                 | 1193                           | Jaorai No. 1 " 349 18 0                             | 466                             |
| Sumdhár " 267 17 18                                 | 1194                           |                                                     |                                 |
|                                                     |                                | <b>Ringori h.s.</b>                                 |                                 |
| <b>Rhenok h.s.</b>                                  |                                | Kalajhuni h.s. 106 45 12                            | 427                             |
| Khampung h.s. 13 1 13                               | 1493                           | Ghungti, IV " 299 53 31                             | 427                             |
| Risum No. 1 " 36 56 14                              | 1489                           | Akali " 355 32 30                                   | 581                             |
| Damsong " 56 53 13                                  | 1492                           |                                                     |                                 |
| Padanglu Hill Mark " 56 55 13                       | 1491                           |                                                     |                                 |
| Chumsering " 57 32 40                               | 1489                           |                                                     |                                 |
| Lingpui Monastery " 172 48 2                        | 1510                           |                                                     |                                 |
| Lingtu " 231 55 18                                  | 1510                           |                                                     |                                 |
|                                                     |                                | <b>Rinkinpong h.s.</b>                              |                                 |
| <b>Rhiar h.s.</b>                                   |                                | Nazzeokh Hill Mark " 1 44 42                        | 1389                            |
| Knilakhur h.s. 49 38 9                              | 632                            | Deolo h.s. 216 2 14                                 | 1342                            |
| Rámpur s. 66 10 46                                  | 732                            | Chumsering " 228 32 22                              | 1488                            |
| Rasalday h.s. 126 35 27                             | 732                            | Risum No. 1 " 243 39 22                             | 1488                            |
| Gunginath " 147 22 8                                | 632                            | Sahur " 259 21 29                                   | 1383                            |
| Budandhura " 194 7 52                               | 649                            | Songchonglu " 295 10 10                             | 1382                            |
| Bodantoli " 244 18 17                               | 731                            | Yongri " 343 7 12                                   | 1384                            |
| Titkadánda " 279 32 42                              | 650                            |                                                     |                                 |
| Bijaon " 314 40 3                                   | 634                            |                                                     |                                 |
| Mudan Bhir No. 1 " 358 6 43                         | 633                            |                                                     |                                 |
| Kotah s. 359 51 14                                  | 730                            |                                                     |                                 |
|                                                     |                                | <b>Risum No. 1 h.s.</b>                             |                                 |
| <b>Richi La h.s.</b>                                |                                | Rinkinpong h.s. 63 43 12                            | 1488                            |
| Khampung h.s. 70 4 52                               | 1482                           | Deolo " 82 54 47                                    | 1487                            |
| Chumsering " 93 48 9                                | 1482                           | Padanglu Hill Mark " 140 22 21                      | 1490                            |
| Lingtu " 197 45 18                                  | 1485                           | Chumsering " 155 18 39                              | 1487                            |
| Gyi-mo-chi " 223 34 8                               | 1496                           | Damsong " 169 15 37                                 | 1492                            |
|                                                     |                                | Rhenok " 216 54 16                                  | 1489                            |
|                                                     |                                |                                                     |                                 |
| <b>Rinchinpong h.s.</b>                             |                                | <b>Risum No. 2 h.s.</b>                             |                                 |
| Darjeeling Observatory h.s. 0 33 0                  | 1446                           | Songchonglu h.s. 22 14 48                           | 1508                            |
| Moinam " 226 33 16                                  | 1447                           | Sathi La " 259 5 27                                 | 1508                            |
| Tendong " 280 32 12                                 | 1446                           | Khampung " 275 30 11                                | 1508                            |
|                                                     |                                |                                                     |                                 |
| <b>Ringalbanj h.s.</b>                              |                                | <b>Rúdarpur s.</b>                                  |                                 |
| Páwálgarh h.s. 181 16 46                            | 1219                           | Sidh Tibá h.s. 143 54 16                            | 140                             |
| Gaurikund Hill Staff 188 20 36                      | 1219                           | Ambári " 209 9 50                                   | 139                             |
|                                                     |                                | Súrna " 261 30 54                                   | 139                             |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Rupdeo h.s.</b>                                  |                                 | <b>Saitangarhi h.s.</b>                             |                                 |
| Binsar h.s. 10 46 20                                | 882                             | Khatidevitonk No. 1 h.s. 31 51 57                   | 470                             |
| Sikurkot " 136 43 30                                | 884                             | Jiblikhal " 54 23 4                                 | 564                             |
| Papi " 155 31 38                                    | 887                             | Devitonk h.s. 133 51 22                             | 470                             |
| Kokru-ka-danda " 175 33 36                          | 883                             | Kanokhal h.s. 195 21 39                             | 575                             |
| Gurana " 251 12 2                                   | 882                             | Nandatopa " 196 43 9                                | 471                             |
|                                                     |                                 | Gaibantni " 226 25 1                                | 577                             |
|                                                     |                                 | Choprakot " 229 24 31                               | 575                             |
|                                                     |                                 | Mahargaon " 256 59 29                               | 565                             |
| <b>Rupdi, LXXIX</b>                                 |                                 | Jaorasi No. 1 " 275 0 35                            | 472                             |
| Bigoin, LXXVII 124 36 0'22                          | 85                              | Gujarugarh " 350 28 47                              | 566                             |
| Batwaia, LXXVIII 176 4 5'13                         | 85                              |                                                     |                                 |
| Dipahi, LXXX 235 3 47'31                            | 86                              |                                                     |                                 |
| Masaha, LXXXI 287 0 45'30                           | 87                              | <b>Sakkatak h.s.</b>                                |                                 |
|                                                     |                                 | Tunglangpong Hill Mark 20 15 21                     | 1433                            |
|                                                     |                                 | Samsingam Hill Mark 198 22 14                       | 1402                            |
|                                                     |                                 | Daling Fort h.s. 244 26 13                          | 1400                            |
|                                                     |                                 | Daling " 301 4 30                                   | 1400                            |
| <b>Sacholi h.s.</b>                                 |                                 |                                                     |                                 |
| Kinadeo h.s. 5 34 21                                | 1027                            |                                                     |                                 |
| Jhum h.s. 133 27 14                                 | 1026                            |                                                     |                                 |
| Thakil h.s. 196 16 10                               | 1026                            |                                                     |                                 |
|                                                     |                                 | <b>Samgong h.s.</b>                                 |                                 |
|                                                     |                                 | Panchhu-ka-dhura h.s. 52 58 6                       | 1144                            |
|                                                     |                                 | Milan s. 62 2 23                                    | 1146                            |
|                                                     |                                 | Milan No. 2 h.s. 88 52 41                           | 1144                            |
| <b>Sahaspur s.</b>                                  |                                 | Milan No. 1 " 114 12 37                             | 1145                            |
| Kotra h.s. 238 12 6                                 | 163                             | Shilong No. 1 " 173 13 21                           | 1148                            |
| Biraini " 244 37 46                                 | 164                             | Sitpani " 179 15 32                                 | 1154                            |
| Dehra Dun Base-line W. End, (VIII)* 325 54 35       | 163                             | Shilong No. 2 " 186 53 7                            | 1149                            |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Sami h.s.</b>                                    |                                 |
|                                                     |                                 | Ghatamoin h.s. 2 51 28                              | 1178                            |
|                                                     |                                 | Kanchego " 150 52 36                                | 1172                            |
|                                                     |                                 | Dongu No. 1 " 175 14 9                              | 1173                            |
|                                                     |                                 | Chilankurkur No. 2 " 223 20 36                      | 1181                            |
|                                                     |                                 | Chilankurkur No. 1 " 228 55 5                       | 1171                            |
|                                                     |                                 | Gompachin No. 1 " 248 13 0                          | 1183                            |
|                                                     |                                 | Gompachin No. 2 " 249 43 36                         | 1184                            |
|                                                     |                                 | Chaldu No. 1 " 301 2 48                             | 1170                            |
|                                                     |                                 | Chaldu No. 2 " 338 8 3                              | 1170                            |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Samogi h.s.</b>                                  |                                 |
|                                                     |                                 | Hain h.s. 2 5 13                                    | 232                             |
|                                                     |                                 | Chilmeri (new) " 43 13 24                           | 232                             |
|                                                     |                                 | Chakrata Post Office " 68 30 40                     | 235                             |
|                                                     |                                 | † Deoban " 112 24 49                                | 233                             |
|                                                     |                                 | Sapar " 239 31 13                                   | 239                             |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Sanaï h.s.</b>                                   |                                 |
|                                                     |                                 | Jamangarh h.s. 201 30 47                            | 406                             |
|                                                     |                                 | Harpalsid, XLVIII† 308 29 28                        | 406                             |
|                                                     |                                 |                                                     |                                 |
|                                                     |                                 | <b>Sandakphu No. 1 h.s.</b>                         |                                 |
|                                                     |                                 | Kangrang La h.s. 183 50 46                          | 1453                            |
|                                                     |                                 | Phallut " 187 40 28                                 | 1439                            |
|                                                     |                                 | Suberkum " 195 57 32                                | 1282                            |
|                                                     |                                 | Phalluk La " 223 18 16                              | 1456                            |
|                                                     |                                 | Tendong " 254 18 32                                 | 1369                            |
|                                                     |                                 | Lingtu " 256 44 24                                  | 1483                            |
|                                                     |                                 |                                                     |                                 |
| <b>Sainj h.s.</b>                                   |                                 |                                                     |                                 |
| Kandoi h.s. 9 21 14                                 | 257                             |                                                     |                                 |
| Suban Hill Temple 49 17 29                          | 258                             |                                                     |                                 |
| Kandul Hill Temple 133 45 59                        | 259                             |                                                     |                                 |
| Dungri " 277 32 22                                  | 245                             |                                                     |                                 |
| † Deoban " 321 19 49                                | 244                             |                                                     |                                 |
| Moila " 349 51 25                                   | 244                             |                                                     |                                 |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 21°-30°.  
 † This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.  
 ‡ This station appertains to the Baulon Meridional Series.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Sandakphu No. 1 h.s.—(Contd.)</b> ° ' "          |                                 | <b>Satikadānda h.s.</b> ° ' "                       |                                 |
| Darjeeling Observatory h. s. 282 58 50              | 1280                            | Rājpur h. s. 40 52 25                               | 187                             |
| Tiger Hill " 292 51 6                               | 1279                            | Bekkadānda " 334 2 9                                | 188                             |
| Sandakphu No. 2 " 307 21 25                         | 1286                            | Timli " 340 39 20                                   | 187                             |
| Tonglu " 313 46 11                                  | 1279                            |                                                     |                                 |
| Joungni " 327 27 10                                 | 1287                            |                                                     |                                 |
| <b>Sandakphu No. 2 h.s.</b>                         |                                 | <b>Saunbarsa, LIX</b>                               |                                 |
| Sandakphu No. 1 h. s. 127 22 2                      | 1286                            | Gharbaria, LVIII 33 2 37.84                         | 65                              |
| Darjeeling Observatory " 280 16 15                  | 1285                            | Purona, LV 88 4 9.25                                | 62                              |
| Darjeeling, Jalapahār " 288 56 21                   | 1285                            | Bharni, LVII 148 34 38.16                           | 62                              |
|                                                     |                                 | Banarsin, LX 215 40 41.77                           | 66                              |
|                                                     |                                 | Bāgāpār, LXI 273 15 43.97                           | 67                              |
| <b>Saonchālia, VI</b>                               |                                 | <b>Sekadānda h.s.</b>                               |                                 |
| Dhela, V h. s. 77 28 5.20                           | 8                               | Deothal h. s. 54 58 34                              | 750                             |
| Chinal h. s. 82 6 31                                | 620                             | Muktisar " 127 43 48                                | 749                             |
| Girjwāla, III " 94 48 5.97                          | 9                               | Motiupathar " 168 34 31                             | 749                             |
| Gujarkot-ki-garh " 118 2 17                         | 619                             |                                                     |                                 |
| Ghungti, IV " 126 19 1.83                           | 8                               | <b>Selim h.s.</b>                                   |                                 |
| Binlakhān " 139 2 42                                | 624                             | Khoribāri s. 21 14 50                               | 1319                            |
| Kankra No. 1 h. s. 187 4 18.0                       | 296                             | Batsai Hāt " 27 32 40                               | 1318                            |
| Palikhet h. s. 187 27 18                            | 618                             | Nuksarbari " 32 31 16                               | 1317                            |
| Devi-ka-bhawan " 198 49 39                          | 691                             | Gardihura h. s. 43 8 45                             | 1311                            |
| Kanka " 229 9 16                                    | 617                             | Lohngari " 57 41 46                                 | 1306                            |
| Seri " 251 0 35                                     | 696                             | Durbinjhora " 84 34 16                              | 1307                            |
| Jageear h. s. 253 5 14.2                            | 296                             | Tingling " 85 42 38                                 | 1297                            |
| Binak h. s. 302 41 3                                | 617                             | Kurseong " 110 26 13                                | 1297                            |
| Birond, VIII 305 52 50.62                           | 11                              | Mahaldaram " 168 19 16                              | 1300                            |
| Bagwāra, VII 359 26 27.33                           | 10                              | Sitong " 224 30 35                                  | 1300                            |
|                                                     |                                 | Latpunchor No. 1 " 242 9 46                         | 1345                            |
| <b>Sāpar h.s.</b>                                   |                                 | Siliguri Railway Station Mark (helio.) 325 11 48    | 1312                            |
| Hain h. s. 34 43 55                                 | 238                             | Siliguri s. 332 2 18                                | 1314                            |
| Chilmeri (new) " 51 31 23                           | 238                             | Phansaideva " 350 39 38                             | 1316                            |
| Samogi " 59 33 16                                   | 239                             | Bugdogra " 358 14 34                                | 1315                            |
| <b>Sathdunga h.s.</b>                               |                                 | <b>Semraha, XCIX</b>                                |                                 |
| Chotakāna h. s. 50 16 38                            | 983                             | Bhela, XCVII 111 36 11.39                           | 105                             |
| Bunga " 71 11 35                                    | 984                             | Ladnia, XCVIII 179 26 35.74                         | 105                             |
| Kurkuti " 102 37 12                                 | 986                             | Harpur, C 231 19 31.07                              | 106                             |
| Kurkutidbār " 127 15 53                             | 983                             | Barhata, CI 289 29 56.62                            | 107                             |
| <b>Sathi La h.s.</b>                                |                                 | <b>Semrao, XVII</b>                                 |                                 |
| Nimlu h. s. 37 31 50                                | 1480                            | Umra, XV 125 53 11.84                               | 22                              |
| Pankasari " 45 54 39                                | 1495                            | Shālgarh, XVI 178 9 21.09                           | 22                              |
| Songchonglu " 52 54 52                              | 1481                            | Udepur, XVIII 233 40 1.59                           | 23                              |
| Khampung " 70 46 42                                 | 1480                            | Piparia, XIX 291 51 29.12                           | 24                              |
| Bisum No. 2 " 79 9 15                               | 1509                            |                                                     |                                 |
| <b>Sathwaria, LXXIII</b>                            |                                 | <b>Senchal No. 1 h.s.</b>                           |                                 |
| Naonangarhi, LXXI 101 24 52.18                      | 79                              | Dumdāngi, CX XIII 0 15 56                           | 1268                            |
| Tarharwa, LXXII 170 49 57.25                        | 79                              | Thakurganj, CXX 14 47 8                             | 1269                            |
| Sikta, LXXIV 242 54 49.41                           | 80                              | Hope Town No. 1 h. s. 41 2 33                       | 1282                            |
| Biarwa, LXXV 310 20 4.14                            | 81                              | Tonglu " 103 39 53                                  | 1268                            |
|                                                     |                                 | Senchal No. 2 " 121 36 36                           | 1280                            |
|                                                     |                                 | Darjeeling, Jalapahār " 131 36 9                    | 1284                            |
|                                                     |                                 | Tiger Hill " 141 54 0                               | 1291                            |
|                                                     |                                 | Darjeeling, Mount Vernon " 149 38 35                | 1289                            |
|                                                     |                                 | Darjeeling, Birch Hill " 154 24 54                  | 1272                            |



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Senchal No. 1 h.s.—(Contd.)</b>                  |                                 | <b>Sháhpur, LXXXIX</b>                              |                                 |
| Darjeeling h.s. 159 57 6                            | 1270                            | Humaunpur, LXXXVII 117 33 8.48                      | 95                              |
| Darjeeling Observatory " 159 59 59                  | 1290                            | Pargáwa, LXXXVIII 174 45 58.53                      | 95                              |
| Kirsong " 193 34 2                                  | 1450                            | Jarol, XC 229 35 6.84                               | 96                              |
| Tukdah " 216 15 43                                  | 1365                            | Chandarsanpur, XCI 281 53 37.13                     | 97                              |
| Mangwa " 237 18 25                                  | 1348                            |                                                     |                                 |
| Deolo " 241 17 29                                   | 1370                            |                                                     |                                 |
| Sitong " 309 9 37                                   | 1299                            | <b>Sháhpur s.</b>                                   |                                 |
| Mahaldaram " 351 37 5                               | 1298                            | Chauki h.s. 194 25 33                               | 171                             |
|                                                     |                                 | Angala No. 1 " 230 8 11                             | 171                             |
| <b>Senchal No. 2 h.s.</b>                           |                                 | <b>Shaukul h.s.</b>                                 |                                 |
| Hope Town No. 1 h.s. 11 3 57                        | 1292                            | Khamlek n.s. 210 21 45                              | 1069                            |
| Phugarhi " 24 1 54                                  | 1294                            | Masurbio h.s. 300 42 19                             | 1070                            |
| Darjeeling Observatory " 181 3 24                   | 1290                            | Lankishun " 352 37 44                               | 1069                            |
| Tiger Hill " 288 40 16                              | 1291                            |                                                     |                                 |
| Senchal No. 1 " 301 35 54                           | 1290                            | <b>Sheralek h.s.</b>                                |                                 |
| Mahaldaram " 338 39 9                               | 1298                            | Thákil h.s. 41 5 19                                 | 1010                            |
| Sonada " 351 15 30                                  | 1302                            | Triarikot Hill Mark 116 24 37                       | 1010                            |
| Margaret's Hope No. 1 " 356 20 45                   | 1293                            | Dhaj n.s. 180 17 16                                 | 1011                            |
|                                                     |                                 | <b>Sher-ka-dánda h.s.</b>                           |                                 |
| <b>Senchel La h.s.</b>                              |                                 | Manura h.s. 16 10 6                                 | 742                             |
| Gyi-mo-chi h.s. 63 53 50                            | 1504                            | Naini Tál Lake " 25 18 31                           | 746                             |
| Lingtu " 77 2 35                                    | 1504                            | Jar Pathar " 69 58 24                               | 742                             |
| Merug La " 133 55 35                                | 1505                            | Chinar " 118 11 25                                  | 744                             |
|                                                     |                                 | Kalikhán " 352 50 47                                | 743                             |
| <b>Sera h.s.</b>                                    |                                 | <b>Sherpur h.s.</b>                                 |                                 |
| Binek h.s. 39 28 4                                  | 615                             | Sidh Tibá h.s. 100 24 53                            | 204                             |
| Thol " 67 35 49                                     | 698                             | Gúlarghat s. 103 3 3                                | 206                             |
| Kalwar " 69 44 14                                   | 693                             | Rantumma h.s. 179 25 54                             | 205                             |
| Seri " 102 55 56                                    | 695                             | Ambári " 359 17 16                                  | 204                             |
| Kanka " 120 31 14                                   | 616                             |                                                     |                                 |
| Siahi Devi " 229 22 25                              | 614                             | <b>Shiala No. 1 h.s.</b>                            |                                 |
| Pathargarhi " 320 21 53                             | 614                             | Banbasa Ghat Mark 9 36 39                           | 833                             |
|                                                     |                                 | Bámáni Búgh Mark 17 26 34                           | 834                             |
| <b>Seri h.s.</b>                                    |                                 | Nagaon Náth Mark 35 55 11                           | 835                             |
| Snonchália, VI h.s. 71 4 21                         | 696                             | Matiabánj h.s. 94 42 55                             | 777                             |
| Bulek h.s. 122 14 14                                | 697                             | Garaphor " 153 9 30                                 | 777                             |
| Kanka " 140 11 12                                   | 695                             | Puniagiri " 261 53 39                               | 778                             |
| Sera " 282 54 19                                    | 695                             | Sirsagarh Peak 297 15 9                             | 836                             |
| Thol " 328 44 1                                     | 698                             | Baitlani Peak No. 1 301 49 39                       | 837                             |
| <b>Seudim h.s.</b>                                  |                                 | <b>Shiala No. 2 h.s.</b>                            |                                 |
| Latpanchor No. 2 h.s. 1 14 13                       | 1352                            | Chini s. 24 51 57                                   | 818                             |
| Latpanchor No. 1 " 6 38 15                          | 1351                            | Matiabánj h.s. 95 4 57                              | 816                             |
| Sitong " 31 28 45                                   | 1350                            | Garaphor " 153 7 24                                 | 815                             |
| Mongpu Rock " 171 53 48                             | 1366                            | Puniagiri " 261 25 55                               | 815                             |
| Geabdat " 311 15 44                                 | 1350                            | Barmdeo s. 339 19 36                                | 822                             |
| <b>Sháhgarh, XVI</b>                                |                                 | <b>Shialek h.s.</b>                                 |                                 |
| Umra, XV 59 20 9.12                                 | 21                              | Nirpánia No. 1 h.s. 46 12 38                        | 1198                            |
| Kaimkhera, XIV 118 55 54.30                         | 21                              | Nirpánia No. 2 " 59 3 42                            | 1198                            |
| Udepur, XVIII 299 29 46.61                          | 23                              | Elpadhura " 130 0 52                                | 1199                            |
| Semrao, XVII 358 9 10.89                            | 22                              | Gaglia Hill Staff 205 55 58                         | 1202                            |
|                                                     |                                 | Tadang " 231 15 59                                  | 1200                            |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Shikáni H.s.</b>                                 |                                 | <b>Sidhon-ka-thán h.s.</b>                          |                                 |
| Sungarkot h.s. 31 46 58·8                           | 292                             | Chilkia s. 40 38 23                                 | 687                             |
| Panothal h.s. 77 31 13                              | 915                             | Rámnnagar " 99 24 3                                 | 688                             |
| Kankra No. 1 h.s. 94 25 43·3                        | 291                             | Láldhár h.s. 116 40 21                              | 686                             |
| Nauáli h.s. 111 51 9                                | 435                             | Chinal " 160 53 42                                  | 686                             |
| Jatropáni h.s. 130 18 0·6                           | 291                             |                                                     |                                 |
| Balín h.s. 158 7 18                                 | 435                             | <b>Sidhon-ki-dhang h.s.</b>                         |                                 |
| Dhíola " 186 10 49                                  | 916                             | Barikothirau h.s. 59 34 3                           | 679                             |
| Deobarna " 207 20 17                                | 918                             | Barsoti " 201 38 45                                 | 677                             |
| Daukuri " 243 27 46                                 | 1075                            | Dhela, V " 295 31 48                                | 677                             |
| Kharik " 273 43 36                                  | 1083                            | Láldhang s. 347 58 9                                | 680                             |
| Balehandánda " 278 9 53                             | 990                             |                                                     |                                 |
| Khamlek h.s. 310 49 40·1                            | 294                             | <b>Sidhowála s.</b>                                 |                                 |
| Jagesar " 352 34 11·5                               | 293                             | Chaunki h.s. 235 0 28                               | 169                             |
|                                                     |                                 | Angaila No. 2 " 263 30 23                           | 169                             |
| <b>Shillong No. 1 h.s.</b>                          |                                 | <b>Sidh Tiba h.s.</b>                               |                                 |
| Milam No. 1 h.s. 24 50 5                            | 1148                            | Mihúnwála s. 0 27 49                                | 141                             |
| Bamlás No. 3 " 167 38 32                            | 1156                            | Chúarpur No. 1 " 20 14 37                           | 112                             |
| Bamlás No. 5 " 195 0 5                              | 1159                            | Bhungani " 61 0 57                                  | 143                             |
| Bamlás No. 2 " 195 58 49                            | 1152                            | Rantumma h.s. 252 15 28                             | 205                             |
| Buldanga " 294 33 9                                 | 1151                            | Sherpur " 280 22 43                                 | 204                             |
| Shillong No. 2 " 330 36 23                          | 1150                            | Ambári " 309 57 57                                  | 140                             |
| Samgong " 353 13 3                                  | 1148                            | Rádarpur s. 323 52 27                               | 140                             |
|                                                     |                                 | <b>Sidhwála No. 1 h.s.</b>                          |                                 |
| <b>Shillong No. 2 h.s.</b>                          |                                 | Haldukháta s. 31 56 53                              | 395                             |
| Samgong h.s. 6 53 19                                | 1149                            | Sidhwála No. 2 h.s. 139 49 34                       | 396                             |
| Milam No. 1 " 52 16 44                              | 1149                            | Mábegarh, I 180 56 18                               | 394                             |
| Shillong No. 1 " 150 36 53                          | 1150                            | Jamangarh " 302 22 31                               | 394                             |
| Sitpáni No. 2 " 151 41 4                            | 1154                            |                                                     |                                 |
| Bamlás No. 2 " 175 7 25                             | 1152                            | <b>Sidhwála No. 2 h.s.</b>                          |                                 |
| Buldanga " 200 1 43                                 | 1151                            | Haldukháta s. 17 33 23                              | 396                             |
|                                                     |                                 | Jamangarh h.s. 304 27 54                            | 397                             |
| <b>Shura h.s.</b>                                   |                                 | Sidhwála No. 1 " 319 49 17                          | 396                             |
| Pansu h.s. 31 8 30                                  | 705                             |                                                     |                                 |
| Sonargarhi " 230 46 0                               | 706                             | <b>Sikálnág h.s.</b>                                |                                 |
| Kálimat No. 1 " 301 53 27                           | 705                             | Dankarak h.s. 16 28 34                              | 913                             |
|                                                     |                                 | Gwáldam No. 2 " 32 47 52                            | 919                             |
| <b>Siahi Devi h.s.</b>                              |                                 | Ninidhár " 39 42 57                                 | 920                             |
| Sera h.s. 49 24 6                                   | 614                             | Badhangarhi " 56 20 8                               | 912                             |
| Laudhár " 148 57 31                                 | 611                             | Sisákháni " 99 22 49                                | 912                             |
| Kálimat No. 1 " 234 20 54                           | 611                             |                                                     |                                 |
| Gaia " 303 3 2                                      | 612                             | <b>Sikta, LXXIV</b>                                 |                                 |
| Olkúgri " 325 13 35                                 | 707                             | Biarwa, LXXV 5 15 41·06                             | 81                              |
| Pathargarhi " 359 41 15                             | 613                             | Sathwaria, LXXIII 62 58 50·74                       | 80                              |
|                                                     |                                 | Tarharwa, LXXII 115 13 13·98                        | 80                              |
| <b>Sidhár h.s.</b>                                  |                                 | Harnáhi, LXXVI 309 10 30·38                         | 82                              |
| Domban h.s. 27 24 59                                | 953                             |                                                     |                                 |
| Chauri Binek " 213 16 24                            | 955                             | <b>Sikurkot h.s.</b>                                |                                 |
| Bujantoni " 250 51 37                               | 954                             | Alna h.s. 123 24 36                                 | 885                             |
| Láta " 324 23 6                                     | 953                             | Magru-ka-dánda " 192 45 14                          | 885                             |
|                                                     |                                 | Kokru-ka-dánda " 261 34 6                           | 884                             |
| <b>Sidh-ka-dhura h.s.</b>                           |                                 | Pápi " 276 4 55                                     | 886                             |
| Narsing-ka-dánda h.s. 210 15 27                     | 854                             | Rupdeo " 316 40 56                                  | 884                             |
| Ládhaundhura " 351 16 52                            | 854                             |                                                     |                                 |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Silabasila h.s.</b>                              |                                 | <b>Simugupchurhi h.s.</b>                           |                                 |
| Katbhairon-ki-dhang h.s. 92 45 12                   | 682                             | Lingtu h.s. 1 2 44                                  | 1498                            |
| Dhela, V 99 39 25                                   | 684                             | Chumsering " 31 15 32                               | 1498                            |
| Malani " 160 26 30                                  | 684                             | Jandorhi " 310 49 37                                | 1500                            |
| Dhulwa " 165 12 1                                   | 628                             | Gyi-mo-chi " 331 52 35                              | 1499                            |
| Chinal " 227 31 23                                  | 627                             |                                                     |                                 |
| Laldhar " 298 0 39                                  | 627                             |                                                     |                                 |
| <b>Silgur h.s.</b>                                  |                                 | <b>Sinaria, LXXXII</b>                              |                                 |
| Rantumma h.s. 31 23 52                              | 208                             | Masaha, LXXXI 40 48 22.14                           | 88                              |
| Jan " 54 16 22                                      | 208                             | Dipahi, LXXX 89 51 1.55                             | 88                              |
| Kailu Deota Hill Temple " 72 12 13                  | 224                             | Bulakipur, LXXXIV 294 8 50.81                       | 90                              |
| Kanbhua " 87 50 23                                  | 216                             | Amwa, LXXXIII 355 31 59.97                          | 89                              |
| *Naga " 89 14 10                                    | 209                             |                                                     |                                 |
| Chilmeri (new) " 153 16 44                          | 212                             | <b>Sindi h.s.</b>                                   |                                 |
| Tharona " 159 16 34                                 | 214                             | Mintidhar h.s. 61 28 11                             | 374                             |
| Hain " 190 24 51                                    | 210                             | Kankwala " 318 45 54                                | 374                             |
| Jaindau " 263 4 10                                  | 218                             |                                                     |                                 |
| <b>Silibong h.s.</b>                                |                                 | <b>Singalila h.s.</b>                               |                                 |
| Nimlu h.s. 31 53 33                                 | 1405                            | Kangrang La h.s. 179 4 2                            | 1452                            |
| Daling Fort " 285 40 40                             | 1405                            | Lampheram " 201 18 46                               | 1454                            |
| Daling " 305 49 48                                  | 1405                            | Tendong " 275 9 20                                  | 1441                            |
|                                                     |                                 | Darjeeling Observatory " 311 0 41                   | 1441                            |
|                                                     |                                 | Tonglu " 346 5 31                                   | 1442                            |
| <b>Siliguri s.</b>                                  |                                 | <b>Singsa h.s.</b>                                  |                                 |
| Tingling h.s. 128 14 53                             | 1314                            | Pumongzong h.s. 0 27 37                             | 1891                            |
| Selin " 152 4 46                                    | 1314                            | Pagriangbong " 79 37 47                             | 1420                            |
|                                                     |                                 | Songchonglu " 93 4 32                               | 1392                            |
| <b>Silingdhar h.s.</b>                              |                                 | Saihur " 146 21 10                                  | 1391                            |
| Bainath h.s. 108 34 41                              | 805                             | Deotharim " 168 7 32                                | 1421                            |
| Choursan No. 2 " 190 23 59                          | 805                             | Longsol " 190 30 15                                 | 1393                            |
| Chanoli " 207 45 43                                 | 813                             | Nimlu " 219 11 51                                   | 1418                            |
| Mattan Chena " 225 18 44                            | 806                             | Chamaigaon No. 2 " 269 27 15                        | 1418                            |
|                                                     |                                 | Gorubathan " 289 51 16                              | 1413                            |
| <b>Silong h.s.</b>                                  |                                 | <b>†Sirkanda H.S. (new)</b>                         |                                 |
| Urkhiali h.s. 179 19 32                             | 438                             | Banog, (X)† 105 26 50.51                            | 275                             |
| Bujala " 229 52 50                                  | 437                             | Nag Tiba h.s. 145 51 15.0                           | 275                             |
| Patori " 236 39 59                                  | 535                             |                                                     |                                 |
| Manil " 284 14 2                                    | 437                             | <b>†Sirkanda H.S. (old)</b>                         |                                 |
|                                                     |                                 | Pineh h.s. 263 28 51                                | 302                             |
| <b>Simalthal h.s.</b>                               |                                 | Ghandial, LVI† 328 7 14                             | 302                             |
| Khamlek h.s. 87 50 36                               | 1084                            |                                                     |                                 |
| Khaparchula h.s. 237 26 30                          | 1084                            | <b>Sisakhani h.s.</b>                               |                                 |
|                                                     |                                 | Badhangarhi h.s. 28 56 20                           | 910                             |
| <b>Simatkhil h.s.</b>                               |                                 | Kankra No. 1 h.s. 83 0 36                           | 910                             |
| Jogi-ka-danda h.s. 109 43 11                        | 457                             | Sikalnag h.s. 279 21 23                             | 912                             |
| Diba-ka-chir " 148 57 35                            | 604                             | Dankarak " 338 15 48                                | 911                             |
| Khamlekgarhi " 177 23 40                            | 457                             | Gwaldam No. 2 " 354 44 19                           | 919                             |
| Mandhla " 205 51 56                                 | 458                             |                                                     |                                 |
| Dabharakot " 265 18 35                              | 592                             | <b>Sisgarh, X</b>                                   |                                 |
| Dang No. 2 " 275 1 4                                | 590                             | Bagwara, VII 182 8 13.28                            | 14                              |
| Dang No. 1 " 275 13 58                              | 459                             | Baheri, IX 241 7 22.24                              | 14                              |
|                                                     |                                 | Ataria, XI 290 38 33.89                             | 15                              |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

† These stations appertain to the Great Arc Meridional Series—Section 24°-30°.

‡ This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Sitaragarh h.s.</b>                              |                                 | <b>Sonada h.s.</b>                                  |                                 |
| Ringabanj h.s. 177 4 27                             | 512                             | Margaret's Hope No. 1 h.s. 2 21 42                  | 1301                            |
| Nainidevi No. 1 " 252 45 40                         | 512                             | Hope Town No. 1 " 51 45 49                          | 1301                            |
| Nainidevi No. 2 " 261 22 19                         | 521                             | Hope Town No. 2 " 51 58 47                          | 1309                            |
|                                                     |                                 | Duteria No. 1 " 107 11 59                           | 1322                            |
|                                                     |                                 | Kangbul " 154 39 10                                 | 1320                            |
|                                                     |                                 | Senchal No. 2 " 171 15 41                           | 1302                            |
| <b>Sitong h.s.</b>                                  |                                 | <b>Sonakhoda, CXXI</b>                              |                                 |
| Selim h.s. 44 32 31                                 | 1300                            | Kharkhari, CXIX 82 5 12.82                          | 120                             |
| Mahaldaram " 89 6 46                                | 1299                            | Thakurganj, CXX 158 5 48.63                         | 129                             |
| Senchal No. 1 " 129 12 17                           | 1299                            | Rámangj, CXXII 233 57 11.90                         | 130                             |
| Tukdah " 156 50 18                                  | 1367                            | Chotaki, CXXV 302 58 9.41                           | 131                             |
| Mangwa " 180 9 45                                   | 1348                            |                                                     |                                 |
| Mongpu Rock " 188 3 32                              | 1366                            |                                                     |                                 |
| Seudin " 211 28 21                                  | 1350                            |                                                     |                                 |
| Geabdat " 237 31 11                                 | 1347                            |                                                     |                                 |
| Ghoramara " 330 20 52                               | 1354                            |                                                     |                                 |
| Latpanchor No. 2 " 332 28 58                        | 1352                            |                                                     |                                 |
| Latpanchor No. 1 " 344 6 26                         | 1346                            |                                                     |                                 |
| Jojilling No. 1 " 352 2 27                          | 1357                            |                                                     |                                 |
| <b>Sítpáni h.s.</b>                                 |                                 | <b>Sonam h.s.</b>                                   |                                 |
| Bamlás No. 2 h.s. 181 51 41                         | 1155                            | Naga h.s. 17 14 4                                   | 492                             |
| Shillong No. 2 " 331 40 50                          | 1154                            | Nilang No. 2 " 55 8 57                              | 493                             |
| Samgong " 359 15 30                                 | 1154                            | Jadhang " 79 54 14                                  | 492                             |
|                                                     |                                 | Pulamsamda " 109 52 48                              | 496                             |
|                                                     |                                 | Thaga La No. 1 " 191 8 42                           | 499                             |
|                                                     |                                 | Tsang Chok La " 225 34 23                           | 497                             |
|                                                     |                                 | Ku " 350 18 18                                      | 494                             |
| <b>Soagpa h.s.</b>                                  |                                 | <b>Sonargarhi h.s.</b>                              |                                 |
| Músápáni h.s. 3 31 37                               | 940                             | Pausu h.s. 42 10 17                                 | 703                             |
| Chára " 296 36 40                                   | 940                             | Shura " 50 47 15                                    | 706                             |
|                                                     |                                 | Airideo " 119 36 46                                 | 708                             |
|                                                     |                                 | Kálimat No. 1 " 352 33 54                           | 704                             |
| <b>Sohoria s.</b>                                   |                                 | <b>*Sonárkoti h.s.</b>                              |                                 |
| Bawargarhi s. 133 23 56                             | 1229                            | Partitnagar h.s. 214 26 56                          | 202                             |
| Baruamathi Hill Tree 171 2 31                       | 1231                            | Chándipahár, LIV† 324 1 41                          | 202                             |
| Madho Mark 193 2 55                                 | 1227                            |                                                     |                                 |
| Barar h.s. 264 11 56                                | 1226                            |                                                     |                                 |
| Narainpur s. 319 17 13                              | 1226                            |                                                     |                                 |
| <b>Someshwar h.s.</b>                               |                                 | <b>Sondahi, LXXXXVI</b>                             |                                 |
| Rámnagar, LXX 6 32 46                               | 1238                            | Madanpur, LXXXXV 52 15 25.51                        | 92                              |
| Bájra, LXVIII 47 54 17                              | 1238                            | Bulákipur, LXXXXIV 110 56 16.71                     | 92                              |
| Someshwar Fort h.s. 107 41 7                        | 1239                            | Pargáwa, LXXXXVIII 290 41 13.25                     | 94                              |
|                                                     |                                 | Humaunpur, LXXXXVII 348 34 3.39                     | 93                              |
| <b>Someshwar Fort h.s.</b>                          |                                 | <b>Songchonglu h.s.</b>                             |                                 |
| Bájra, LXVIII 38 9 13                               | 1236                            | Yongri h.s. 48 33 54                                | 1385                            |
| Balua, LXVI 60 56 8                                 | 1240                            | Darjeeling Observatory " 101 0 21                   | 1374                            |
| Naurangia h.s. 106 26 37                            | 1240                            | Rinkinpong " 115 12 43                              | 1382                            |
| Balua " 126 16 38                                   | 1245                            | Deolo " 152 41 56                                   | 1374                            |
| Harha West " 130 1 49                               | 1253                            | Chumsering " 190 40 39                              | 1375                            |
| Harha East " 131 19 37                              | 1252                            | Saihur " 201 34 32                                  | 1376                            |
| Yamowli " 144 1 41                                  | 1247                            | Risum No. 2 " 202 13 32                             | 1508                            |
| Deochili Peak 163 36 36                             | 1248                            | Khampung " 221 11 2                                 | 1477                            |
| Kumkarna " 279 41 59                                | 1243                            | Sathi La " 232 49 48                                | 1481                            |
| Mandewa " 279 46 40                                 | 1250                            | Nimlu " 255 50 7                                    | 1378                            |
| Someshwar " 287 39 48                               | 1239                            | Longsol " 263 5 45                                  | 1393                            |
| Tarharwa, LXXII 327 44 40                           | 1237                            | Singra " 273 2 33                                   | 1392                            |
| Rámnagar, LXX 355 50 5                              | 1236                            | Pumongzong " 294 27 12                              | 1350                            |

\* This station is identical with Sunárkoti h.s. of the Great Arc Meridional Series—Section 24°-30°.

† This station appertains to the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Suberkum h.s.</b>                                |                                 | <b>Sungarkot h.s.—(Contd.)</b>                      |                                 |
| Sandakphu No. 1 h.s. 15 58 7                        | 1282                            | Airideo h.s. 44 42 47                               | 609                             |
| Darjeeling Observatory " 298 40 40                  | 1281                            | Jakkakot " 59 26 31                                 | 873                             |
| Tonglu " 337 55 54                                  | 1281                            | Kausani " 113 6 50                                  | 796                             |
| <b>Suilidanda h.s.</b>                              |                                 | Kankra No. 1 h.s. 133 55 40.6                       | 290                             |
| Pajana h.s. 22 42 18                                | 603                             | Jatropáni " 166 39 40.8                             | 290                             |
| Ringoni " 29 8 17                                   | 567                             | Shikáni " 211 42 41.3                               | 292                             |
| Dudatoli " 60 9 23                                  | 567                             | Khamlek " 266 49 5.2                                | 295                             |
| Gwanagarh h.s. 119 51 5                             | 568                             | Gurana h.s. 274 7 46                                | 795                             |
| Alimajari h.s. 123 50 56                            | 570                             | Jagesar h.s. 314 9 51.2                             | 293                             |
| Bani Tál " 136 22 24                                | 569                             | Binsar h.s. 326 55 19                               | 867                             |
| Nisania " 336 13 55                                 | 603                             | Garanáth " 338 17 4                                 | 870                             |
| <b>Sujánbonga h.s.</b>                              |                                 | <b>Supi h.s.</b>                                    |                                 |
| Khaparchula h.s. 62 46 6                            | 1056                            | Kurmura h.s. 272 10 29                              | 1082                            |
| Dhamigaon " 196 25 14                               | 1060                            | Lahúrdhura " 283 29 50                              | 1082                            |
| Thákala " 224 16 47                                 | 1059                            | <b>Supur, LXII</b>                                  |                                 |
| Dhapiadhura " 262 27 1                              | 1057                            | Bágápár, LXI 41 20 1.01                             | 68                              |
| Gbauadhura " 315 25 13                              | 1056                            | Banarsia, LX 91 53 6.23                             | 68                              |
| <b>Sukadhár h.s.</b>                                |                                 | Chanda, LXIV 280 50 57.27                           | 70                              |
| Chipalkot No. 2 h.s. 106 47 30                      | 1187                            | Morairi, LXIII 340 31 24.21                         | 69                              |
| Balsi No. 1 " 191 43 40                             | 1187                            | <b>Surabduli h.s.</b>                               |                                 |
| Balsi No. 2 " 194 13 52                             | 1188                            | Jinti No. 2 h.s. 23 51 50                           | 672                             |
| Rekakota " 240 47 56                                | 1189                            | Jinti No. 1 " 36 40 14                              | 671                             |
| Patildhura " 280 27 11                              | 1191                            | Dharaun No. 1 " 59 24 8                             | 674                             |
| <b>Sultánpur, XX</b>                                |                                 | Mainajadi " 244 25 55                               | 670                             |
| Karii, XXI 1 18 15.08                               | 26                              | Barsoti " 272 38 0                                  | 670                             |
| Piparia, XIX 52 38 13.75                            | 25                              | <b>Súrna h.s.</b>                                   |                                 |
| Udepur, XVIII 116 17 49.72                          | 25                              | Rádarpur s. 81 31 40                                | 139                             |
| Ramuapur, XXII 288 36 59.24                         | 27                              | Ambári h.s. 143 39 27                               | 138                             |
| <b>Sumári h.s.</b>                                  |                                 | Kotra " 288 40 24                                   | 138                             |
| Devidat h.s. 21 30 18                               | 376                             | <b>Susála h.s.</b>                                  |                                 |
| Kankhwála " 47 10 53                                | 376                             | Pariapál h.s. 66 38 18                              | 945                             |
| Majin " 97 3 16                                     | 377                             | Menadugri " 124 37 59                               | 944                             |
| <b>Sumdhár h.s.</b>                                 |                                 | Uniakarak " 244 25 29                               | 944                             |
| Rekakota h.s. 87 20 9                               | 1194                            | <b>Suwálekdhura h.s.</b>                            |                                 |
| Barbalek " 147 10 20                                | 1194                            | Khaparchula h.s. 2 7 24                             | 1087                            |
| Nirpánia No. 2 " 217 11 56                          | 1196                            | Khamlek h.s. 53 25 10                               | 1087                            |
| Nirpáua No. 1 " 248 53 9                            | 1195                            | Mandhura No. 1 h.s. 87 46 4                         | 1089                            |
| <b>Sungarkhál h.s.</b>                              |                                 | Mundhura No. 2 " 87 59 32                           | 1091                            |
| Bandani h.s. 148 26 55                              | 858                             | Litála " 91 49 33                                   | 1093                            |
| Multrapuri " 224 48 34                              | 857                             | Balehandánda " 116 40 55                            | 1088                            |
| Gwaldekot " 239 20 35                               | 860                             | <b>Tadang h.s.</b>                                  |                                 |
| Bariabunga " 302 35 18                              | 857                             | Shialek h.s. 51 17 2                                | 1200                            |
| <b>Sungarkot h.s.</b>                               |                                 | Elpndhura " 71 4 38                                 | 1200                            |
| Kálimat No. 1 h.s. 2 6 50                           | 609                             | Gagla Hill Staff 122 58 56                          | 1201                            |
| Gorkhagarhi " 4 53 53                               | 871                             | Khangla " 157 45 0                                  | 1203                            |
|                                                     |                                 | Doti " 180 7 29                                     | 1204                            |
|                                                     |                                 | Yangchham Hill Staff 183 29 7                       | 1206                            |

| Name of Station with Azimuths of surrounding Points | No. of<br>Triangles giving<br>Distance | Name of Station with Azimuths of surrounding Points | No. of<br>Triangles giving<br>Distance |
|-----------------------------------------------------|----------------------------------------|-----------------------------------------------------|----------------------------------------|
| <b>Tagria, CXVII</b>                                |                                        | <b>Tendong h.s.</b>                                 |                                        |
| Musaladanga, CXV                                    | 89 10 14' 33                           | Tiger Hill                                          | h.s. 27 24 22 1469                     |
| Luelmipur, CXVI                                     | 151 20 20' 29                          | Darjeeling Observatory                              | " 38 17 14 1369                        |
| Bandarjula, CXVIII                                  | 204 38 35' 86                          | Tonglu                                              | " 59 16 1 1368                         |
| Kharkhari, CXIX                                     | 263 11 39' 06                          | Sandakphu                                           | No. 1 " 74 29 45 1360                  |
|                                                     |                                        | Singalila                                           | " 95 19 51 1441                        |
| <b>Talanti h.s.</b>                                 |                                        | Rinchimpung                                         | " 100 35 58 1446                       |
| Chorkharak                                          | h.s. 20 3 8 432                        | Pemionchi Monastery                                 | " 125 31 43 1465                       |
| Manil                                               | " 71 22 13 432                         | Longjong                                            | " 148 31 22 1463                       |
| Balan                                               | " 277 39 16 434                        | Moinam                                              | " 174 23 51 1437                       |
| Nauali                                              | " 316 58 56 433                        | Kirsong                                             | " 181 52 16 1463                       |
|                                                     |                                        | Chumsering                                          | " 294 25 45 1372                       |
| <b>Tamli h.s.</b>                                   |                                        | Deolo                                               | " 324 3 1 1371                         |
| Maurkot                                             | h.s. 41 5 45 1019                      | Kalimpong                                           | " 339 10 46 1469                       |
| Kanadeo                                             | " 95 2 54 1018                         |                                                     |                                        |
| Lujnidhura                                          | No. 1 " 120 14 16 1020                 | <b>Thaga La No. 1 h.s.</b>                          |                                        |
| Lujnidhura                                          | No. 2 " 122 27 38 1022                 | Sonam                                               | h.s. 11 9 55 499                       |
| Nagarchula                                          | " 138 7 58 1018                        | Pulamsamda                                          | " 28 6 33 498                          |
| Kalimat                                             | No. 4 " 152 52 37 1020                 | Thaga La                                            | No. 2 " 137 6 24 500                   |
|                                                     |                                        | Tsang Chok La                                       | " 316 3 30 498                         |
| <b>Tana h.s.</b>                                    |                                        |                                                     |                                        |
| Balchandanda                                        | h.s. 253 35 3 1095                     | <b>Thaga La No. 2 h.s.</b>                          |                                        |
| Mundhura                                            | No. 1 " 296 21 18 1096                 | Pulamsamda                                          | h.s. 12 28 51 500                      |
| Litála                                              | " 299 23 22 1095                       | Thaga La                                            | No. 1 " 317 5 34 500                   |
|                                                     |                                        |                                                     |                                        |
| <b>Tanda s.</b>                                     |                                        | <b>Thakala h.s.</b>                                 |                                        |
| Khamari-ka-danda                                    | h.s. 167 23 56 759                     | Sujanbonga                                          | h.s. 44 18 48 1059                     |
| Biloti                                              | " 198 3 7 759                          | Dhamigaon                                           | " 73 52 19 1069                        |
|                                                     |                                        | Dhapiadhura                                         | " 332 30 1 1059                        |
| <b>Tapon No. 1 h.s.</b>                             |                                        |                                                     |                                        |
| Kotidanda                                           | h.s. 27 34 10 946                      | <b>Thakil h.s.</b>                                  |                                        |
| Argam                                               | " 114 26 49 946                        | Nagarchula                                          | h.s. 2 15 19 1019                      |
|                                                     |                                        | Sacholi                                             | " 16 17 29 1026                        |
| <b>Tapon No. 2 h.s.</b>                             |                                        | Jhum                                                | h.s. 51 8 4 999                        |
| Kotidanda                                           | h.s. 24 10 1 947                       | Bambhil                                             | h.s. 129 15 36 999                     |
| Argam                                               | " 101 2 48 947                         | Triarikot                                           | " 174 20 39 1043                       |
|                                                     |                                        | Triarikot Hill Mark                                 | " 190 54 22 1009                       |
| <b>Tarharwa, LXXII</b>                              |                                        | Bhandona                                            | " 209 24 30 1042                       |
| Naonangrhi, LXXI                                    | 41 4 41' 45 78                         | Dhaj                                                | h.s. 209 38 9 1000                     |
| Rannagar, LXX                                       | 106 53 47' 62 78                       | Sheralek                                            | h.s. 221 2 39 1010                     |
| Chandkigar Hill Mark (helio.)                       | 116 3 48 1266                          | Dharij                                              | " 233 26 18 1099                       |
| Someshwar Fort                                      | h.s. 147 50 12 1237                    | Denli                                               | " 260 15 7 1040                        |
| Mandewa                                             | " 163 52 34 1251                       | Lujnidhura                                          | No. 1 " 346 30 46 1016                 |
| Kumkarna                                            | " 174 39 33 1242                       | Gorakbnath                                          | " 355 16 2 1007                        |
| Katáha                                              | " 192 26 37 1255                       |                                                     |                                        |
| Sikta, LXXIV                                        | 295 8 35' 51 80                        | <b>Thakurganj, CXX</b>                              |                                        |
| Sathwaria, LXXIII                                   | 350 49 15' 74 79                       | Kharkhari, CXIX                                     | 24 56 34' 19 129                       |
|                                                     |                                        | Bandarjula, CXVIII                                  | 71 29 44' 77 128                       |
| <b>Tempu La h.s.</b>                                |                                        | Tonglu                                              | h.s. 176 14 29 1267                    |
| Chamaigaon                                          | No. 2 h.s. 41 45 21 1419               | Senchal                                             | No. 1 " 194 42 39 1269                 |
| Chamaigaon                                          | No. 1 " 72 20 9 1419                   | Dumdangi, CXXIII                                    | 248 33 3' 19 134                       |
| Mo Chu                                              | " 258 46 58 1424                       | Rámganj, CXXII                                      | 304 47 51' 33 130                      |
| Komai                                               | No. 2 " 293 53 39 1428                 | Sonakhoda, CXXI                                     | 338 3 53' 43 129                       |
| Komai                                               | No. 1 " 307 59 41 1425                 |                                                     |                                        |
| Mo Chu                                              | s. 318 35 20 1427                      |                                                     |                                        |

| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| <b>Tháli h.s.</b>                                   |                                 | <b>Tilakpur, XXXIX</b>                              |                                 |
| Argam                                               | h.s. 96 7 21                    | Anarkali, XXXVII                                    | 109 48 21 16 44                 |
| Vishnugarh                                          | " 158 54 8                      | Dadaura, XXXVIII                                    | 160 51 18 47 44                 |
| Chhatar                                             | " 239 57 22                     | Newada, XL                                          | 225 4 26 94 45                  |
|                                                     |                                 | Isrápur, XLI                                        | 295 39 44 59 46                 |
| <b>Thári s.</b>                                     |                                 | <b>Timli h.s.</b>                                   |                                 |
| Bhariáni                                            | s. 229 51 35                    | Nalápáni                                            | h.s. 35 35 55 181               |
| Barumathi Hill Tree                                 | 266 6 45                        | Kalanga                                             | " 41 2 8 182                    |
| Rámpurua                                            | " 333 35 25                     | Rájpur                                              | " 105 33 27 181                 |
|                                                     |                                 | Satikadánda                                         | " 160 39 50 187                 |
| <b>Tharona h.s.</b>                                 |                                 | Belkadánda                                          | " 166 16 4 186                  |
| Kailu Deota Hill Temple                             | 7 14 7                          | Dwara                                               | " 358 17 32 183                 |
| Kanbhua                                             | h.s. 45 3 56                    |                                                     |                                 |
| *Nága                                               | " 56 55 14                      | <b>Timlidhár h.s.</b>                               |                                 |
| Chilmeri (new)                                      | " 147 2 44                      | Chorgalia                                           | h.s. 99 56 36 772               |
| Hain                                                | " 223 45 46                     | Lobchula                                            | " 134 53 0 772                  |
| Jáindau                                             | " 296 48 1                      | Mahárudra                                           | " 213 35 8 773                  |
| Makháta Bungalow                                    | 313 52 15                       | Kaualek                                             | " 270 21 48 774                 |
| Silgur                                              | " 339 16 7                      | Belpáni                                             | " 325 0 43 826                  |
| Pir Deota Hill Temple                               | 353 28 34                       |                                                     |                                 |
| <b>Thol h.s.</b>                                    |                                 | <b>Tingling h.s.</b>                                |                                 |
| Seri                                                | h.s. 148 44 31                  | Khoribári                                           | s. 1 57 45 1319                 |
| Sera                                                | " 247 34 42                     | Batasi Hát                                          | " 5 15 50 1318                  |
|                                                     |                                 | Phugarhi                                            | h.s. 145 31 15 1296             |
| <b>Thúladánda h.s.</b>                              |                                 | Merig                                               | " 169 48 48 1334                |
| Kándeola                                            | h.s. 41 0 17                    | Kurseong                                            | " 242 59 22 1296                |
| Nagarchula                                          | " 182 42 14                     | Phubsering                                          | " 256 59 20 1332                |
|                                                     |                                 | Selim                                               | " 265 39 29 1297                |
| <b>Tiger Hill h.s.</b>                              |                                 | Durbinjhora                                         | " 266 48 59 1304                |
| Tonglu                                              | h.s. 101 32 5                   | Garidhura                                           | " 297 57 40 1310                |
| Senchal                                             | No. 2 " 108 40 45               | Siliguri Railway Station Mark (helio.)              | 303 9 10 1312                   |
| Sandakphu                                           | No. 1 " 112 58 57               | Siliguri                                            | s. 308 9 16 1314                |
| Darjeeling, Jalapahár                               | " 128 10 28                     | Bagdogra                                            | " 325 44 5 1315                 |
| Darjeeling, Mount Vernon                            | " 151 47 24                     | Chenga                                              | h.s. 329 26 25 1308             |
| Darjeeling, Birch Hill                              | " 156 26 2                      | Phansideva                                          | s. 329 44 39 1316               |
| Darjeeling                                          | " 163 34 12                     | Lohagarhi                                           | h.s. 359 43 30 1306             |
| Darjeeling Observatory                              | " 163 36 43                     | Nuksarbári                                          | s. 359 55 35 1317               |
| Tendong                                             | " 207 21 2                      |                                                     |                                 |
| Endong                                              | " 211 55 19                     | <b>Tingri h.s.</b>                                  |                                 |
| Tukdeh                                              | " 226 46 21                     | Ragshi                                              | h.s. 1 35 18 504                |
| Lingtu                                              | " 238 45 56                     | Kálasila                                            | h.s. 117 2 37 504               |
| Kalimpong                                           | " 247 32 0                      | Mandani                                             | " 172 52 5 505                  |
| Senchal                                             | No. 1 " 321 53 47               |                                                     |                                 |
|                                                     |                                 | <b>Titarlek h.s.</b>                                |                                 |
| <b>Tikdhár h.s.</b>                                 |                                 | Lárulek                                             | h.s. 171 49 54 1044             |
| Lingara                                             | h.s. 4 54 32                    | Dharj                                               | " 292 12 9 1044                 |
| Paripál                                             | " 148 50 6                      |                                                     |                                 |
| Badrináth Temple                                    | 153 26 26                       | <b>Titkadánda h.s.</b>                              |                                 |
| Barpatta                                            | " 153 56 0                      | Rhiar                                               | h.s. 99 34 59 650               |
| Unikarak                                            | " 186 46 26                     | Bandadhura                                          | " 136 18 31 650                 |
| Patari                                              | " 330 38 2                      | Badantoi                                            | " 187 46 58 651                 |
|                                                     |                                 | Binek                                               | " 246 23 44 652                 |
|                                                     |                                 | Deopathar                                           | " 304 57 48 654                 |
|                                                     |                                 | Dhanik                                              | " 356 56 41 653                 |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance | Name of Station with Azimuths of surrounding Points | No. of<br>Triangle giving<br>Distance |
|-----------------------------------------------------|---------------------------------------|-----------------------------------------------------|---------------------------------------|
| <b>Tola h.s.</b>                                    |                                       | <b>Tungnath h.s.</b>                                |                                       |
| Ládhaundhura h.s. 118 39 55                         | 855                                   | Ragshi h.s. 50 24 40                                | 450                                   |
| Launchaura " 239 2 56                               | 855                                   | Bhairkharak h.s. 59 31 20                           | 506                                   |
| Garaphor " 273 24 40                                | 856                                   | Kálásila " 137 0 43                                 | 450                                   |
|                                                     |                                       | Bisuri " 169 58 45                                  | 501                                   |
|                                                     |                                       | Ranchana " 286 16 4                                 | 444                                   |
| <b>Tomik h.s.</b>                                   |                                       | Nagnath No. 1 " 333 59 41                           | 441                                   |
| Porchula h.s. 38 56 14                              | 1121                                  | Deodekni " 339 18 7                                 | 451                                   |
| Húm " 68 10 26                                      | 1113                                  |                                                     |                                       |
| Deolakot " 93 1 3                                   | 1112                                  |                                                     |                                       |
| Baidhár " 136 11 57                                 | 1112                                  |                                                     |                                       |
| Golpha " 277 57 36                                  | 1113                                  |                                                     |                                       |
| Golpha s. 295 50 47                                 | 1123                                  |                                                     |                                       |
|                                                     |                                       | <b>Tungsong h.s.</b>                                |                                       |
|                                                     |                                       | Pubong h.s. 86 22 34                                | 1344                                  |
|                                                     |                                       | Rangbul " 269 58 10                                 | 1343                                  |
|                                                     |                                       | Duteria No. 1 " 331 32 39                           | 1343                                  |
| <b>Tonglu h.s.</b>                                  |                                       |                                                     |                                       |
| Jongmai h.s. 98 52 39                               | 1287                                  |                                                     |                                       |
| Sandakphu No. 1 " 133 48 29                         | 1279                                  | <b>Uchheti No. 1 h.s.</b>                           |                                       |
| Suberkum " 157 57 37                                | 1281                                  | Dánádhár h.s. 15 6 42                               | 1116                                  |
| Phallut " 161 32 50                                 | 1439                                  | Jalth " 70 6 54                                     | 1116                                  |
| Singhila " 166 7 4                                  | 1442                                  | Baidhár " 310 57 0                                  | 1117                                  |
| Phalluk La " 186 32 43                              | 1456                                  | Uchheti No. 3 " 318 57 21                           | 1120                                  |
| Kirsong " 216 6 8                                   | 1450                                  |                                                     |                                       |
| Moinam " 222 43 43                                  | 1437                                  |                                                     |                                       |
| Lüntae Monastery " 226 48 51                        | 1448                                  | <b>Uchheti No. 2 h.s.</b>                           |                                       |
| Eudong " 227 11 48                                  | 1507                                  | Dánádhár h.s. 31 57 37                              | 1118                                  |
| Chakung " 233 37 49                                 | 1445                                  | Jalth " 98 10 59                                    | 1118                                  |
| Tendong " 239 7 6                                   | 1363                                  |                                                     |                                       |
| Darjeeling, Birch Hill " 260 32 19                  | 1271                                  |                                                     |                                       |
| Darjeeling Observatory " 264 35 39                  | 1276                                  |                                                     |                                       |
| Darjeeling " 264 40 42                              | 1270                                  | <b>Uchheti No. 3 h.s.</b>                           |                                       |
| Tiger Hill " 281 26 32                              | 1273                                  | Dánádhár h.s. 24 1 47                               | 1119                                  |
| Senchal No. 1 " 283 34 8                            | 1268                                  | Jalth " 89 18 7                                     | 1119                                  |
| Dundangi, CXXIII " 341 19 0                         | 1267                                  | Uchheti No. 1 " 138 57 30                           | 1120                                  |
| Thakurganj, CXX " 356 13 16                         | 1267                                  |                                                     |                                       |
|                                                     |                                       | <b>Udepur, XVIII</b>                                |                                       |
|                                                     |                                       | Piparia, XIX 0 37 20.82                             | 24                                    |
| <b>Tribeni h.s.</b>                                 |                                       | Semrao, XVII 53 44 16.24                            | 23                                    |
| H 13 Peak 162 53 58                                 | 1264                                  | Sháhgarh, XVI 119 34 12.79                          | 23                                    |
| Deochili Peak 210 50 37                             | 1265                                  | Sultánpur, XX 296 14 2.51                           | 25                                    |
| Naurangia h.s. 263 4 58                             | 1264                                  |                                                     |                                       |
|                                                     |                                       | <b>Ulkagarh h.s.</b>                                |                                       |
| <b>Tsang Chok La h.s.</b>                           |                                       | Manda h.s. 16 5 36                                  | 550                                   |
| Sonam h.s. 45 38 5                                  | 497                                   | Gandkhola " 241 7 37                                | 549                                   |
| Fulamsamda " 80 41 27                               | 497                                   | Piplimath " 325 39 18                               | 549                                   |
| Thaga La No. 1 " 136 5 59                           | 498                                   |                                                     |                                       |
|                                                     |                                       | <b>Ulsa h.s.</b>                                    |                                       |
| <b>Tukdah h.s.</b>                                  |                                       | Kalajhuni h.s. 66 29 15                             | 425                                   |
| Senchal No. 1 h.s. 36 16 47                         | 1365                                  | Chatargarhi " 186 36 33                             | 426                                   |
| Tiger Hill " 46 47 40                               | 1364                                  | Ghungti, IV " 344 21 11                             | 425                                   |
| Darjeeling Observatory " 102 1 6                    | 1364                                  |                                                     |                                       |
| Mongpu Rock " 316 7 16                              | 1367                                  |                                                     |                                       |
| Sitong " 336 48 42                                  | 1367                                  |                                                     |                                       |
|                                                     |                                       | <b>Umra, XV</b>                                     |                                       |
| <b>Tulsiapur, XLVI</b>                              |                                       | Kaliánpur, XIII 132 10 17.80                        | 20                                    |
| Básadela, XLV 47 28 7.12                            | 51                                    | Kaimkhera, XIV 181 9 15.37                          | 20                                    |
| Lohápania, XLIV 104 51 24.26                        | 51                                    | Sháhgarh, XVI 239 15 58.01                          | 21                                    |
| Ganespur, XLVIII 285 46 58.39                       | 53                                    | Semrao, XVII 305 48 50.64                           | 22                                    |
| Majhawa, XLVII 340 20 3.13                          | 52                                    |                                                     |                                       |



| Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance | Name of Station with Azimuths of surrounding Points | No. of Triangle giving Distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| Uniakarak h.s.                                      |                                 | Vishnugarh h.s.                                     |                                 |
| Tikdhār h.s. 0 1 "                                  | 932                             | Argan h.s. 35 55 43                                 | 926                             |
| Barpatta " 25 20 13                                 | 943                             | Lingara " 159 34 3                                  | 929                             |
| Susala " 64 25 54                                   | 944                             | Patari " 185 20 40                                  | 928                             |
| Pariapāl " 65 52 34                                 | 932                             | Pāndab Chauki Hill Staff 221 17 39                  | 948                             |
| Menadugri " 98 28 53                                | 933                             | Kundhār " 284 15 41                                 | 927                             |
| Kūlalpāta Hill Staff 132 8 40                       | 936                             | Chhatar " 309 21 24                                 | 950                             |
| Anādeb " 175 39 35                                  | 934                             | Joshimath " 324 50 39                               | 982                             |
|                                                     |                                 | Thāli " 338 52 37                                   | 988                             |
|                                                     |                                 | Pilkhunta " 348 45 18                               | 926                             |
| Upasai, LXVII                                       |                                 | Wolthi h.s.                                         |                                 |
| Mathia, LXV 109 28 14.51                            | 73                              | Bhowara h.s. 69 22 44                               | 1127                            |
| Balua, LXVI 174 56 44.34                            | 73                              | Deolakot " 73 14 47                                 | 1126                            |
| Bājra, LXVIII 221 37 15.96                          | 74                              | Dobadbār " 174 50 51                                | 1126                            |
| Bakwa, LXIX 283 48 45.61                            | 75                              |                                                     |                                 |
| Urkhiali h.s.                                       |                                 | Yamowli h.s.                                        |                                 |
| Kandara h.s. 192 0 15                               | 537                             | Bājra, LXVIII 26 25 34                              | 1246                            |
| Deangan " 218 22 6                                  | 439                             | Balua h.s. 117 0 36                                 | 1246                            |
| Bujgala " 288 48 53                                 | 438                             | Someshwar Fort " 324 0 47                           | 1247                            |
| Silong " 359 19 29                                  | 438                             |                                                     |                                 |
| Utain h.s.                                          |                                 | Yongri h.s.                                         |                                 |
| Dorbun h.s. 189 48 23                               | 424                             | Nazzeokh Hill Mark 128 42 29                        | 1390                            |
| Chāndkot " 196 23 26                                | 423                             | Rinkinpong h.s. 163 8 2                             | 1384                            |
| Chatargarhi " 241 9 49                              | 423                             | Deolo " 184 3 38                                    | 1384                            |
|                                                     |                                 | Songchonglu " 228 32 11                             | 1385                            |

December, 1908.

H. H. TURNER, CAPT., R.E.,

In charge of Computing Office.

## NORTH-EAST LONGITUDINAL SERIES.

## DISTANCES AND AZIMUTHS OF PEAKS FROM THE PRINCIPAL, PRINCIPAL-AUXILIARY AND SECONDARY STATIONS AT WHICH THEY WERE OBSERVED.

The following table contains, in the first column, the name of each Principal, Principal-Auxiliary, or Secondary Station arranged in alphabetical order, at which observations to peaks have been made, immediately followed by the names of the peaks; the second column gives the logarithm of the distance in feet between the station and each peak fixed therefrom; the third column gives the azimuth at the station of the peak.

Names of Stations followed by Roman Numerals are those of the Principal Stations of the North-East Longitudinal Series and of other Series falling within the limit of the Degree Sheets: Principal-Auxiliary and Secondary Stations are denoted by either n.s., h.s., s. or t.s.

The peaks are numbered according to the degree sheet in which they fall after the following system. The degree sheet is divided into 4 divisions at every 15' of longitude. The numbering of the peaks is commenced in the western division and is carried from north to south, and is then continued in the same manner in each successive division.

Under the number attached to each peak is added the symbol for the degree sheet, thus  $\frac{\text{Pk.68}}{53 \text{ I}}$ . In the case of twin peaks and of close clusters the above system is slightly modified, thus  $\frac{\text{Pk.64}^1}{78 \text{ A}}$ ,  $\frac{\text{Pk.64}^2}{78 \text{ A}}$ ,  $\frac{\text{Pk.64}^3}{78 \text{ A}}$ .

| Name of Station with Peaks observed therefrom     | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom       | Log. Distance | Azimuth   |
|---------------------------------------------------|---------------|-----------|-----------------------------------------------------|---------------|-----------|
| <b>AMSOT, (XI)*</b>                               | <i>Feet</i>   | ° ' "     | <b>ANABKALI, XXXVII</b>                             | <i>Feet</i>   | ° ' "     |
| $\frac{\text{Pk.68}}{53 \text{ I}}$ ... ..        | 5'542865      | 228 55 56 | $\frac{\text{Pk.1}}{62 \text{ L}}$ ... ..           | 5'740303      | 215 57 42 |
| $\frac{\text{Pk.69}}{53 \text{ I}}$ (Bandarpunch) | 5'549934      | 229 59 15 | $\frac{\text{Pk.1}}{62 \text{ P}}$ ... ..           | 5'805384      | 228 21 27 |
|                                                   |               |           | $\frac{\text{Pk.3}}{62 \text{ P}}$ ... ..           | 5'804522      | 229 15 12 |
|                                                   |               |           | $\frac{\text{Pk.4}}{62 \text{ P}}$ ... ..           | 5'818520      | 231 13 44 |
| <b>ANADEB h.s.</b>                                |               |           | $\frac{\text{Pk.7}}{62 \text{ P}}$ ... ..           | 5'836031      | 232 50 18 |
| $\frac{\text{Pk.14}}{53 \text{ M}}$ ... ..        | 4'996698      | 153 31 5  | $\frac{\text{Pk.9}}{62 \text{ P}}$ (Dhaulagiri) ... | 5'860455      | 236 26 30 |
| $\frac{\text{Pk.17}}{53 \text{ M}}$ ... ..        | 4'930930      | 158 58 34 | $\frac{\text{Pk.10}}{62 \text{ P}}$ ... ..          | 5'821385      | 233 47 8  |
| $\frac{\text{Pk.14}}{53 \text{ N}}$ ... ..        | 4'579535      | 145 30 31 |                                                     |               |           |
| $\frac{\text{Pk.16}}{53 \text{ N}}$ ... ..        | 4'377441      | 135 14 32 | <b>ATHANSI h.s.</b>                                 |               |           |
| $\frac{\text{Pk.19}}{53 \text{ N}}$ ... ..        | 4'360419      | 128 27 51 | $\frac{\text{Pk.104}}{53 \text{ N}}$ ... ..         | 5'233450      | 145 53 36 |
| $\frac{\text{Pk.23}}{53 \text{ N}}$ ... ..        | 4'721399      | 79 17 49  | $\frac{\text{Pk.80}}{62 \text{ B}}$ ... ..          | 4'942090      | 174 45 19 |
| $\frac{\text{Pk.24}}{53 \text{ N}}$ ... ..        | 4'730066      | 76 57 35  | $\frac{\text{Pk.81}}{62 \text{ B}}$ ... ..          | 4'873453      | 169 54 41 |
| $\frac{\text{Pk.26}}{53 \text{ N}}$ ... ..        | 4'859535      | 74 46 5   | $\frac{\text{Pk.128}}{62 \text{ B}}$ ... ..         | 5'164705      | 142 25 29 |
| $\frac{\text{Pk.53}}{53 \text{ N}}$ ... ..        | 4'153452      | 256 42 32 |                                                     |               |           |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| ATRONAWA, XXXVI                               |               |           | BAKWA, LXIX—(Continued)                       |               |           |
| Pk.35<br>62 G                                 | 5'715173      | 187 35 5  | Pk.24<br>71 D                                 | 5'774301      | 204 32 48 |
|                                               |               |           | Pk.25<br>71 D                                 | 5'774505      | 204 52 16 |
| BALSI, CIV                                    |               |           | Pk.10<br>71 H                                 | 4'747331      | 210 14 40 |
| Pk.2<br>71 L                                  | 5'790263      | 172 35 43 | Pk.15<br>71 H                                 | 5'748372      | 213 20 48 |
| Pk.4<br>71 L                                  | 5'787248      | 173 10 57 | BALCHANDANDA h.s.                             |               |           |
| Pk.32<br>72 I                                 | 5'687811      | 167 44 48 | Pk.129<br>53 N                                | 4'933506      | 144 47 46 |
| Pk.36<br>72 I                                 | 5'678999      | 168 9 14  | Pk.51<br>62 B                                 | 4'947801      | 182 30 39 |
| Pk.43<br>72 I                                 | 5'686128      | 175 50 10 | Pk.55<br>62 B                                 | 4'894383      | 173 43 49 |
| Pk.10 <sup>1</sup><br>78 A (Kinchinjunga)     | 5'785710      | 220 7 52  | Pk.71<br>62 B                                 | 4'516372      | 260 7 2   |
| Pk.13<br>78 A (Jano)                          | 5'765969      | 218 6 14  | Pk.88<br>62 B                                 | 5'140994      | 227 32 27 |
| BAJRA, LXVIII                                 |               |           | Pk.91<br>62 B                                 | 5'119164      | 228 34 25 |
| Pk.10<br>63 M                                 | 5'110817      | 143 13 37 | Pk.93<br>62 B                                 | 5'083060      | 226 24 50 |
| BAKWA, LXIX                                   |               |           | Pk.96<br>62 B                                 | 5'087173      | 230 23 46 |
| Pk.13<br>62 P                                 | 5'762504      | 169 57 43 | Pk.104<br>62 B                                | 5'103923      | 244 29 29 |
| Pk.14<br>62 P                                 | 5'760253      | 170 29 33 | Pk.106<br>62 B                                | 5'077792      | 246 45 1  |
| Pk.17<br>62 P                                 | 5'754908      | 170 8 28  | Pk.107<br>62 B                                | 5'089905      | 247 35 49 |
| Pk.19<br>62 P                                 | 5'756231      | 167 30 21 | Pk.108<br>62 B                                | 5'070935      | 251 30 53 |
| Pk.1<br>71 D                                  | 5'734916      | 178 18 59 | Pk.110<br>62 B                                | 5'062462      | 252 10 34 |
| Pk.4<br>71 D                                  | 5'731014      | 176 15 19 | Pk.112<br>62 B                                | 5'019401      | 258 8 5   |
| Pk.5<br>71 D                                  | 5'728990      | 178 27 13 | Pk.113<br>62 B                                | 5'066599      | 262 32 27 |
| Pk.6<br>71 D                                  | 5'725987      | 177 49 38 | Pk.115<br>62 B                                | 5'059718      | 265 30 59 |
| Pk.12<br>71 D                                 | 5'717576      | 182 48 33 | Pk.6 <sup>1</sup><br>62 C                     | 5'026169      | 271 11 13 |
| Pk.15 <sup>1</sup><br>71 D                    | 5'744008      | 190 42 9  | Pk.6 <sup>2</sup><br>62 C                     | 5'026978      | 271 33 22 |
| Pk.15 <sup>2</sup><br>71 D                    | 5'743630      | 190 47 9  | Pk.9<br>62 C                                  | 5'036100      | 282 32 6  |
| Pk.17<br>71 D                                 | 5'722482      | 194 45 5  | BALSI No. 1 h.s.                              |               |           |
| Pk.18<br>71 D                                 | 5'719234      | 195 18 36 | Pk.125<br>62 B                                | 5'022147      | 211 49 14 |
| Pk.20<br>71 D                                 | 5'712237      | 197 24 31 | Pk.126<br>62 B                                | 5'015084      | 216 36 13 |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>BALSI No. 1 h.s.—(Continued)</b>           | <i>Feet</i>   | ° ' "     | <b>BALUA, LXVI—(Continued)</b>                | <i>Feet</i>   | ° ' "     |
| Pk.127<br>62 B                                | 4'997476      | 215 56 19 | Pk.5<br>63 M                                  | 5'288112      | 168 45 27 |
| Pk.128<br>62 B                                | 4'942763      | 209 19 24 | Pk.6<br>63 M                                  | 5'311953      | 156 50 28 |
| Pk.138<br>62 B                                | 4'654980      | 224 35 45 | Pk.8<br>63 M                                  | 5'251928      | 163 2 52  |
| Pk.143<br>62 B                                | 4'791508      | 259 34 11 | Pk.9<br>63 M                                  | 5'224871      | 150 15 38 |
| Pk.25<br>62 C                                 | 4'990521      | 303 38 27 | Pk.10<br>63 M                                 | 4'987372      | 160 48 42 |
| Pk.26<br>62 C                                 | 4'960739      | 311 9 29  | Pk.1<br>71 D                                  | 5'676459      | 185 1 29  |
|                                               |               |           | Pk.4<br>71 D                                  | 5'670017      | 182 44 32 |
| <b>BALSI No. 2 h.s.</b>                       |               |           | Pk.5<br>71 D                                  | 5'670019      | 185 16 49 |
| Pk.125<br>62 B                                | 5'024882      | 210 48 0  | Pk.6<br>71 D                                  | 5'666030      | 184 37 29 |
| Pk.126<br>62 B                                | 5'017204      | 215 32 19 | Pk.12<br>71 D                                 | 5'661890      | 190 26 14 |
| Pk.127<br>62 B                                | 4'999782      | 214 50 0  | Pk.15 <sup>1</sup><br>71 D                    | 5'700084      | 198 40 33 |
| Pk.128<br>62 B                                | 4'946463      | 208 7 11  | Pk.15 <sup>2</sup><br>71 D                    | 5'699938      | 198 46 18 |
| Pk.133<br>62 B                                | 4'859339      | 230 14 34 | Pk.17<br>71 D                                 | 5'681944      | 203 32 41 |
| Pk.135<br>62 B                                | 4'635696      | 199 8 58  | Pk.18<br>71 D                                 | 5'679236      | 204 13 18 |
| Pk.138<br>62 B                                | 4'657450      | 222 5 33  | Pk.20<br>71 D                                 | 5'673722      | 206 39 57 |
| Pk.143<br>62 B                                | 4'784874      | 257 55 32 | Pk.24<br>71 D                                 | 5'749238      | 212 52 37 |
| Pk.26<br>62 C                                 | 4'951273      | 310 56 47 | Pk.25<br>71 D                                 | 5'749976      | 213 12 36 |
|                                               |               |           | Pk.10<br>71 H                                 | 5'728155      | 219 22 47 |
| <b>BALUA, LXVI</b>                            |               |           | Pk.15<br>71 H                                 | 5'732926      | 222 32 56 |
| Pk.13<br>62 P                                 | 5'700760      | 175 1 58  | Pk.1<br>72 A                                  | 5'299087      | 189 57 56 |
| Pk.14<br>62 P                                 | 5'698381      | 175 40 21 | Pk.2<br>72 A                                  | 5'293229      | 183 50 41 |
| Pk.15<br>62 P                                 | 5'696115      | 178 23 40 | Pk.3<br>72 A                                  | 5'316750      | 199 24 39 |
| Pk.17<br>62 P                                 | 5'691392      | 175 21 13 | Pk.4<br>72 A                                  | 5'286127      | 180 1 46  |
| Pk.19<br>62 P                                 | 5'691176      | 172 17 22 | Pk.6<br>72 A                                  | 5'285155      | 186 8 11  |
| Pk.21<br>62 P                                 | 5'667635      | 173 45 42 | Pk.7 <sup>1</sup><br>72 A                     | 5'291946      | 192 19 36 |
| Pk.1<br>63 M                                  | 5'364149      | 145 47 2  | Pk.7 <sup>2</sup><br>72 A                     | 5'290786      | 192 41 35 |
| Pk.2<br>63 M                                  | 5'331644      | 151 7 29  | Pk.8<br>72 A                                  | 5'298700      | 198 11 1  |
| Pk.3<br>63 M                                  | 5'319114      | 159 35 51 | Pk.10<br>72 A                                 | 5'338348      | 204 6 59  |
| Pk.4<br>63 M                                  | 5'288767      | 173 7 16  |                                               |               |           |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>BALUA, LXVI—(Continued)</b>                |               |           | <b>BAMLAS No. 1 h.s.—(Continued)</b>          |               |           |
| Pk.12                                         | 5'443577      | 226 38 30 | Pk.56                                         | 4'643291      | 60 46 12  |
| 72 A                                          |               |           | 53 N                                          |               |           |
| Pk.15                                         | 5'475248      | 236 52 21 | Pk.84                                         | 4'312544      | 116 53 7  |
| 72 A                                          |               |           | 53 N                                          |               |           |
| Pk.16                                         | 5'477697      | 238 24 28 | Pk.85                                         | 4'421795      | 253 59 21 |
| 72 A                                          |               |           | 53 N                                          |               |           |
| <b>BALUA h.s.</b>                             |               |           | Pk.86                                         | 4'298425      | 264 12 38 |
| Pk.27                                         | 5'588915      | 210 47 4  | 53 N                                          |               |           |
| 71 D                                          |               |           | Pk.87                                         | 4'247892      | 87 46 22  |
| Pk.28                                         | 5'777038      | 209 45 52 | 53 N                                          |               |           |
| 71 D                                          |               |           | Pk.88                                         | 4'227855      | 291 57 17 |
| Pk.1                                          | 5'682886      | 215 57 50 | 53 N                                          |               |           |
| 71 H                                          |               |           | <b>BAMLAS No. 3 h.s.</b>                      |               |           |
| Pk.18                                         | 5'642305      | 228 8 15  | Pk.2                                          | 4'574820      | 157 22 12 |
| 71 H                                          |               |           | 62 B                                          |               |           |
| Pk.26                                         | 5'773578      | 233 41 6  | Pk.3                                          | 4'490339      | 164 37 34 |
| 71 H                                          |               |           | 62 B                                          |               |           |
| <b>BAMBHIL h.s.</b>                           |               |           | Pk.4                                          | 4'442763      | 181 46 59 |
| Pk.49                                         | 5'361663      | 187 49 7  | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.7                                          | 4'171696      | 201 40 35 |
| Pk.58                                         | 5'320755      | 190 13 39 | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.16                                         | 4'131070      | 298 17 54 |
| Pk.69                                         | 5'226146      | 194 41 58 | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.19                                         | 4'226402      | 358 33 9  |
| Pk.77                                         | 5'485788      | 194 29 53 | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.23 <sup>1</sup>                            | 4'509993      | 326 12 49 |
| Pk.82                                         | 5'449482      | 201 33 41 | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.23 <sup>2</sup>                            | 4'510056      | 326 1 20  |
| Pk.7                                          | 5'234473      | 221 52 26 | 62 B                                          |               |           |
| 62 C                                          |               |           | Pk.26 <sup>2</sup>                            | 4'623201      | 323 51 36 |
| Pk.8                                          | 5'232732      | 227 10 2  | 62 B                                          |               |           |
| 62 C                                          |               |           | <b>BAMLAS No. 4 h.s.</b>                      |               |           |
| Pk.14                                         | 5'098710      | 291 42 45 | Pk.2                                          | 4'579564      | 150 9 15  |
| 62 C                                          |               |           | 62 B                                          |               |           |
| Pk.18 <sup>1</sup>                            | 5'257404      | 316 45 56 | Pk.3                                          | 4'488591      | 155 45 37 |
| 62 C                                          |               |           | 62 B                                          |               |           |
| Pk.18 <sup>2</sup>                            | 5'259078      | 317 3 4   | Pk.4                                          | 4'418574      | 172 8 27  |
| 62 C                                          |               |           | 62 B                                          |               |           |
| Pk.41                                         | 5'477439      | 260 47 2  | Pk.7                                          | 4'083082      | 184 54 24 |
| 62 C                                          |               |           | 62 B                                          |               |           |
| Pk.42                                         | 5'471128      | 261 44 36 | Pk.16                                         | 4'043084      | 317 32 13 |
| 62 C                                          |               |           | 62 B                                          |               |           |
| Pk.7                                          | 5'520716      | 263 16 23 | Pk.19                                         | 4'278822      | 12 14 9   |
| 62 G                                          |               |           | 62 B                                          |               |           |
| Pk.16                                         | 5'657890      | 267 18 34 | Pk.23 <sup>1</sup>                            | 4'500662      | 334 41 19 |
| 62 G                                          |               |           | 62 B                                          |               |           |
| <b>BAMLAS No. 1 h.s.</b>                      |               |           | Pk.23 <sup>2</sup>                            | 4'500508      | 334 29 38 |
| Pk.46                                         | 4'828086      | 149 13 32 | 62 B                                          |               |           |
| 53 N                                          |               |           | Pk.26 <sup>2</sup>                            | 4'613125      | 330 19 42 |
| Pk.47                                         | 4'848495      | 145 3 39  | 62 B                                          |               |           |
| 53 N                                          |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      |
|-----------------------------------------------|---------------|--------------|-----------------------------------------------|---------------|--------------|
| <b>BAMPA h.s.</b>                             | <i>Feet</i>   | <i>° ' "</i> | <b>BANDARJULA, CXVIII—(Contd.)</b>            | <i>Feet</i>   | <i>° ' "</i> |
| Pk.89                                         | 3'930880      | 213 24 40    | Pk.8                                          | 5'741233      | 149 5 58     |
| 53 N                                          | ...           | ...          | 72 M                                          | ...           | ...          |
| Pk.6                                          | 4'896346      | 300 58 10    | Pk.13                                         | 5'679763      | 183 6 49     |
| 62 B                                          | ...           | ...          | 78 A (Jano)                                   | ...           | ...          |
| <b>BAMPASSIA h.s.</b>                         |               |              | <b>BANGHORA, CXIII</b>                        |               |              |
| Pk.104                                        | 4'905453      | 129 25 45    | Pk.40                                         | 5'792484      | 157 3 13     |
| 53 N                                          | ...           | ...          | 72 I                                          | ...           | ...          |
| Pk.118                                        | 4'880087      | 64 22 46     | Pk.41 <sup>2</sup>                            | 5'778062      | 160 20 31    |
| 53 N                                          | ...           | ...          | 72 I                                          | ...           | ...          |
| Pk.8                                          | 4'946383      | 141 40 48    | Pk.47                                         | 5'756742      | 159 3 57     |
| 62 B                                          | ...           | ...          | 72 I                                          | ...           | ...          |
| Pk.10                                         | 4'927920      | 142 48 21    | Pk.3                                          | 5'778545      | 167 22 57    |
| 62 B                                          | ...           | ...          | 72 M                                          | ...           | ...          |
| Pk.12                                         | 4'890136      | 144 39 15    | Pk.32                                         | 5'715843      | 180 1 38     |
| 62 B                                          | ...           | ...          | 72 M                                          | ...           | ...          |
| Pk.14                                         | 4'925024      | 136 48 6     | <b>BANOG, (X)*</b>                            |               |              |
| 62 B                                          | ...           | ...          | Pk.64                                         | 5'437420      | 213 43 11    |
| Pk.18                                         | 4'743689      | 155 45 39    | 53 I (Sargaroin)                              | ...           | ...          |
| 62 B                                          | ...           | ...          | Pk.7                                          | 5'482349      | 234 41 44    |
| Pk.21 <sup>1</sup>                            | 4'813445      | 132 42 0     | 53 J (Srikanta)                               | ...           | ...          |
| 62 B                                          | ...           | ...          | Pk.14                                         | 5'529435      | 245 21 7     |
| Pk.21 <sup>2</sup>                            | 4'807132      | 133 33 14    | 53 J (Tharlasagar)                            | ...           | ...          |
| 62 B                                          | ...           | ...          | Pk.7                                          | 5'545495      | 250 18 18    |
| Pk.24                                         | 4'601486      | 157 2 56     | 53 N (Kedarnath)                              | ...           | ...          |
| 62 B                                          | ...           | ...          | <b>BARDALEK h.s.</b>                          |               |              |
| Pk.28 <sup>2</sup>                            | 4'781714      | 114 19 35    | Pk.133                                        | 4'566691      | 176 36 48    |
| 62 B                                          | ...           | ...          | 62 B                                          | ...           | ...          |
| Pk.30                                         | 4'582317      | 112 24 49    | Pk.134                                        | 4'501097      | 179 34 40    |
| 62 B                                          | ...           | ...          | 62 B                                          | ...           | ...          |
| Pk.34                                         | 4'709178      | 90 5 14      | Pk.137                                        | 4'628321      | 130 49 23    |
| 62 B                                          | ...           | ...          | 62 B                                          | ...           | ...          |
| Pk.36                                         | 4'637926      | 73 10 10     | Pk.139                                        | 4'390412      | 189 35 1     |
| 62 B                                          | ...           | ...          | 62 B                                          | ...           | ...          |
| Pk.38                                         | 4'660812      | 46 48 25     | Pk.141                                        | 4'660762      | 110 2 28     |
| 62 B                                          | ...           | ...          | 62 B                                          | ...           | ...          |
| <b>BANARSI, LX</b>                            |               |              | Pk.22                                         | 4'634656      | 323 15 55    |
| Pk.5                                          | 5'723448      | 177 56 3     | 62 C                                          | ...           | ...          |
| 62 P                                          | ...           | ...          | Pk.23                                         | 4'691100      | 343 50 17    |
| Pk.8                                          | 5'715233      | 176 58 3     | 62 C                                          | ...           | ...          |
| 62 P                                          | ...           | ...          | Pk.25                                         | 4'819620      | 340 18 19    |
| Pk.9                                          | 5'703194      | 181 38 46    | 62 C                                          | ...           | ...          |
| 62 P (Dhaulgiri)                              | ...           | ...          | Pk.26                                         | 4'837087      | 352 0 2      |
| Pk.12                                         | 5'697058      | 190 28 36    | 62 C                                          | ...           | ...          |
| 62 P                                          | ...           | ...          | Pk.27                                         | 4'844419      | 4 1 38       |
| Pk.22 <sup>1</sup>                            | 5'664166      | 200 17 32    | 62 C                                          | ...           | ...          |
| 62 P                                          | ...           | ...          | Pk.38                                         | 4'839519      | 324 28 57    |
| Pk.16                                         | 5'752065      | 219 29 38    | 62 C                                          | ...           | ...          |
| 71 D                                          | ...           | ...          | <b>BANDARJULA, CXVIII</b>                     |               |              |
| <b>BANDARJULA, CXVIII</b>                     |               |              | Pk.2                                          | 5'793759      | 152 58 34    |
| Pk.2                                          | 5'793759      | 152 58 34    | 72 M (Makalu)                                 | ...           | ...          |
| 72 M                                          | ...           | ...          |                                               |               |              |

\* This station appertains to the Base-line figures, vide Synoptical Volume II of the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| BARIHATA, CI                                  |               |           | BATWALA, LXXVIII—(Contd.)                     |               |           |
| Pk.3                                          | 5'834211      | 179 34 59 | Pk.45                                         | 5'787808      | 205 20 29 |
| 71 L                                          |               |           | 71 H                                          |               |           |
| Pk.5                                          | 5'833185      | 177 23 47 | Pk.46 (Gosainthan)                            | 5'789653      | 205 58 33 |
| 71 L                                          |               |           | 71 H                                          |               |           |
| Pk.15                                         | 5'791063      | 173 4 36  | Pk.47                                         | 5'790311      | 206 16 52 |
| 72 I                                          |               |           | 71 H                                          |               |           |
| Pk.33                                         | 5'740824      | 175 6 58  | Pk.48                                         | 5'782766      | 207 25 26 |
| 72 I                                          |               |           | 71 H                                          |               |           |
| Pk.38                                         | 5'802538      | 186 3 48  | Pk.53                                         | 5'752830      | 209 58 43 |
| 72 I                                          |               |           | 71 H                                          |               |           |
|                                               |               |           | Pk.54                                         | 5'747340      | 208 43 17 |
|                                               |               |           | 71 H                                          |               |           |
| BATWALA, LXXVIII                              |               |           | Pk.55 (Jibjibia West)                         | 5'747130      | 208 54 6  |
| Pk.9                                          | 5'842104      | 163 26 6  | 71 H                                          |               |           |
| 71 D                                          |               |           | Pk.56                                         | 5'751055      | 210 5 23  |
| Pk.10                                         | 5'842375      | 162 48 13 | 71 H                                          |               |           |
| 71 D                                          |               |           | Pk.57 (Jibjibia East)                         | 5'747728      | 212 19 46 |
| Pk.19                                         | 5'771528      | 170 36 13 | 71 H                                          |               |           |
| 71 D                                          |               |           | Pk.58                                         | 5'746235      | 212 45 18 |
| Pk.5                                          | 5'756281      | 185 2 25  | 71 H                                          |               |           |
| 71 H                                          |               |           | Pk.59                                         | 5'746637      | 213 40 58 |
| Pk.6                                          | 5'756340      | 186 1 46  | 71 H                                          |               |           |
| 71 H                                          |               |           | Pk.60                                         | 5'745167      | 213 51 45 |
| Pk.8                                          | 5'751915      | 183 33 56 | 71 H                                          |               |           |
| 71 H                                          |               |           | Pk.3                                          | 5'410686      | 195 25 59 |
| Pk.12                                         | 5'742289      | 184 39 57 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.4                                          | 5'410544      | 196 5 13  |
| Pk.13                                         | 5'741747      | 187 18 41 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.6                                          | 5'395400      | 199 42 45 |
| Pk.16                                         | 5'736499      | 186 49 8  | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.8                                          | 5'470923      | 215 19 22 |
| Pk.19                                         | 5'738571      | 198 45 14 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.9                                          | 5'474806      | 216 40 59 |
| Pk.20                                         | 5'735478      | 198 20 11 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.10                                         | 5'471126      | 216 31 10 |
| Pk.28                                         | 5'757182      | 203 6 55  | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.11 <sup>1</sup>                            | 5'434348      | 210 47 13 |
| Pk.30                                         | 5'747730      | 200 37 48 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.11 <sup>2</sup>                            | 5'434796      | 211 1 29  |
| Pk.31                                         | 5'747059      | 200 50 2  | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.12                                         | 5'477369      | 218 10 13 |
| Pk.33                                         | 5'740557      | 199 3 39  | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.13                                         | 5'479647      | 218 37 26 |
| Pk.35 (Dayabhang)                             | 5'740918      | 199 41 6  | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.14                                         | 5'487733      | 221 34 56 |
| Pk.36                                         | 5'750041      | 204 37 51 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.15                                         | 5'483352      | 221 1 16  |
| Pk.37                                         | 5'739975      | 203 58 38 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.16                                         | 5'485811      | 223 57 31 |
| Pk.38 <sup>1</sup>                            | 5'719795      | 201 46 46 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.18                                         | 5'695315      | 220 18 50 |
| Pk.38 <sup>2</sup>                            | 5'719922      | 201 55 50 | 72 E                                          |               |           |
| 71 H                                          |               |           | Pk.1                                          | 5'745753      | 222 16 8  |
| Pk.43                                         | 5'789921      | 205 36 54 | 72 I                                          |               |           |
| 71 H                                          |               |           | Pk.2                                          | 5'746854      | 222 30 46 |
| Pk.44                                         | 5'793456      | 206 44 54 | 72 I                                          |               |           |
| 71 H                                          |               |           | Pk.3                                          | 5'804425      | 229 4 19  |
|                                               |               |           | 72 I                                          |               |           |

## NORTH-EAST LONGITUDINAL SERIES.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>BATWALA, LXXVIII—(Contd.)</b>              | <i>Feet</i>   | ° ' "     | <b>БНАИРKHARAK h.s.—(Contd.)</b>              | <i>Feet</i>   | ° ' "     |
| Pk.4<br>72 I ... ..                           | 5'801449      | 228 49 19 | Pk.8<br>53 N ... ..                           | 5'057920      | 170 33 41 |
| Pk.6<br>72 I (Gaurisankar) ...                | 5'786804      | 227 21 38 | Pk.10<br>53 N ... ..                          | 5'047280      | 169 31 14 |
| Pk.8<br>72 I ... ..                           | 5'785765      | 227 36 38 | Pk.11<br>53 N ... ..                          | 4'988043      | 190 3 53  |
| Pk.9<br>72 I ... ..                           | 5'785924      | 227 51 13 | Pk.13<br>53 N ... ..                          | 4'578218      | 207 34 43 |
| Pk.10<br>72 I ... ..                          | 5'791402      | 228 30 59 | Pk.29<br>53 N ... ..                          | 4'984519      | 196 21 51 |
| Pk.11<br>72 I ... ..                          | 5'783902      | 228 19 23 | Pk.32<br>53 N ... ..                          | 4'984120      | 201 3 29  |
| Pk.12<br>72 I ... ..                          | 5'794049      | 230 36 0  |                                               |               |           |
| Pk.14<br>72 I ... ..                          | 5'793293      | 233 56 3  | <b>БНАНIA h.s.</b>                            |               |           |
| Pk.17<br>72 I ... ..                          | 5'801504      | 232 37 46 | Pk.93<br>62 B ... ..                          | 4'941406      | 226 27 6  |
| Pk.18<br>72 I ... ..                          | 5'803023      | 232 57 4  | Pk.106<br>62 B ... ..                         | 4'948386      | 254 22 1  |
| Pk.19<br>72 I ... ..                          | 5'808895      | 234 9 14  | Pk.108<br>62 B ... ..                         | 4'946405      | 260 51 35 |
| Pk.20<br>72 I ... ..                          | 5'810301      | 234 31 20 | Pk.110<br>62 B ... ..                         | 4'936362      | 261 58 38 |
| Pk.22<br>72 I ... ..                          | 5'795290      | 235 5 11  | Pk.111<br>62 B ... ..                         | 4'701945      | 265 46 53 |
| Pk.23<br>72 I ... ..                          | 5'803110      | 235 49 37 |                                               |               |           |
| Pk.24<br>72 I ... ..                          | 5'797329      | 235 24 43 | <b>БНАRMI, LVII</b>                           |               |           |
| Pk.25<br>72 I ... ..                          | 5'794859      | 235 17 35 | Pk.10<br>62 P ... ..                          | 5'686564      | 180 52 21 |
| Pk.29<br>72 I ... ..                          | 5'797368      | 236 57 34 | Pk.20<br>62 P ... ..                          | 5'667364      | 202 28 6  |
| Pk.30<br>72 I ... ..                          | 5'802211      | 238 34 16 | Pk.221<br>62 P ... ..                         | 5'679176      | 207 47 32 |
| Pk.31<br>72 I ... ..                          | 5'797587      | 237 16 56 | Pk.2<br>71 D ... ..                           | 5'709004      | 211 23 28 |
| Pk.32<br>72 I ... ..                          | 5'802254      | 238 28 19 | Pk.3<br>71 D ... ..                           | 5'714211      | 212 36 24 |
| Pk.34<br>72 I ... ..                          | 5'803020      | 238 45 25 |                                               |               |           |
| <b>BAZRULI h.s.</b>                           |               |           | <b>БНЕLA, XCVII</b>                           |               |           |
| Pk.16<br>53 N ... ..                          | 3'960941      | 118 8 23  | Pk.15<br>72 I ... ..                          | 5'762323      | 181 47 25 |
|                                               |               |           | Pk.16<br>72 I ... ..                          | 5'755129      | 182 22 33 |
|                                               |               |           | Pk.21<br>72 I ... ..                          | 5'735196      | 182 38 14 |
| <b>БНАИRKHARAK h.s.</b>                       |               |           |                                               |               |           |
| Pk.29<br>53 J ... ..                          | 4'978545      | 122 8 24  | <b>БИRJEГANJ h.s.</b>                         |               |           |
| Pk.4<br>53 N ... ..                           | 5'110277      | 164 29 20 | Pk.12<br>62 B ... ..                          | 5'039980      | 149 57 26 |
| Pk.6<br>53 N ... ..                           | 5'118891      | 158 36 28 | Pk.18<br>62 B ... ..                          | 4'946401      | 158 16 1  |



| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>BIRJOGANJ h.s.—(Contd.)</b>                |               |           | <b>BISURI h.s.—(Contd.)</b>                   |               |           |
| Pk.20<br>62 B                                 | 4'921722      | 161 35 44 | Pk.4<br>53 N                                  | 5'006653      | 156 26 39 |
| Pk.24<br>62 B                                 | 4'863170      | 159 30 0  | Pk.6<br>53 N                                  | 5'025764      | 149 21 58 |
| Pk.30<br>62 B                                 | 4'810768      | 135 31 6  | Pk.12<br>53 N                                 | 4'529250      | 201 37 58 |
| Pk.32<br>62 B                                 | 4'595562      | 175 22 42 | Pk.13<br>53 N                                 | 4'066711      | 258 0 42  |
| Pk.33<br>62 B                                 | 4'696771      | 140 35 5  | Pk.33<br>53 N                                 | 4'762155      | 222 17 43 |
| Pk.35<br>62 B                                 | 4'620390      | 122 46 20 | Pk.34<br>53 N                                 | 4'795194      | 234 12 21 |
| Pk.37<br>62 B                                 | 4'172703      | 108 6 11  | Pk.35<br>53 N                                 | 4'794278      | 237 12 9  |
|                                               |               |           | Pk.38<br>53 N                                 | 4'481001      | 229 10 57 |
|                                               |               |           | Pk.40<br>53 N                                 | 4'182174      | 240 51 3  |
| <b>BIROND, VIII</b>                           |               |           | <b>BULAKIPUR, LXXXIV</b>                      |               |           |
| Pk.17<br>53 J (Jaonli)                        | 5'807828      | 155 11 54 | Pk.35<br>71 II (Dayabhang)                    | 5'757901      | 182 29 10 |
| Pk.7<br>53 N (Kedarnath)                      | 5'776492      | 160 7 25  | Pk.55<br>71 II (Jibjibia West)                | 5'742892      | 191 23 9  |
| Pk.28<br>53 N (Nihkanta)                      | 5'737131      | 169 47 24 | Pk.57<br>71 II (Jibjibia East)                | 5'735384      | 194 44 13 |
| Pk.30<br>53 N                                 | 5'743172      | 164 53 38 | Pk.3<br>72 I                                  | 5'755029      | 214 17 32 |
| Pk.114<br>53 N                                | 5'619191      | 191 11 5  | Pk.6<br>72 I (Gaurisankar)                    | 5'739901      | 211 45 28 |
| Pk.115<br>53 N (Nanda Devi)                   | 5'618987      | 191 14 14 | Pk.31<br>72 I                                 | 5'729337      | 223 7 15  |
| Pk.116<br>53 N                                | 5'617273      | 192 26 14 |                                               |               |           |
| Pk.117<br>53 N (Trisul West)                  | 5'585696      | 182 54 36 |                                               |               |           |
| Pk.121<br>53 N (Trisul East)                  | 5'571788      | 187 40 18 |                                               |               |           |
| Pk.41<br>62 B (Nandakot)                      | 5'591031      | 196 39 56 |                                               |               |           |
| Pk.86<br>62 B                                 | 5'622888      | 209 49 56 |                                               |               |           |
| Pk.92<br>62 B (Panch Chulhi)                  | 5'619081      | 212 45 29 |                                               |               |           |
| Pk.37<br>62 C                                 | 5'663081      | 234 25 19 |                                               |               |           |
| <b>BISHANPUR, XCIII</b>                       |               |           | <b>BUNGA h.s.</b>                             |               |           |
| Pk.16<br>72 I                                 | 5'748799      | 193 19 59 | Pk.61<br>53 N                                 | 4'599428      | 103 29 54 |
| Pk.21<br>72 I                                 | 5'729377      | 194 7 6   | Pk.89<br>53 N                                 | 4'451221      | 159 18 27 |
|                                               |               |           | Pk.90<br>53 N                                 | 4'602713      | 235 8 48  |
|                                               |               |           | Pk.92<br>53 N                                 | 4'288775      | 194 58 4  |
|                                               |               |           | Pk.93<br>53 N                                 | 4'447145      | 128 36 13 |
|                                               |               |           | Pk.94<br>53 N                                 | 4'375011      | 122 18 48 |
|                                               |               |           | Pk.96<br>53 N                                 | 4'408176      | 301 8 42  |
|                                               |               |           | Pk.97<br>53 N                                 | 4'453198      | 309 53 28 |
|                                               |               |           | Pk.100<br>53 N                                | 4'614816      | 13 2 40   |
|                                               |               |           | Pk.101<br>53 N                                | 4'737043      | 343 13 58 |
| <b>BISURI h.s.</b>                            |               |           |                                               |               |           |
| Pk.25<br>53 J                                 | 5'022655      | 118 21 31 |                                               |               |           |
| Pk.29<br>53 J                                 | 4'948815      | 102 40 53 |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>BUNGA h.s.—(Contd.)</b>                    | <i>Feet</i>   | ° ' "     | <b>CHANAMBANIALI No. 2 h.s.</b>               | <i>Feet</i>   | ° ' "     |
| <u>Pk.103</u><br>53 N ... ..                  | 4'777513      | 344 56 16 | <u>Pk.6<sup>2</sup></u><br>62 A ... ..        | 5'476942      | 174 57 10 |
| <u>Pk.106</u><br>53 N ... ..                  | 4'780798      | 349 25 55 | <u>Pk.13<sup>2</sup></u><br>62 A ... ..       | 5'516688      | 203 26 0  |
| <u>Pk.107</u><br>53 N ... ..                  | 4'833280      | 331 0 36  | <u>Pk.1</u><br>62 E ... ..                    | 5'507444      | 227 18 30 |
| <u>Pk.1</u><br>62 B ... ..                    | 4'700166      | 262 1 27  | <u>Pk.2</u><br>62 E ... ..                    | 5'475239      | 230 58 2  |
| <u>Pk.5</u><br>62 B ... ..                    | 4'703467      | 287 46 29 | <u>Pk.4</u><br>62 E ... ..                    | 5'525957      | 238 33 23 |
| <u>Pk.6</u><br>62 B ... ..                    | 4'755720      | 291 53 23 | <u>Pk.6</u><br>62 E ... ..                    | 5'582956      | 249 8 53  |
|                                               |               |           | <u>Pk.10</u><br>62 F ... ..                   | 5'600555      | 255 45 27 |
|                                               |               |           | <u>Pk.11</u><br>62 F ... ..                   | 5'599778      | 255 52 51 |
| <b>CHACHAILA h.s.</b>                         |               |           | <b>CHABA h.s.</b>                             |               |           |
| <u>Pk.123</u><br>62 B ... ..                  | 4'922926      | 141 2 56  | <u>Pk.14</u><br>53 M ... ..                   | 4'948699      | 153 10 46 |
| <u>Pk.124</u><br>62 B ... ..                  | 4'852258      | 136 23 10 | <u>Pk.14</u><br>53 N ... ..                   | 4'444585      | 141 28 14 |
| <u>Pk.149</u><br>62 B ... ..                  | 4'253779      | 150 11 41 | <u>Pk.19</u><br>53 N ... ..                   | 4'163640      | 108 57 46 |
| <b>CHAKUNG h.s.</b>                           |               |           | <b>CHAREKII h.s.</b>                          |               |           |
| <u>Pk.51</u><br>78 A ... ..                   | 4'730162      | 215 14 4  | <u>Pk.1</u><br>53 K ... ..                    | 4'592298      | 314 49 35 |
|                                               |               |           | <u>Pk.3</u><br>53 K ... ..                    | 4'538910      | 3 46 34   |
| <b>CHALDU No. 1 h.s.</b>                      |               |           | <u>Pk.5</u><br>53 K ... ..                    | 4'713059      | 8 50 56   |
| <u>Pk.8</u><br>52 P ... ..                    | 5'806815      | 151 50 59 | <u>Pk.6</u><br>53 K ... ..                    | 4'780141      | 328 50 2  |
| <u>Pk.122</u><br>62 B ... ..                  | 5'195499      | 318 38 46 | <u>Pk.7</u><br>53 K ... ..                    | 4'997665      | 326 4 49  |
| <u>Pk.146</u><br>62 B ... ..                  | 5'318238      | 316 7 31  | <b>CHAURI BINER h.s.</b>                      |               |           |
| <u>Pk.1</u><br>62 E ... ..                    | 5'472945      | 233 20 25 | <u>Pk.69</u><br>53 N ... ..                   | 4'220928      | 50 10 8   |
| <u>Pk.2</u><br>62 E ... ..                    | 5'442756      | 237 46 13 | <u>Pk.70</u><br>53 N ... ..                   | 4'183065      | 36 52 38  |
| <u>Pk.6</u><br>62 F ... ..                    | 5'532417      | 288 47 37 | <u>Pk.74</u><br>53 N ... ..                   | 4'823340      | 23 58 10  |
|                                               |               |           | <u>Pk.102</u><br>53 N ... ..                  | 4'332434      | 325 5 43  |
| <b>CHANAMBANIALI No. 1 h.s.</b>               |               |           | <u>Pk.103</u><br>53 N ... ..                  | 4'731325      | 291 47 27 |
| <u>Pk.1</u><br>62 E ... ..                    | 5'506126      | 227 30 44 | <u>Pk.105</u><br>53 N ... ..                  | 4'422997      | 319 32 6  |
| <u>Pk.2</u><br>62 E ... ..                    | 5'474924      | 231 11 52 | <u>Pk.106</u><br>53 N ... ..                  | 4'701910      | 295 16 17 |
| <u>Pk.6</u><br>62 E ... ..                    | 5'582406      | 249 21 41 | <u>Pk.113</u><br>63 N ... ..                  | 4'889009      | 351 56 52 |
| <u>Pk.11</u><br>62 F ... ..                   | 5'599435      | 256 5 34  |                                               |               |           |

DISTANCES AND AZIMUTHS OF PEAKS.

175--I.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>CHHATA B. h.s.</b>                         |               |           | <b>CHILAMKURKUR No. 1 h.s.-(Contd.)</b>       |               |           |
| Pk.50 ... ..                                  | 5'114775      | 176 37 31 | Pk.5 ... ..                                   | 5'525312      | 298 31 15 |
| 53 N                                          |               |           | 62 F                                          |               |           |
| Pk.62 ... ..                                  | 4'828818      | 195 18 47 | Pk.6 ... ..                                   | 5'545638      | 297 31 7  |
| 53 N                                          |               |           | 62 F                                          |               |           |
| Pk.72 ... ..                                  | 4'689635      | 316 9 56  | Pk.7 (Gurla Mandhata)                         | 5'531454      | 300 8 1   |
| 53 N                                          |               |           | 62 F                                          |               |           |
| Pk.73 ... ..                                  | 4'591978      | 22 17 50  | Pk.8 ... ..                                   | 5'521188      | 302 31 34 |
| 53 N                                          |               |           | 62 F                                          |               |           |
| Pk.74 ... ..                                  | 4'584404      | 346 41 59 | Pk.9 ... ..                                   | 5'599344      | 306 50 3  |
| 53 N                                          |               |           | 62 F                                          |               |           |
| Pk.111 ... ..                                 | 4'815748      | 284 41 18 |                                               |               |           |
| 53 N                                          |               |           | <b>CHILAMKURKUR No. 2 h.s.</b>                |               |           |
| Pk.113 ... ..                                 | 4'850090      | 318 41 7  | Pk.2 ... ..                                   | 5'375636      | 164 31 57 |
| 53 N                                          |               |           | 62 A                                          |               |           |
|                                               |               |           | Pk.5 ... ..                                   | 5'317775      | 170 20 53 |
|                                               |               |           | 62 A                                          |               |           |
| <b>CHILAMKURKUR No. 1 h.s.</b>                |               |           | Pk.7 ... ..                                   | 5'219114      | 182 4 1   |
| Pk.18 ... ..                                  | 5'580435      | 148 8 34  | 62 A                                          |               |           |
| 53 M                                          |               |           | Pk.9 ... ..                                   | 5'191301      | 176 28 30 |
| Pk.2 ... ..                                   | 5'381073      | 163 19 16 | 62 A                                          |               |           |
| 62 A                                          |               |           | Pk.10 ... ..                                  | 5'186061      | 187 1 4   |
| Pk.5 ... ..                                   | 5'322908      | 168 53 16 | 62 A                                          |               |           |
| 62 A                                          |               |           | Pk.14 ... ..                                  | 5'297263      | 226 2 31  |
| Pk.6 <sup>3</sup> ... ..                      | 5'319269      | 170 13 33 | 62 A                                          |               |           |
| 62 A                                          |               |           | Pk.73 ... ..                                  | 5'110284      | 3 59 16   |
| Pk.7 ... ..                                   | 5'222656      | 180 5 47  | 62 B                                          |               |           |
| 62 A                                          |               |           | Pk.119 ... ..                                 | 5'217478      | 329 29 40 |
| Pk.9 ... ..                                   | 5'196617      | 174 26 12 | 62 B                                          |               |           |
| 62 A                                          |               |           | Pk.121 ... ..                                 | 5'223297      | 336 59 13 |
| Pk.10 ... ..                                  | 5'188502      | 184 51 9  | 62 B                                          |               |           |
| 62 A                                          |               |           | Pk.7 (Gurla Mandhata)                         | 5'538658      | 299 51 28 |
| Pk.13 <sup>2</sup> ... ..                     | 5'382437      | 210 17 8  | 62 F                                          |               |           |
| 62 A                                          |               |           |                                               |               |           |
| Pk.14 ... ..                                  | 5'290555      | 224 34 36 | <b>CHIPALKOT No. 1 h.s.</b>                   |               |           |
| 62 A                                          |               |           | Pk.128 ... ..                                 | 5'345486      | 149 11 14 |
| Pk.15 ... ..                                  | 5'276285      | 228 5 48  | 62 B                                          |               |           |
| 62 A                                          |               |           |                                               |               |           |
| Pk.73 ... ..                                  | 5'107138      | 6 35 56   | <b>CHIPALKOT No. 2 h.s.</b>                   |               |           |
| 62 B                                          |               |           | Pk.46 ... ..                                  | 5'069718      | 152 30 27 |
| Pk.117 ... ..                                 | 4'989107      | 287 9 49  | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.94 ... ..                                  | 4'955109      | 175 46 32 |
| Pk.118 ... ..                                 | 4'998995      | 291 33 47 | 62 B                                          |               |           |
| 62 B                                          |               |           | Pk.137 ... ..                                 | 4'958003      | 226 52 25 |
| Pk.119 ... ..                                 | 5'206520      | 330 59 42 | 62 B                                          |               |           |
| 62 B                                          |               |           |                                               |               |           |
| Pk.120 ... ..                                 | 5'190661      | 344 0 15  | <b>CHITICURUN No. 1 h.s.</b>                  |               |           |
| 62 B                                          |               |           | Pk.12 ... ..                                  | 5'598261      | 194 10 25 |
| Pk.121 ... ..                                 | 5'214066      | 338 38 22 | 62 A                                          |               |           |
| 62 B                                          |               |           | Pk.4 ... ..                                   | 5'563305      | 238 44 8  |
| Pk.144 ... ..                                 | 5'148606      | 271 42 57 | 62 E                                          |               |           |
| 62 B                                          |               |           |                                               |               |           |
| Pk.145 ... ..                                 | 5'159634      | 272 55 35 |                                               |               |           |
| 62 B                                          |               |           |                                               |               |           |
| Pk.5 ... ..                                   | 5'480610      | 258 55 4  |                                               |               |           |
| 62 E (Kailas)                                 |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>CHITICHUN No. 1 h.s.—(Contd.)</b>          | <i>Feet</i>   | ° ' "     | <b>CHOTRI h.s.</b>                            | <i>Feet</i>   | ° ' "     |
| Pk.5 (Kailas) ...                             | 5'569854      | 243 25 42 | Pk.65                                         | ...           | ...       |
| 62 E                                          | ...           | ...       | 62 B                                          | 4'550515      | 134 33 15 |
| Pk.6                                          | ...           | ...       | Pk.67                                         | ...           | ...       |
| 62 E                                          | 5'615632      | 248 31 45 | 62 B                                          | 4'383318      | 225 27 21 |
| Pk.10                                         | ...           | ...       | Pk.68                                         | ...           | ...       |
| 62 F                                          | 5'631341      | 254 42 9  | 62 B                                          | 4'338900      | 232 45 20 |
| Pk.12                                         | ...           | ...       | Pk.110                                        | ...           | ...       |
| 62 F                                          | 5'631766      | 257 33 3  | 62 B                                          | 5'036127      | 261 31 27 |
| <b>CHITICHUN No. 2 h.s.</b>                   |               |           | <b>CHUKABCHI h.s.</b>                         |               |           |
| Pk.48                                         | ...           | ...       | Pk.71                                         | ...           | ...       |
| 53 N                                          | 5'384697      | 113 24 47 | 78 A                                          | 5'292955      | 179 56 25 |
| Pk.50                                         | ...           | ...       | Pk.74                                         | ...           | ...       |
| 53 N                                          | 5'342237      | 108 47 47 | 78 A                                          | 4'263597      | 193 3 20  |
| Pk.7                                          | ...           | ...       | Pk.76                                         | ...           | ...       |
| 62 A                                          | 5'397297      | 186 16 25 | 78 A                                          | 4'967367      | 177 48 15 |
| Pk.9                                          | ...           | ...       | Pk.84                                         | ...           | ...       |
| 62 A                                          | 5'376494      | 182 49 58 | 78 A                                          | 4'487644      | 7 7 37    |
| Pk.11 <sup>1</sup>                            | ...           | ...       | Pk.1                                          | ...           | ...       |
| 62 A                                          | 5'574621      | 194 52 56 | 78 E                                          | 5'161929      | 200 5 30  |
| Pk.11 <sup>2</sup>                            | ...           | ...       | Pk.6                                          | ...           | ...       |
| 62 A                                          | 5'574192      | 195 4 43  | 78 E                                          | 5'002221      | 235 15 20 |
| Pk.15                                         | ...           | ...       | Pk.7                                          | ...           | ...       |
| 62 A                                          | 5'426044      | 218 56 35 | 78 E                                          | 5'040041      | 243 29 54 |
| Pk.16                                         | ...           | ...       | Pk.8                                          | ...           | ...       |
| 62 A                                          | 5'426902      | 219 48 27 | 78 E                                          | 5'013084      | 241 50 11 |
| Pk.17                                         | ...           | ...       | Pk.9                                          | ...           | ...       |
| 62 A                                          | 5'426974      | 220 24 2  | 78 E                                          | 4'995134      | 268 7 30  |
| Pk.3                                          | ...           | ...       | Pk.10                                         | ...           | ...       |
| 62 E                                          | 5'517857      | 243 44 13 | 78 E                                          | 5'003739      | 269 21 12 |
| Pk.4                                          | ...           | ...       | Pk.11                                         | ...           | ...       |
| 62 E                                          | 5'538354      | 241 47 44 | 78 E                                          | 4'989136      | 276 4 4   |
| Pk.5 (Kailas)                                 | ...           | ...       | Pk.12                                         | ...           | ...       |
| 62 E                                          | 5'547327      | 246 41 41 | 78 E                                          | 5'006371      | 284 48 56 |
| Pk.5                                          | ...           | ...       | Pk.19                                         | ...           | ...       |
| 62 F                                          | 5'520163      | 283 44 21 | 78 E                                          | 5'355377      | 222 27 16 |
| Pk.7                                          | ...           | ...       | <b>CHUMSERING h.s.</b>                        |               |           |
| 62 F (Gurla Mandhata)                         | 5'523058      | 285 31 56 | Pk.48                                         | ...           | ...       |
| <b>CHOTAKANA h.s.</b>                         |               |           | 78 A                                          | 4'973800      | 141 26 27 |
| Pk.90                                         | ...           | ...       | Pk.50                                         | ...           | ...       |
| 53 N                                          | 4'833904      | 229 14 8  | 78 A                                          | 4'800882      | 153 28 0  |
| Pk.97                                         | ...           | ...       | Pk.52                                         | ...           | ...       |
| 53 N                                          | 4'610086      | 265 9 49  | 78 A                                          | 4'489458      | 110 33 12 |
| Pk.100                                        | ...           | ...       | Pk.66                                         | ...           | ...       |
| 53 N                                          | 4'318324      | 332 44 43 | 78 A                                          | 4'798289      | 163 29 37 |
| Pk.101                                        | ...           | ...       | Pk.68                                         | ...           | ...       |
| 53 N                                          | 4'664536      | 311 31 25 | 78 A                                          | 4'571165      | 169 39 58 |
| Pk.102                                        | ...           | ...       | <b>*DADAPOKKI h.s.</b>                        |               |           |
| 53 N                                          | 4'531389      | 5 35 2    | Pk.9                                          | ...           | ...       |
| Pk.103                                        | ...           | ...       | 53 M                                          | 4'934591      | 283 34 8  |
| 53 N                                          | 4'698553      | 316 27 53 | Pk.2                                          | ...           | ...       |
| Pk.106                                        | ...           | ...       | 53 N                                          | 4'985823      | 290 12 45 |
| 53 N                                          | 4'682393      | 321 34 33 | Pk.3                                          | ...           | ...       |
| Pk.107                                        | ...           | ...       | 53 N                                          | 4'885084      | 327 21 37 |
| 53 N                                          | 4'807867      | 306 11 19 |                                               |               |           |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>DAIU LA h.s.</b>                           |               |           | <b>DANCHAR h.s.—(Contd.)</b>                  |               |           |
| Pk.39<br>72 I ... ..                          | 5'593701      | 114 28 40 | Pk.115<br>62 B ... ..                         | 5'051653      | 278 5 6   |
| Pk.30<br>72 M ... ..                          | 5'204832      | 126 51 25 | Pk.61<br>62 C ... ..                          | 5'028491      | 284 39 7  |
| Pk.38<br>72 M ... ..                          | 5'313551      | 49 48 55  | Pk.62<br>62 C ... ..                          | 5'029919      | 284 59 3  |
| Pk.49<br>72 M ... ..                          | 4'727039      | 134 58 23 |                                               |               |           |
| Pk.15 <sup>2</sup><br>78 A ... ..             | 4'876882      | 156 35 35 | <b>DARJEELING, BIRCH HILL h.s.</b>            |               |           |
| Pk.17<br>78 A ... ..                          | 4'780986      | 179 33 25 | Pk.10 <sup>1</sup><br>78 A (Kinchinjunga)     | 5'374957      | 171 34 37 |
| Pk.19<br>78 A ... ..                          | 4'744800      | 197 56 19 | Pk.10 <sup>2</sup><br>78 A (Kinchinjunga)     | 5'367219      | 171 57 14 |
| Pk.21<br>78 A ... ..                          | 4'535205      | 161 40 20 | Pk.13<br>78 A (Jano) ...                      | 5'375339      | 163 16 12 |
| Pk.22<br>78 A ... ..                          | 4'418115      | 176 17 21 | Pk.18<br>78 A (Pandim) ...                    | 5'277292      | 176 15 42 |
| Pk.26<br>78 A ... ..                          | 4'561437      | 353 25 42 | Pk.44<br>78 A (Narsing) ...                   | 5'217986      | 182 57 46 |
|                                               |               |           | Pk.54<br>78 A ... ..                          | 5'558570      | 201 0 26  |
| <b>DAMJAN h.s.</b>                            |               |           | Pk.69<br>78 A (Pauhunri) ...                  | 5'574948      | 210 15 45 |
| Pk.91<br>53 N ... ..                          | 4'289670      | 325 5 15  | Pk.78<br>78 A ... ..                          | 5'397671      | 221 40 55 |
| Pk.5<br>62 B ... ..                           | 4'878252      | 315 14 42 | Pk.80<br>78 A (Chumunko) ...                  | 5'353097      | 229 33 40 |
|                                               |               |           | Pk.85<br>78 A (Gyi-mo-chi) ...                | 5'350378      | 249 17 14 |
| <b>DAMSONG h.s.</b>                           |               |           |                                               |               |           |
| Pk.61<br>78 A ... ..                          | 5'272465      | 173 48 51 | <b>DARJEELING h.s.</b>                        |               |           |
| Pk.62<br>78 A ... ..                          | 5'230488      | 177 30 16 | Pk.10 <sup>2</sup><br>78 A (Kinchinjunga)     | 5'375247      | 171 3 0   |
| Pk.64 <sup>3</sup><br>78 A ... ..             | 4'899051      | 167 37 14 | Pk.18<br>78 A (Pandim) ...                    | 5'286516      | 175 3 31  |
| Pk.65<br>78 A ... ..                          | 4'888822      | 207 54 16 | Pk.44<br>78 A (Narsing) ...                   | 5'227291      | 181 25 59 |
| Pk.67<br>78 A ... ..                          | 4'746994      | 208 3 26  | Pk.80<br>78 A (Chumunko) ...                  | 5'351558      | 228 7 22  |
|                                               |               |           | Pk.85<br>78 A (Gyi-mo-chi) ...                | 5'345170      | 247 59 23 |
| <b>DANADHAR h.s.</b>                          |               |           |                                               |               |           |
| Pk.111<br>62 B ... ..                         | 4'463162      | 274 19 28 | <b>DARJEELING OBSERVATORY h.s.</b>            |               |           |
|                                               |               |           | Pk.9<br>78 A (Kambachen) ...                  | 5'395369      | 168 9 21  |
| <b>DANCHAR h.s.</b>                           |               |           | Pk.48<br>78 A ... ..                          | 5'056296      | 202 36 6  |
| Pk.132<br>53 N ... ..                         | 4'746198      | 98 21 29  | Pk.55<br>78 A ... ..                          | 5'564099      | 202 22 16 |
| Pk.51<br>62 B ... ..                          | 4'804795      | 180 54 30 | Pk.69<br>78 A (Pauhunri) ...                  | 5'576129      | 209 25 13 |
| Pk.55<br>62 B ... ..                          | 4'735273      | 167 51 14 | Pk.78<br>78 A ... ..                          | 5'559369      | 212 53 47 |
| Pk.107<br>82 B ... ..                         | 5'053138      | 258 44 24 |                                               |               |           |
| Pk.113<br>62 B ... ..                         | 5'053549      | 274 54 26 |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>DAUKURI h.s.</b>                           | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| Pk.122                                        |               |           | <b>DEODEKNI h.s.</b>                          |               |           |
| 53 N                                          | 4'847942      | 191 22 34 | Pk.45                                         | 4'516448      | 231 44 3  |
| Pk.123                                        |               |           | 53 N                                          |               |           |
| 53 N                                          | 4'786347      | 192 15 55 |                                               |               |           |
| Pk.126                                        |               |           | <b>DEOLAKOT h.s.</b>                          |               |           |
| 53 N                                          | 4'711089      | 198 20 39 | Pk.81                                         | 5'035345      | 178 20 21 |
| Pk.127                                        |               |           | 62 B                                          |               |           |
| 53 N                                          | 4'711021      | 202 28 1  |                                               |               |           |
| Pk.128                                        |               |           | <b>DEOLO h.s.</b>                             |               |           |
| 53 N                                          | 4'660841      | 169 56 53 | Pk.68                                         | 4'754095      | 200 13 53 |
| Pk.130                                        |               |           | 78 A                                          |               |           |
| 53 N                                          | 4'466573      | 202 26 53 |                                               |               |           |
| Pk.131                                        |               |           | <b>DEVITONK h.s.</b>                          |               |           |
| 53 N                                          | 4'498148      | 223 59 3  | Pk.65                                         | 5'534866      | 222 48 9  |
| Pk.42                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'943181      | 213 30 37 | Pk.68                                         | 5'515095      | 223 52 23 |
| Pk.43                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'946814      | 215 31 54 | Pk.98                                         | 5'596161      | 231 1 7   |
| Pk.48                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'918106      | 218 59 26 | Pk.109                                        | 5'562003      | 236 23 16 |
| Pk.50                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'863343      | 211 11 9  | Pk.110                                        | 5'556249      | 236 9 1   |
| Pk.52                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'916837      | 224 20 32 | Pk.119                                        | 5'471257      | 245 14 23 |
| Pk.54                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'805982      | 215 52 4  | Pk.124                                        | 5'454653      | 249 22 12 |
| Pk.56                                         |               |           | 53 N                                          |               |           |
| 62 B                                          | 4'934761      | 235 49 43 | Pk.125                                        | 5'461495      | 251 28 35 |
| Pk.57                                         |               |           |                                               |               |           |
| 62 B                                          | 4'946191      | 238 16 25 | <b>ДНАД h.s.</b>                              |               |           |
| Pk.59                                         |               |           | Pk.120                                        | 5'408766      | 155 45 13 |
| 62 B                                          | 4'737460      | 233 28 1  | 53 N                                          |               |           |
| Pk.60                                         |               |           | Pk.157                                        | 5'391763      | 234 49 5  |
| 62 B                                          | 4'707675      | 231 47 58 | 62 B                                          |               |           |
| Pk.61                                         |               |           | Pk.158                                        | 5'554416      | 229 13 10 |
| 62 B                                          | 4'676553      | 228 47 36 | 62 B                                          |               |           |
| Pk.62                                         |               |           | Pk.160                                        | 5'382914      | 237 14 12 |
| 62 B                                          | 4'691501      | 236 14 46 | 62 B                                          |               |           |
| Pk.63                                         |               |           | Pk.10                                         | 5'033198      | 212 1 59  |
| 62 B                                          | 4'898516      | 250 23 41 | 62 C                                          |               |           |
| Pk.64                                         |               |           | Pk.11                                         | 4'952119      | 174 53 25 |
| 62 B                                          | 4'661578      | 241 45 39 | 62 C                                          |               |           |
| Pk.65                                         |               |           | Pk.12                                         | 4'949533      | 208 51 57 |
| 62 B                                          | 4'632121      | 249 10 2  | 62 C                                          |               |           |
| Pk.88                                         |               |           | Pk.13                                         | 4'792118      | 290 22 49 |
| 62 B                                          | 5'248304      | 248 36 16 | 62 C                                          |               |           |
| Pk.90                                         |               |           | Pk.14                                         | 4'861267      | 324 49 24 |
| 62 B                                          | 5'190667      | 246 33 38 | 62 C                                          |               |           |
| Pk.91                                         |               |           | Pk.17                                         | 5'165770      | 350 35 28 |
| 62 B                                          | 5'234793      | 250 9 44  | 62 C                                          |               |           |
| Pk.96                                         |               |           | Pk.18 <sup>9</sup>                            | 5'187012      | 341 30 24 |
| 62 B                                          | 5'216321      | 252 37 51 | 62 C                                          |               |           |
| Pk.99                                         |               |           |                                               |               |           |
| 62 B                                          | 5'258950      | 257 0 49  |                                               |               |           |
| Pk.104                                        |               |           |                                               |               |           |
| 62 B                                          | 5'253966      | 261 41 9  |                                               |               |           |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>DHAJ h.s.—(Contd.)</b>                     |               |           | <b>DHAPIADHURA h.s.</b>                       |               |           |
| Pk.30<br>62 C                                 | 5°011688      | 240 52 28 | Pk 116<br>62 B                                | 4°640289      | 150 23 36 |
| Pk.32<br>62 C                                 | 4°902598      | 243 23 35 | Pk.4<br>62 C                                  | 4°557005      | 144 49 2  |
| Pk.33<br>62 C                                 | 5°131832      | 281 10 46 | Pk 5<br>62 C                                  | 4°626933      | 132 56 55 |
| Pk.34<br>62 C                                 | 5°089496      | 286 4 50  |                                               |               |           |
| Pk.35<br>62 C                                 | 5°011534      | 290 34 33 | <b>DIPANI, LXXX</b>                           |               |           |
| Pk.40<br>62 C                                 | 5°263221      | 255 49 43 | Pk.4<br>71 H                                  | 5°776696      | 181 27 57 |
| Pk.43<br>62 C                                 | 5°347786      | 273 36 8  | Pk.6<br>71 H                                  | 5°775116      | 181 9 44  |
| Pk.45<br>62 C                                 | 5°318410      | 276 54 7  | Pk.7<br>71 H                                  | 5°772973      | 178 59 14 |
| Pk.46<br>62 C                                 | 5°219715      | 293 10 5  | Pk.11<br>71 H                                 | 5°766579      | 179 20 42 |
| Pk.47<br>62 C                                 | 5°226491      | 293 49 43 | Pk.13<br>71 H                                 | 5°760371      | 182 13 23 |
| Pk.48<br>62 C                                 | 5°227267      | 295 18 29 | Pk.19<br>71 H                                 | 5°749413      | 193 11 43 |
| Pk.1<br>62 G                                  | 5°415577      | 242 3 40  | Pk.20<br>71 H                                 | 5°746715      | 192 45 4  |
| Pk.3<br>62 G                                  | 5°403881      | 250 10 22 | Pk.27<br>71 H                                 | 5°768763      | 197 22 4  |
| Pk.4<br>62 G                                  | 5°396185      | 252 49 4  | Pk.28<br>71 H                                 | 5°764414      | 197 40 48 |
| Pk.5<br>62 G                                  | 5°417310      | 254 39 54 | Pk.30<br>71 H                                 | 5°756964      | 195 8 5   |
| Pk.7<br>62 G                                  | 5°408370      | 264 17 31 | Pk.31<br>71 H                                 | 5°756165      | 195 19 30 |
| Pk.8 <sup>1</sup><br>62 G                     | 5°411323      | 264 54 29 | Pk.32<br>71 H                                 | 5°759249      | 197 10 38 |
| Pk.8 <sup>2</sup><br>62 G                     | 5°412221      | 264 59 14 | Pk.33<br>71 H                                 | 5°751119      | 193 31 6  |
| Pk.9<br>62 G                                  | 5°367238      | 270 44 27 | Pk.38 <sup>1</sup><br>71 H                    | 5°728895      | 195 53 34 |
| Pk.18<br>62 G                                 | 5°530286      | 277 49 21 | Pk.38 <sup>2</sup><br>71 H                    | 5°728902      | 196 2 30  |
| Pk.21<br>62 G                                 | 5°601044      | 289 46 5  | Pk.40<br>71 H                                 | 5°731920      | 198 6 43  |
| Pk.31<br>62 G                                 | 5°619553      | 282 46 26 | Pk.43<br>71 H                                 | 5°794824      | 200 31 48 |
| Pk.34<br>62 G                                 | 5°608789      | 287 4 24  | Pk.44<br>71 H                                 | 5°797549      | 201 41 22 |
|                                               |               |           | Pk.45<br>71 H                                 | 5°792930      | 200 14 10 |
|                                               |               |           | Pk.46<br>71 H                                 | 5°794317      | 200 52 58 |
| <b>DHAMIGAN h.s.</b>                          |               |           | (Gosainthan)<br>Pk.47<br>71 H                 | 5°794761      | 201 11 29 |
| Pk.101<br>62 B                                | 4°905203      | 188 3 16  | Pk.48<br>71 H                                 | 5°786539      | 202 13 45 |
| Pk.109<br>62 B                                | 4°836726      | 220 51 41 | Pk.51<br>71 H                                 | 5°760034      | 202 53 6  |
| Pk 5<br>62 C                                  | 4°224190      | 160 31 27 | Pk.53<br>71 H                                 | 5°755117      | 204 22 52 |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      |
|-----------------------------------------------|---------------|--------------|-----------------------------------------------|---------------|--------------|
| <i>DIPAHI, LXXX—(Contd.)</i>                  |               |              | <i>DIPAHI, LXXX—(Contd.)</i>                  |               |              |
|                                               | <i>Feet</i>   | <i>° ' "</i> |                                               | <i>Feet</i>   | <i>° ' "</i> |
| Pk.54                                         | 5'750628      | 203 3 59     | Pk.18                                         | 5'789449      | 228 11 39    |
| 71 H ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.55                                         | 5'750286      | 203 14 30    | Pk.22                                         | 5'780071      | 230 18 17    |
| 71 H (Jibjibia West)                          |               |              | 72 I ...                                      |               |              |
| Pk.56                                         | 5'753277      | 204 28 5     | Pk.23                                         | 5'787660      | 231 9 29     |
| 71 H ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.57                                         | 5'748288      | 206 38 44    | Pk.24                                         | 5'781962      | 230 39 51    |
| 71 H (Jibjibia East) ...                      |               |              | 72 I ...                                      |               |              |
| Pk.58                                         | 5'746484      | 207 2 57     | Pk.26                                         | 5'786824      | 231 25 17    |
| 71 H ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.59                                         | 5'746174      | 207 58 38    | Pk.29                                         | 5'780985      | 232 15 50    |
| 71 H ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.60                                         | 5'744573      | 208 8 12     | Pk.30                                         | 5'785603      | 232 57 6     |
| 71 H ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.3                                          | 5'442691      | 184 11 44    | Pk.32                                         | 5'785069      | 233 53 9     |
| 72 E ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.6                                          | 5'422575      | 187 43 43    | Pk.34                                         | 5'785681      | 234 11 24    |
| 72 E ...                                      |               |              | 72 I ...                                      |               |              |
| Pk.7                                          | 5'476581      | 205 0 22     | <i>DIWANGANJ, CII</i>                         |               |              |
| 72 E ...                                      |               |              | Pk.5                                          | 5'821846      | 173 14 3     |
| Pk.8                                          | 5'471377      | 204 29 46    | 71 L ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.2                                          | 5'841901      | 199 2 57     |
| Pk.11 <sup>1</sup>                            | 5'442531      | 199 9 18     | 71 P ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.27                                         | 5'745337      | 171 16 19    |
| Pk.11 <sup>2</sup>                            | 5'442605      | 199 23 43    | 72 I ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.33                                         | 5'728293      | 169 52 6     |
| Pk.12                                         | 5'473660      | 207 27 50    | 72 I ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.38                                         | 5'784701      | 181 52 23    |
| Pk.13                                         | 5'475272      | 207 58 13    | 72 I ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.44                                         | 5'726092      | 181 42 37    |
| Pk.14                                         | 5'479141      | 211 7 17     | 72 I ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.4                                          | 5'751299      | 184 45 38    |
| Pk.15                                         | 5'475548      | 210 27 4     | 72 M ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.5                                          | 5'753623      | 188 45 41    |
| Pk.16                                         | 5'473832      | 213 27 58    | 72 M ...                                      |               |              |
| 72 E ...                                      |               |              | Pk.7                                          | 5'731704      | 187 41 11    |
| Pk.17                                         | 5'495439      | 220 27 36    | 72 M ...                                      |               |              |
| 72 E ...                                      |               |              | <i>DOBADHAR h.s.</i>                          |               |              |
| Pk.1                                          | 5'738680      | 216 34 57    | Pk.101                                        | 4'490836      | 187 16 58    |
| 72 I ...                                      |               |              | 62 B ...                                      |               |              |
| Pk.4                                          | 5'790579      | 223 56 40    | <i>DOIWALA, LV*</i>                           |               |              |
| 72 I ...                                      |               |              | Pk.68                                         | 5'553848      | 205 34 59    |
| Pk.5                                          | 5'791521      | 224 7 48     | 53 I ...                                      |               |              |
| 72 I ...                                      |               |              | Pk.69                                         | 5'557063      | 206 53 51    |
| Pk.7                                          | 5'800684      | 225 52 40    | 53 I (Bandarpunch)                            |               |              |
| 72 I ...                                      |               |              | <i>DOLU h.s.</i>                              |               |              |
| Pk.8                                          | 5'775398      | 222 31 15    | Pk.56                                         | 4'827426      | 45 15 28     |
| 72 I ...                                      |               |              | 53 N ...                                      |               |              |
| Pk.9                                          | 5'775389      | 222 46 16    | Pk.83                                         | 4'193837      | 76 39 21     |
| 72 I ...                                      |               |              | 53 N ...                                      |               |              |
| Pk.10                                         | 5'780521      | 223 30 48    |                                               |               |              |
| 72 I ...                                      |               |              |                                               |               |              |
| Pk.11                                         | 5'772999      | 223 13 30    |                                               |               |              |
| 72 I ...                                      |               |              |                                               |               |              |
| Pk.12                                         | 5'781810      | 225 40 36    |                                               |               |              |
| 72 I ...                                      |               |              |                                               |               |              |
| Pk.14                                         | 5'778781      | 229 5 36     |                                               |               |              |
| 72 I ...                                      |               |              |                                               |               |              |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30°.



| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>DOMBAN h.s.</b>                            |               |           | <b>DOTI h.s.</b>                              |               |           |
| <u>Pk.50</u> ... ..                           | 5'196344      | 174 54 47 | <u>Pk.148</u> ... ..                          | 4'598899      | 210 2 42  |
| <u>53 N</u>                                   |               |           | <u>62 B</u>                                   |               |           |
| <u>Pk.62</u> ... ..                           | 4'965050      | 187 10 36 | <u>Pk.149</u> ... ..                          | 4'580616      | 147 36 12 |
| <u>53 N</u>                                   |               |           | <u>62 B</u>                                   |               |           |
| <u>Pk.71</u> ... ..                           | 4'569021      | 196 30 36 | <u>Pk.151</u> ... ..                          | 4'239419      | 182 28 5  |
| <u>53 N</u>                                   |               |           | <u>62 B</u>                                   |               |           |
| <u>Pk.72</u> ... ..                           | 4'461811      | 287 40 0  |                                               |               |           |
| <u>53 N</u>                                   |               |           | <b>DUMDANGI, CXXIII</b>                       |               |           |
| <u>Pk.95</u> ... ..                           | 4'930392      | 208 54 4  | <u>Pk.37</u> (Mount Everest)                  | 5'849111      | 141 24 44 |
| <u>53 N</u>                                   |               |           | <u>72 I</u>                                   |               |           |
| <u>Pk.111</u> ... ..                          | 4'762301      | 260 7 47  | <u>Pk.2</u> (Makalu) ...                      | 5'810044      | 143 2 31  |
| <u>53 N</u>                                   |               |           | <u>72 M</u>                                   |               |           |
|                                               |               |           | <u>Pk.8</u> ... ..                            | 5'765917      | 138 11 33 |
|                                               |               |           | <u>72 M</u>                                   |               |           |
|                                               |               |           | <u>Pk.10<sup>1</sup></u> (Kinchinjunga)       | 5'651814      | 174 4 45  |
|                                               |               |           | <u>78 A</u>                                   |               |           |
| <b>DONGU No. 1 h.s.</b>                       |               |           | <u>Pk.13</u> (Jano) ...                       | 5'649336      | 169 41 7  |
| <u>Pk.2</u> ... ..                            | 5'783741      | 146 20 37 | <u>78 A</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.16</u> (Kabru) ...                      | 5'619053      | 171 58 18 |
| <u>Pk.9</u> ... ..                            | 5'657611      | 157 19 21 | <u>78 A</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.44</u> (Narsing) ...                    | 5'575832      | 179 32 19 |
| <u>Pk.40</u> ... ..                           | 5'742977      | 124 24 29 | <u>78 A</u>                                   |               |           |
| <u>53 I</u>                                   |               |           | <u>Pk.80</u> (Chumunko) ...                   | 5'593218      | 204 5 59  |
| <u>Pk.70</u> ... ..                           | 5'749497      | 128 1 21  | <u>78 A</u>                                   |               |           |
| <u>53 I</u>                                   |               |           |                                               |               |           |
| <u>Pk.19</u> ... ..                           | 4'917722      | 99 4 10   | <b>ELPADHURA h.s.</b>                         |               |           |
| <u>53 M</u>                                   |               |           | <u>Pk.4</u> ... ..                            | 4'909046      | 273 58 27 |
| <u>Pk.5</u> ... ..                            | 5'603454      | 301 33 45 | <u>62 F</u>                                   |               |           |
| <u>62 F</u>                                   |               |           |                                               |               |           |
| <u>Pk.6</u> ... ..                            | 5'620132      | 300 36 0  | <b>ENDONG h.s.</b>                            |               |           |
| <u>62 F</u>                                   |               |           | <u>Pk.2</u> ... ..                            | 5'308221      | 172 49 29 |
| <u>Pk.7</u> ... ..                            | 5'609109      | 302 52 25 | <u>77 D</u>                                   |               |           |
| <u>62 F</u> (Gurla Mandhata)                  |               |           |                                               |               |           |
|                                               |               |           | <b>GAJBARA No. 1 h.s.</b>                     |               |           |
| <b>DONGU No. 2 h.s.</b>                       |               |           | <u>Pk.1</u> ... ..                            | 3'972321      | 46 32 23  |
| <u>Pk.2</u> ... ..                            | 5'776311      | 146 30 41 | <u>53 K</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.2</u> ... ..                            | 4'409293      | 67 58 13  |
| <u>Pk.3</u> ... ..                            | 5'760603      | 143 44 30 | <u>53 K</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.3</u> ... ..                            | 4'593107      | 70 3 23   |
| <u>Pk.4</u> ... ..                            | 5'750281      | 141 5 53  | <u>53 K</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.4</u> ... ..                            | 4'506492      | 37 21 7   |
| <u>Pk.5</u> ... ..                            | 5'749233      | 140 50 50 | <u>53 K</u>                                   |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.6</u> ... ..                            | 4'486403      | 6 19 44   |
| <u>Pk.8</u> ... ..                            | 5'718731      | 150 15 51 | <u>53 K</u>                                   |               |           |
| <u>62 P</u>                                   |               |           |                                               |               |           |
| <u>Pk.9</u> ... ..                            | 5'647172      | 157 48 6  | <b>GAJBARA No. 2 h.s.</b>                     |               |           |
| <u>62 P</u>                                   |               |           | <u>Pk.2</u> ... ..                            | 4'382465      | 62 4 53   |
| <u>Pk.40</u> ... ..                           | 5'734847      | 124 10 23 | <u>53 K</u>                                   |               |           |
| <u>53 I</u>                                   |               |           | <u>Pk.6</u> ... ..                            | 4'507083      | 1 36 52   |
| <u>Pk.20</u> ... ..                           | 4'872937      | 94 12 43  | <u>53 K</u>                                   |               |           |
| <u>53 M</u>                                   |               |           | <u>Pk.7</u> ... ..                            | 4'828035      | 339 40 30 |
| <u>Pk.48</u> ... ..                           | 5'300730      | 77 35 59  | <u>53 K</u>                                   |               |           |
| <u>53 N</u>                                   |               |           |                                               |               |           |
| <u>Pk.121</u> ... ..                          | 5'379061      | 331 28 6  |                                               |               |           |
| <u>62 B</u>                                   |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>GANESHGANGA h.s.</b>                       | <i>Feet</i>   | ° ' "     | <b>GHANDIAL h.s.</b>                          | <i>Feet</i>   | ° ' "     |
| Pk.20<br>53 M ... ..                          | 4'525536      | 176 41 24 | Pk.12<br>53 J ... ..                          | 5'455897      | 213 26 55 |
| Pk.77<br>53 N ... ..                          | 4'515384      | 140 40 30 | Pk.13<br>53 J ... ..                          | 5'467819      | 217 40 33 |
| Pk.78<br>53 N ... ..                          | 4'469323      | 136 56 23 | Pk.16<br>53 J ... ..                          | 5'426533      | 210 34 19 |
| Pk.80<br>53 N ... ..                          | 4'344004      | 82 14 10  | Pk.65<br>53 N ... ..                          | 5'638620      | 249 15 18 |
| Pk.81<br>53 N ... ..                          | 4'331251      | 68 37 3   | Pk.68<br>53 N ... ..                          | 5'627765      | 250 55 21 |
| Pk.82<br>53 N ... ..                          | 4'341205      | 295 53 48 | Pk.98<br>53 N ... ..                          | 5'702513      | 252 31 56 |
| Pk.83<br>53 N ... ..                          | 4'335498      | 53 58 49  | Pk.99<br>53 N ... ..                          | 5'703963      | 253 40 8  |
|                                               |               |           | Pk.109<br>53 N ... ..                         | 5'689747      | 257 36 56 |
| <b>GANESPUR, XLVIII</b>                       |               |           | Pk.112<br>53 N ... ..                         | 5'683101      | 259 2 43  |
| Pk.1<br>62 L ... ..                           | 5'693401      | 100 35 11 | Pk.119<br>53 N ... ..                         | 5'647668      | 266 32 7  |
| Pk.4<br>62 P ... ..                           | 5'698128      | 203 1 33  | Pk.124<br>53 N ... ..                         | 5'644879      | 269 34 43 |
| Pk.8<br>62 P ... ..                           | 5'716939      | 207 55 10 | Pk.125<br>53 N ... ..                         | 5'652540      | 270 39 22 |
|                                               |               |           | Pk.9<br>62 B ... ..                           | 5'711433      | 254 59 53 |
| <b>GARAPHOR h.s.</b>                          |               |           | <b>GHTAMEMIN h.s.</b>                         |               |           |
| Pk.1<br>62 C ... ..                           | 4'471384      | 27 53 41  | Pk.4<br>62 P ... ..                           | 5'815851      | 145 52 57 |
|                                               |               |           | Pk.5<br>62 P ... ..                           | 5'814816      | 145 40 39 |
| <b>GHANADHURA h.s.</b>                        |               |           | Pk.8<br>62 P ... ..                           | 5'793432      | 153 55 13 |
| Pk.116<br>62 B ... ..                         | 4'762130      | 173 40 49 | Pk.70<br>62 A ... ..                          | 5'799493      | 134 33 57 |
|                                               |               |           | 53 I ... ..                                   | 5'604517      | 156 27 43 |
| <b>GHANDIAL, LVI*</b>                         |               |           | Pk.18<br>53 M ... ..                          | 5'337954      | 106 14 23 |
| Pk.69 (Bandarpunch)<br>53 I ... ..            | 5'457164      | 188 12 3  | Pk.48<br>53 N ... ..                          | 5'296434      | 100 18 17 |
| Pk.7 (Srikanta) ... ..                        | 5'466128      | 204 9 9   | Pk.50<br>53 N ... ..                          | 5'538431      | 198 31 52 |
| Pk.14 (Tharlasagar) ... ..                    | 5'467600      | 217 39 51 | Pk.11 <sup>1</sup><br>62 A ... ..             | 5'529348      | 197 34 49 |
| Pk.17 (Jaonli) ... ..                         | 5'426361      | 210 34 49 | 62 A ... ..                                   | 5'479250      | 212 30 24 |
| Pk.7 (Kedarnath) ... ..                       | 5'464188      | 224 0 8   | Pk.13 <sup>2</sup><br>62 A ... ..             | 5'397636      | 226 26 55 |
| 53 N ... ..                                   | 5'514831      | 231 40 57 | Pk.15<br>62 A ... ..                          | 5'399459      | 227 20 48 |
| Pk.27 (Badrinath) ... ..                      | 5'516295      | 235 4 39  | Pk.16<br>62 A ... ..                          | 5'400165      | 227 58 16 |
| 53 N ... ..                                   | 5'669666      | 256 30 9  | Pk.17<br>62 A ... ..                          | 5'260855      | 312 58 58 |
| Pk.108 (Dunagiri) ... ..                      | 5'691488      | 263 7 53  | Pk.122<br>62 B ... ..                         |               |           |
| 53 N ... ..                                   |               |           |                                               |               |           |

\* This station appertains to the Great Arc Meridional Series—Section 24°-30°.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>GHATAMEMIN h.s.—(Contd.)</b>               |               |           | <b>GHIDA, CIX</b>                             |               |           |
| Pk.144 ... ..                                 | 5'269706      | 257 2 20  | Pk.5<br>71 L ... ..                           | 5'843711      | 165 37 2  |
| 62 B ... ..                                   | 5'538070      | 198 44 53 | Pk.27<br>72 I ... ..                          | 5'774490      | 162 24 24 |
| Pk.145 ... ..                                 | 5'369295      | 311 58 31 | Pk.45<br>72 I ... ..                          | 5'748418      | 166 17 37 |
| 62 B ... ..                                   | 5'516024      | 250 18 43 | Pk.3<br>72 M ... ..                           | 5'764648      | 177 42 47 |
| Pk.3 ... ..                                   | 5'425899      | 271 23 21 | Pk.28<br>72 M ... ..                          | 5'744625      | 194 52 17 |
| 62 E ... ..                                   | 5'428474      | 271 49 11 | Pk.29<br>72 M ... ..                          | 5'739970      | 194 6 52  |
| Pk.1 ... ..                                   | 5'540353      | 292 25 58 | Pk.32<br>72 M ... ..                          | 5'721591      | 191 52 9  |
| 62 F ... ..                                   |               |           | Pk.6<br>72 N ... ..                           | 5'365182      | 184 7 10  |
| Pk.2 ... ..                                   |               |           | Pk.7<br>72 N ... ..                           | 5'364994      | 186 2 42  |
| 62 F ... ..                                   |               |           | Pk.9<br>72 N ... ..                           | 5'361709      | 184 43 2  |
| Pk.3 ... ..                                   |               |           |                                               |               |           |
| 62 F ... ..                                   |               |           | <b>GHUNGTI, IV</b>                            |               |           |
| Pk.3 ... ..                                   |               |           | Pk.69<br>53 I (Bandarpunch) ... ..            | 5'669146      | 165 42 55 |
| 62 F ... ..                                   |               |           | Pk.15<br>53 J ... ..                          | 5'603291      | 183 19 4  |
| Pk.1 ... ..                                   |               |           | Pk.17<br>53 J (Jaonli) ... ..                 | 5'600629      | 177 3 10  |
| 62 L ... ..                                   |               |           | Pk.7<br>53 N (Kedarnath) ... ..               | 5'580154      | 186 56 1  |
| Pk.1 ... ..                                   |               |           | Pk.9<br>53 N ... ..                           | 5'584389      | 195 8 35  |
| 62 P ... ..                                   |               |           | Pk.27<br>53 N (Badrinath) ... ..              | 5'571905      | 197 34 57 |
| Pk.2 ... ..                                   |               |           | Pk.28<br>53 N (Nilakanta) ... ..              | 5'585411      | 203 20 31 |
| 62 P ... ..                                   |               |           | Pk.49<br>53 N (Kamet) ... ..                  | 5'674037      | 206 28 24 |
| Pk.3 ... ..                                   |               |           | Pk.63<br>53 N ... ..                          | 5'620992      | 216 10 49 |
| 62 P ... ..                                   |               |           | Pk.75<br>53 N ... ..                          | 5'526133      | 228 31 8  |
| Pk.6 ... ..                                   |               |           | Pk.76<br>53 N (Nandakna) ... ..               | 5'519445      | 229 26 44 |
| 62 P ... ..                                   |               |           | Pk.108<br>53 N (Dunagiri) ... ..              | 5'608478      | 227 9 24  |
| Pk.6 ... ..                                   |               |           | Pk.117<br>53 N (Triul West) ... ..            | 5'527551      | 233 13 51 |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.8 ... ..                                   |               |           | <b>GOLPHA h.s.</b>                            |               |           |
| 62 P ... ..                                   |               |           | Pk.46<br>62 B ... ..                          | 5'012233      | 137 15 40 |
| Pk.9 ... ..                                   |               |           | Pk.94<br>62 B ... ..                          | 4'814364      | 160 3 1   |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.9 (Dhaulagiri) ... ..                      |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.10 ... ..                                  |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.12 ... ..                                  |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.16 ... ..                                  |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.18 ... ..                                  |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.20 ... ..                                  |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.22 <sup>1</sup> ... ..                     |               |           |                                               |               |           |
| 62 P ... ..                                   |               |           |                                               |               |           |
| Pk.2 ... ..                                   |               |           |                                               |               |           |
| 71 D ... ..                                   |               |           |                                               |               |           |
| Pk.3 ... ..                                   |               |           |                                               |               |           |
| 71 D ... ..                                   |               |           |                                               |               |           |
| Pk.7 ... ..                                   |               |           |                                               |               |           |
| 71 D ... ..                                   |               |           |                                               |               |           |
| Pk.14 ... ..                                  |               |           |                                               |               |           |
| 71 D ... ..                                   |               |           |                                               |               |           |
| Pk.16 ... ..                                  |               |           |                                               |               |           |
| 71 D ... ..                                   |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>GOMPACHIN No. 1 h.s.</b>                   | <i>Feet</i>   | ° ' "     | <b>GORAKHNATH h.s.—(Contd.)</b>               | <i>Feet</i>   | ° ' "     |
| Pk.2                                          | ...           | ...       | Pk.11                                         | ...           | ...       |
| 62 A                                          | 5'410292      | 159 56 13 | 62 G                                          | 5'456952      | 242 13 46 |
| Pk.7                                          | ...           | ...       | Pk.12                                         | ...           | ...       |
| 62 A                                          | 5'253319      | 173 55 18 | 62 G                                          | 5'446334      | 258 34 56 |
| Pk.9                                          | ...           | ...       | Pk.20                                         | ...           | ...       |
| 62 A                                          | 5'233621      | 168 22 30 | 62 G                                          | 5'603976      | 265 17 2  |
| Pk.14                                         | ...           | ...       | Pk.23                                         | ...           | ...       |
| 62 A                                          | 5'280707      | 218 5 49  | 62 G                                          | 5'650712      | 245 22 29 |
| Pk.117                                        | ...           | ...       | Pk.24                                         | ...           | ...       |
| 62 B                                          | 4'880189      | 283 25 42 | 62 G                                          | 5'652363      | 245 48 23 |
| Pk.118                                        | ...           | ...       | Pk.25                                         | ...           | ...       |
| 62 B                                          | 4'890559      | 289 9 43  | 62 G                                          | 5'649887      | 246 20 24 |
| Pk.120                                        | ...           | ...       | Pk.26                                         | ...           | ...       |
| 62 B                                          | 5'145773      | 350 24 19 | 62 G                                          | 5'648307      | 246 38 45 |
| Pk.144                                        | ...           | ...       | Pk.27                                         | ...           | ...       |
| 62 B                                          | 5'084877      | 266 44 26 | 62 G                                          | 5'644772      | 248 57 27 |
| Pk.145                                        | ...           | ...       | Pk.28                                         | ...           | ...       |
| 62 B                                          | 5'096695      | 268 16 42 | 62 G                                          | 5'649225      | 250 36 41 |
| Pk.1                                          | ...           | ...       | Pk.29                                         | ...           | ...       |
| 62 F                                          | 5'323508      | 281 20 41 | 62 G                                          | 5'643776      | 252 43 25 |
| Pk.2                                          | ...           | ...       | Pk.30                                         | ...           | ...       |
| 62 F                                          | 5'327421      | 281 48 26 | 62 G                                          | 5'641101      | 253 7 26  |
| Pk.5                                          | ...           | ...       | Pk.32                                         | ...           | ...       |
| 62 F                                          | 5'495345      | 298 26 36 | 62 G                                          | 5'629249      | 265 12 43 |
| Pk.6                                          | ...           | ...       |                                               |               |           |
| 62 F                                          | 5'517109      | 297 22 42 |                                               |               |           |
| Pk.8                                          | ...           | ...       | <b>GOTING h.s.</b>                            |               |           |
| 62 F                                          | 5'490944      | 302 44 13 | Pk.46                                         | ...           | ...       |
| Pk.9                                          | ...           | ...       | 53 N                                          | 4'751896      | 154 26 55 |
| 62 F                                          | 5'574394      | 307 16 9  | Pk.85                                         | ...           | ...       |
|                                               |               |           | 53 N                                          | 4'550024      | 269 18 46 |
| <b>GOMPACHIN No. 2 h.s.</b>                   |               |           | Pk.86                                         | ...           | ...       |
| Pk.120                                        | ...           | ...       | 53 N                                          | 4'479697      | 279 9 50  |
| 62 B                                          | 5'140653      | 350 34 32 | Pk.88                                         | ...           | ...       |
| Pk.121                                        | ...           | ...       | 53 N                                          | 4'462863      | 297 0 0   |
| 62 B                                          | 5'162027      | 344 12 34 |                                               |               |           |
| Pk.3                                          | ...           | ...       |                                               |               |           |
| 62 E                                          | 5'415129      | 252 46 13 | <b>GWANAGARR H.S.</b>                         |               |           |
| Pk.5 (Kailas)                                 | ...           | ...       | Pk.36                                         | ...           | ...       |
| 62 E                                          | 5'455882      | 255 40 7  | 53 I                                          | 5'554319      | 146 34 50 |
|                                               |               |           | Pk.67                                         | ...           | ...       |
| <b>GORAKHNATH h.s.</b>                        |               |           | 53 I                                          | 5'529005      | 148 38 39 |
| Pk.15                                         | ...           | ...       | Pk.12                                         | ...           | ...       |
| 62 C                                          | 4'819452      | 218 19 13 | 53 J                                          | 5'392149      | 168 1 52  |
| Pk.36                                         | ...           | ...       | Pk.13                                         | ...           | ...       |
| 62 C                                          | 5'251907      | 242 14 11 | 53 J                                          | 5'374818      | 172 55 34 |
| Pk.39                                         | ...           | ...       | Pk.16                                         | ...           | ...       |
| 62 C                                          | 5'510372      | 226 24 22 | 53 J                                          | 5'387576      | 162 37 53 |
| Pk.40                                         | ...           | ...       | Pk.22                                         | ...           | ...       |
| 62 C                                          | 5'434187      | 227 3 27  | 53 J                                          | 5'307475      | 154 15 9  |
| Pk.44                                         | ...           | ...       | Pk.24                                         | ...           | ...       |
| 62 C                                          | 5'433205      | 243 42 3  | 53 J                                          | 5'299928      | 154 23 11 |
| Pk.10                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'460395      | 242 1 8   |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>GWANAGARR h.s.—(Contd.)</b>                |               |           | <b>HAGDANU h.s.—(Contd.)</b>                  |               |           |
| Pk.44                                         | 5°139303      | 209 59 44 | Pk.99                                         | 5°295775      | 240 56 9  |
| 58 N                                          |               |           | 62 B                                          |               |           |
| Pk.98                                         | 5°493471      | 240 43 0  | Pk.9                                          | 5°217414      | 269 0 49  |
| 53 N                                          |               |           | 62 C                                          |               |           |
| Pk.99                                         | 5°492921      | 242 35 4  | <b>HANIA-KA-DHURA h.s.</b>                    |               |           |
| 53 N                                          |               |           | Pk.45                                         | 5°237184      | 176 52 37 |
| Pk.109                                        | 5°460675      | 248 27 33 | 62 B                                          |               |           |
| 53 N                                          |               |           | Pk.49                                         | 5°229796      | 178 17 11 |
| Pk.110                                        | 5°453082      | 248 21 59 | 62 B                                          |               |           |
| 53 N                                          |               |           | Pk.66                                         | 5°081142      | 179 42 51 |
| <b>GYI-MO-CHI h.s.</b>                        |               |           | 62 B                                          |               |           |
| Pk.63                                         | 4°864933      | 127 19 9  | Pk.69                                         | 5°020498      | 183 26 19 |
| 78 A                                          |               |           | 62 B                                          |               |           |
| Pk.84                                         | 4°287527      | 121 58 20 | Pk.70                                         | 5°014149      | 171 5 0   |
| 78 A                                          |               |           | 62 B                                          |               |           |
| Pk.5                                          | 5°140127      | 217 55 57 | Pk.71                                         | 4°923928      | 189 13 3  |
| 78 E                                          |               |           | 62 B                                          |               |           |
| Pk.6                                          | 5°080776      | 215 31 34 | <b>HARIA EAST h.s.</b>                        |               |           |
| 78 E                                          |               |           | Pk.1                                          | 5°289948      | 117 33 42 |
| Pk.7                                          | 5°093119      | 223 38 49 | 63 M                                          |               |           |
| 78 E                                          |               |           | Pk.4                                          | 5°053694      | 144 16 42 |
| Pk.8                                          | 5°074781      | 221 12 5  | 63 M                                          |               |           |
| 78 E                                          |               |           | Pk.6                                          | 5°179765      | 125 18 59 |
| Pk.10                                         | 4°989739      | 244 36 51 | 63 M                                          |               |           |
| 78 E                                          |               |           | Pk.9                                          | 5°126188      | 109 28 49 |
| Pk.11                                         | 4°952669      | 250 10 4  | 63 M                                          |               |           |
| 78 E                                          |               |           | Pk.26 <sup>1</sup>                            | 5°630445      | 220 4 2   |
| Pk.12                                         | 4°938246      | 260 10 51 | 71 D                                          |               |           |
| 78 E                                          |               |           | Pk.26 <sup>2</sup>                            | 5°630195      | 220 8 13  |
| Pk.13                                         | 4°964631      | 266 12 12 | 71 D                                          |               |           |
| 78 E                                          |               |           | Pk.2                                          | 5°631666      | 220 28 13 |
| Pk.14                                         | 4°740696      | 265 55 0  | 71 H                                          |               |           |
| 78 E                                          |               |           | Pk.3                                          | 5°630533      | 221 8 13  |
| Pk.17                                         | 5°042309      | 297 59 1  | 71 H                                          |               |           |
| 78 E                                          |               |           | Pk.9                                          | 5°243043      | 221 5 31  |
| Pk.18                                         | 4°963415      | 323 11 22 | 72 A                                          |               |           |
| 78 E                                          |               |           | Pk.10                                         | 5°033285      | 205 22 27 |
| Pk.19                                         | 5°399539      | 214 1 51  | 72 A                                          |               |           |
| 78 E                                          |               |           | Pk.11                                         | 5°064106      | 228 47 12 |
| Pk.21                                         | 5°367908      | 224 49 7  | 72 A                                          |               |           |
| 78 E                                          |               |           | Pk.13                                         | 5°285364      | 248 13 0  |
| Pk.30                                         | 5°418605      | 270 2 52  | 72 A                                          |               |           |
| 78 E                                          |               |           | Pk.15                                         | 5°335074      | 253 24 10 |
| <b>HAGDANU h.s.</b>                           |               |           | 72 A                                          |               |           |
| Pk.129                                        | 4°985552      | 185 29 27 | Pk.16                                         | 5°342790      | 255 17 21 |
| 53 N                                          |               |           | 72 A                                          |               |           |
| Pk.83                                         | 5°288651      | 225 43 14 | Pk.4                                          | 5°519803      | 270 12 11 |
| 62 B                                          |               |           | 72 E                                          |               |           |
| Pk.85                                         | 5°253143      | 224 49 56 | <b>HARIA WEST h.s.</b>                        |               |           |
| 62 B                                          |               |           | Pk.2                                          | 5°229598      | 121 11 54 |
| Pk.87                                         | 5°234541      | 225 8 54  | 63 M                                          |               |           |
| 62 B                                          |               |           | Pk.3                                          | 5°172428      | 129 51 45 |
|                                               |               |           | 63 M                                          |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>HARHA WEST h.s.—(Contd.)</b>               | <i>Feet</i>   | ° ' "     | <b>INIARIKOT h.s.</b>                         | <i>Feet</i>   | ° ' "     |
| Pk.8                                          | 5°069337      | 127 5 12  | Pk.47                                         | 5°351738      | 184 50 49 |
| 63 M                                          | ...           | ...       | 62 B                                          | 5°455640      | 188 51 34 |
| Pk.22                                         | 5°662427      | 214 25 56 | Pk.78                                         | ...           | ...       |
| 71 D                                          | ...           | ...       | 62 B                                          | 5°397970      | 225 22 47 |
| Pk.23                                         | 5°660554      | 214 46 24 | Pk.140                                        | ...           | ...       |
| 71 D                                          | ...           | ...       | 62 B                                          | 5°494721      | 229 54 53 |
| Pk.14                                         | 5°648603      | 227 56 40 | Pk.152                                        | ...           | ...       |
| 71 H                                          | ...           | ...       | 62 B                                          | 5°126729      | 222 16 57 |
|                                               |               |           | 62 C                                          | 5°203715      | 329 8 10  |
|                                               |               |           | Pk.18 <sup>1</sup>                            | ...           | ...       |
|                                               |               |           | 62 C                                          | 5°206084      | 329 23 53 |
| <b>HARPUR, O</b>                              |               |           | Pk.30                                         | 5°231749      | 244 50 42 |
| Pk.3                                          | 5°771819      | 169 17 9  | 62 C                                          | ...           | ...       |
| 72 I                                          | ...           | ...       | Pk.43                                         | 5°407025      | 271 24 56 |
| Pk.6                                          | 5°774883      | 166 16 24 | 62 C                                          | ...           | ...       |
| 72 I (Gaurisankar)                            | ...           | ...       | Pk.45                                         | 5°380587      | 274 8 23  |
| 72 I                                          | 5°744692      | 170 30 42 | 62 C                                          | ...           | ...       |
| Pk.37                                         | ...           | ...       | Pk.7                                          | 5°461790      | 263 25 9  |
| 72 I (Mount Everest)                          | 5°769996      | 184 47 10 | 62 G                                          | ...           | ...       |
| Pk.10 <sup>1</sup>                            | ...           | ...       | Pk.9                                          | 5°424653      | 268 59 25 |
| 78 A (Kinchinjunga)                           | 5°818482      | 222 29 50 | 62 G                                          | ...           | ...       |
| Pk.13                                         | ...           | ...       | Pk.16                                         | 5°615884      | 267 50 32 |
| 78 A (Janu)                                   | 5°799575      | 220 43 44 | 62 G                                          | ...           | ...       |
|                                               |               |           |                                               |               |           |
| <b>HUM h.s.</b>                               |               |           | <b>ISHAPUR, XLI</b>                           |               |           |
| Pk.44 <sup>1</sup>                            | 4°923856      | 177 8 48  | Pk.1                                          | 5°728626      | 203 45 58 |
| 62 B                                          | ...           | ...       | 62 L                                          | ...           | ...       |
| Pk.44 <sup>2</sup>                            | 4°922995      | 176 48 14 | Pk.2                                          | 5°779553      | 219 49 11 |
| 62 B                                          | ...           | ...       | 62 P                                          | ...           | ...       |
| Pk.46                                         | 4°936749      | 163 31 28 | Pk.4                                          | 5°786089      | 221 38 45 |
| 62 B                                          | ...           | ...       | 62 P                                          | ...           | ...       |
| Pk.51                                         | 4°943853      | 151 25 11 | Pk.7                                          | 5°802554      | 223 46 9  |
| 62 B                                          | ...           | ...       | 62 P                                          | ...           | ...       |
| Pk.80                                         | 5°125395      | 183 4 47  | Pk.10                                         | 5°785638      | 224 26 26 |
| 62 B                                          | ...           | ...       | 62 P                                          | ...           | ...       |
| Pk.87                                         | 4°928955      | 191 35 39 |                                               |               |           |
| 62 B                                          | ...           | ...       | <b>JAGESAR h.s.</b>                           |               |           |
| Pk.89                                         | 4°905154      | 179 52 38 | Pk.115                                        | 5°423822      | 187 4 56  |
| 62 B                                          | ...           | ...       | 53 N (Nanda Devi)                             | ...           | ...       |
| Pk.93                                         | 4°920084      | 210 8 24  | Pk.120                                        | 5°368869      | 186 46 37 |
| 62 B                                          | ...           | ...       | 53 N                                          | ...           | ...       |
| Pk.102                                        | 4°909943      | 230 19 12 | Pk.121                                        | 5°352551      | 180 20 58 |
| 62 B                                          | ...           | ...       | 53 N (Trisul East)                            | ...           | ...       |
| Pk.106                                        | 4°864518      | 240 50 52 | Pk.40                                         | 5°379927      | 193 5 56  |
| 62 B                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.109                                        | 4°764000      | 245 23 6  | Pk.41                                         | 5°375821      | 195 28 45 |
| 62 B                                          | ...           | ...       | 62 B (Nandakot)                               | ...           | ...       |
| Pk.111                                        | 4°512164      | 241 37 35 | Pk.53                                         | 5°344947      | 199 6 57  |
| 62 B                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.112                                        | 4°757393      | 259 58 52 | Pk.58                                         | 5°331505      | 206 33 21 |
| 62 B                                          | ...           | ...       | 62 B                                          | ...           | ...       |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| JAGSAB h.s.—(Contd.)                          |               |           | JAMANGARI h.s.                                |               |           |
| Pk.69                                         | 5°255533      | 214 18 52 | Pk.4                                          | 4°392068      | 312 32 53 |
| 62 B                                          | ...           | ...       | 53 K                                          | ...           | ...       |
| Pk.77                                         | 5°495567      | 205 35 38 | Pk.5                                          | 4°334910      | 13 0 30   |
| 62 B                                          | ...           | ...       | 53 K                                          | ...           | ...       |
| Pk.78                                         | 5°490118      | 207 46 3  | Pk.6                                          | 4°607608      | 302 13 46 |
| 62 B                                          | ...           | ...       | 53 K                                          | ...           | ...       |
| Pk.83                                         | 5°471523      | 213 11 16 | JAMARGADI h.s.                                |               |           |
| 62 B                                          | ...           | ...       | Pk.1                                          | 4°284736      | 279 32 3  |
| Pk.84                                         | 5°446275      | 214 58 14 | 53 K                                          | ...           | ...       |
| 62 B                                          | ...           | ...       | Pk.3                                          | 4°175078      | 47 25 53  |
| Pk.92                                         | 5°432403      | 220 44 16 | 53 K                                          | ...           | ...       |
| 62 B (Panch Chulhi)                           | ...           | ...       | Pk.4                                          | 4°364533      | 344 5 18  |
| Pk.95                                         | 5°432740      | 222 7 31  | 53 K                                          | ...           | ...       |
| 62 B                                          | ...           | ...       | Pk.5                                          | 4°497501      | 32 4 1    |
| Pk.97                                         | 5°433774      | 223 7 24  | 53 K                                          | ...           | ...       |
| 62 B                                          | ...           | ...       | JANDORHI h.s.                                 |               |           |
| Pk.98                                         | 5°435969      | 224 11 57 | Pk.1                                          | 5°443448      | 200 40 19 |
| 62 B                                          | ...           | ...       | 77 H                                          | ...           | ...       |
| Pk.100                                        | 5°421263      | 225 18 35 | Pk.71                                         | 5°306680      | 176 39 39 |
| 62 B                                          | ...           | ...       | 78 A                                          | ...           | ...       |
| Pk.108                                        | 5°421501      | 226 58 38 | Pk.72                                         | 5°282333      | 182 5 55  |
| 62 B                                          | ...           | ...       | 78 A                                          | ...           | ...       |
| Pk.105                                        | 5°412574      | 228 33 13 | Pk.74                                         | 5°272035      | 189 10 47 |
| 62 B                                          | ...           | ...       | 78 A                                          | ...           | ...       |
| Pk.129                                        | 5°536300      | 231 34 25 | Pk.77                                         | 5°005087      | 198 9 10  |
| 62 B                                          | ...           | ...       | 78 A                                          | ...           | ...       |
| Pk.130                                        | 5°529858      | 232 13 18 | Pk.2                                          | 5°036289      | 200 0 25  |
| 62 B                                          | ...           | ...       | 78 E                                          | ...           | ...       |
| Pk.131                                        | 5°523998      | 234 19 59 | Pk.3                                          | 5°020172      | 208 28 10 |
| 62 B                                          | ...           | ...       | 78 E                                          | ...           | ...       |
| Pk.132                                        | 5°515311      | 235 43 50 | Pk.4                                          | 4°969575      | 216 35 55 |
| 62 B                                          | ...           | ...       | 78 E                                          | ...           | ...       |
| Pk.136                                        | 5°508017      | 236 48 20 | Pk.22                                         | 5°319034      | 245 8 40  |
| 62 B                                          | ...           | ...       | 78 E                                          | ...           | ...       |
| Pk.157                                        | 5°558053      | 245 44 10 | Pk.23                                         | 5°236929      | 240 31 10 |
| 62 B                                          | ...           | ...       | 78 E                                          | ...           | ...       |
| Pk.158                                        | 5°529096      | 244 11 32 | JANJIPATI, XCVI                               |               |           |
| 62 B                                          | ...           | ...       | Pk.37                                         | 5°757488      | 195 46 18 |
| Pk.160                                        | 5°557100      | 248 49 18 | 72 I (Mount Everest)                          | ...           | ...       |
| 62 B                                          | ...           | ...       | Pk.42                                         | 5°702531      | 200 7 1   |
| Pk.7                                          | 5°316870      | 236 43 8  | 72 I (Chamlang)                               | ...           | ...       |
| 62 C                                          | ...           | ...       | JANOL, XO                                     |               |           |
| Pk.8                                          | 5°323672      | 240 57 51 | Pk.36                                         | 5°799795      | 172 31 32 |
| 62 C                                          | ...           | ...       | 71 H                                          | ...           | ...       |
| Pk.41                                         | 5°552690      | 264 27 52 | Pk.44                                         | 5°825892      | 176 53 21 |
| 62 C                                          | ...           | ...       | 71 H                                          | ...           | ...       |
| Pk.1                                          | 5°583326      | 251 28 49 |                                               |               |           |
| 62 G                                          | ...           | ...       |                                               |               |           |
| Pk.3                                          | 5°581556      | 257 1 15  |                                               |               |           |
| 62 G                                          | ...           | ...       |                                               |               |           |
| Pk.4                                          | 5°578037      | 258 50 5  |                                               |               |           |
| 62 G                                          | ...           | ...       |                                               |               |           |
| Pk.5                                          | 5°592903      | 259 51 57 |                                               |               |           |
| 62 G                                          | ...           | ...       |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>JANOL, XC—(Contd.)</b>                     | <i>Feet</i>   | ° ' "     | <b>JHUM H.S.—(Contd.)</b>                     | <i>Feet</i>   | ° ' "     |
| Pk.58                                         |               |           | Pk.98                                         |               |           |
| <u>71 H</u> ... ..                            | 5'765363      | 178 30 41 | <u>62 B</u> ... ..                            | 5'478306      | 203 40 10 |
| <u>Pk.1</u>                                   |               |           | Pk.100                                        |               |           |
| <u>71 L</u> ... ..                            | 5'793911      | 201 8 41  | <u>62 B</u> ... ..                            | 5'463105      | 203 58 40 |
| Pk.11 <sup>2</sup>                            |               |           | Pk.103                                        |               |           |
| <u>72 E</u> ... ..                            | 5'592264      | 152 51 55 | <u>62 B</u> ... ..                            | 5'459067      | 205 24 13 |
| Pk.17                                         |               |           | Pk.105                                        |               |           |
| <u>72 E</u> ... ..                            | 5'519814      | 168 14 19 | <u>62 B</u> ... ..                            | 5'447334      | 206 20 33 |
| Pk.18                                         |               |           | Pk.129                                        |               |           |
| <u>72 E</u> ... ..                            | 5'691507      | 180 23 1  | <u>62 B</u> ... ..                            | 5'550258      | 214 16 1  |
| Pk.4                                          |               |           | Pk.130                                        |               |           |
| <u>72 I</u> ... ..                            | 5'742301      | 196 45 37 | <u>62 B</u> ... ..                            | 5'542866      | 214 37 2  |
| Pk.5                                          |               |           | Pk.131                                        |               |           |
| <u>72 I</u> ... ..                            | 5'742510      | 197 0 31  | <u>62 B</u> ... ..                            | 5'532628      | 216 20 41 |
| Pk.8                                          |               |           | Pk.132                                        |               |           |
| <u>72 I</u> ... ..                            | 5'733069      | 194 19 11 | <u>62 B</u> ... ..                            | 5'521244      | 217 17 42 |
| Pk.9                                          |               |           | Pk.136                                        |               |           |
| <u>72 I</u> ... ..                            | 5'732061      | 194 33 41 | <u>62 B</u> ... ..                            | 5'511827      | 217 59 47 |
| Pk.12                                         |               |           | Pk.140                                        |               |           |
| <u>72 I</u> ... ..                            | 5'726656      | 197 52 32 | <u>62 B</u> ... ..                            | 5'509851      | 220 11 38 |
| Pk.17                                         |               |           | Pk.152                                        |               |           |
| <u>72 I</u> ... ..                            | 5'724189      | 200 31 11 | <u>62 B</u> ... ..                            | 5'583900      | 224 41 40 |
| Pk.18                                         |               |           | Pk.157                                        |               |           |
| <u>72 I</u> ... ..                            | 5'724156      | 200 58 24 | <u>62 B</u> ... ..                            | 5'538924      | 228 43 45 |
| Pk.22                                         |               |           | Pk.158                                        |               |           |
| <u>72 I</u> ... ..                            | 5'705632      | 202 29 1  | <u>62 B</u> ... ..                            | 5'513930      | 225 59 21 |
| Pk.24                                         |               |           | Pk.160                                        |               |           |
| <u>72 I</u> ... ..                            | 5'706087      | 203 0 1   | <u>62 B</u> ... ..                            | 5'530705      | 231 47 50 |
| Pk.25                                         |               |           | Pk.13                                         |               |           |
| <u>72 I</u> ... ..                            | 5'704135      | 202 39 31 | <u>62 C</u> ... ..                            | 5'129671      | 244 48 24 |
| Pk.26                                         |               |           | Pk.14                                         |               |           |
| <u>72 I</u> ... ..                            | 5'708021      | 204 9 30  | <u>62 C</u> ... ..                            | 5'031814      | 259 32 12 |
| Pk.29                                         |               |           | Pk.15                                         |               |           |
| <u>72 I</u> ... ..                            | 5'698210      | 204 37 21 | <u>62 C</u> ... ..                            | 4'925019      | 276 29 55 |
| Pk.30                                         |               |           | Pk.18 <sup>2</sup>                            |               |           |
| <u>72 I</u> ... ..                            | 5'700213      | 205 42 21 | <u>62 C</u> ... ..                            | 5'118086      | 300 39 52 |
| Pk.32                                         |               |           | Pk.33                                         |               |           |
| <u>72 I</u> ... ..                            | 5'695623      | 206 40 41 | <u>62 C</u> ... ..                            | 5'309117      | 254 58 33 |
| Pk.34                                         |               |           | Pk.34                                         |               |           |
| <u>72 I</u> ... ..                            | 5'694979      | 207 3 21  | <u>62 C</u> ... ..                            | 5'272940      | 256 6 17  |
| Pk.36                                         |               |           | Pk.36                                         |               |           |
| <u>72 I</u> ... ..                            | 5'690922      | 207 42 37 | <u>62 C</u> ... ..                            | 5'305157      | 263 44 0  |
| Pk.37 (Mount Everest)                         | 5'796937      | 211 4 54  | Pk.40                                         |               |           |
| <u>72 I</u>                                   |               |           | <u>62 C</u> ... ..                            | 5'433764      | 242 48 55 |
| Pk.2 (Makalu)                                 | 5'797244      | 216 54 39 | Pk.41                                         |               |           |
| <u>72 M</u>                                   |               |           | <u>62 C</u> ... ..                            | 5'487829      | 248 14 14 |
| <b>JHUM H.S.</b>                              |               |           | Pk.44                                         |               |           |
| Pk.40                                         |               |           | <u>62 C</u> ... ..                            | 5'465008      | 258 19 6  |
| <u>62 B</u> ... ..                            | 5'497076      | 177 15 16 | Pk.47                                         |               |           |
| Pk.53                                         |               |           | <u>62 C</u> ... ..                            | 5'339144      | 267 5 46  |
| <u>62 B</u> ... ..                            | 5'461205      | 180 35 52 | Pk.48                                         |               |           |
| Pk.95                                         |               |           | <u>62 C</u> ... ..                            | 5'335805      | 268 9 31  |
| <u>62 B</u> ... ..                            | 5'480554      | 201 47 2  | Pk.49                                         |               |           |
| Pk.97                                         |               |           | <u>62 C</u> ... ..                            | 5'433833      | 272 20 24 |
| <u>62 B</u> ... ..                            | 5'479042      | 202 40 0  | Pk.50                                         |               |           |
|                                               |               |           | <u>62 C</u> ... ..                            | 5'419055      | 273 30 35 |



DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <i>Feet</i>                                   |               |           | <i>Feet</i>                                   |               |           |
| ° ' "                                         |               |           | ° ' "                                         |               |           |
| JHUM h.s.—(Contd.)                            |               |           | JONGMAI h.s.                                  |               |           |
| Pk.1                                          | ...           | ...       | Pk.20                                         | ...           | ...       |
| 62 G                                          | 5'551443      | 235 34 41 | 72 N                                          | 4'914922      | 29 28 28  |
| Pk.3                                          | ...           | ...       | Pk.15 <sup>1</sup>                            | ...           | ...       |
| 62 G                                          | 5'537004      | 241 19 34 | 78 A                                          | 5'324773      | 175 49 46 |
| Pk.4                                          | ...           | ...       | Pk.6                                          | ...           | ...       |
| 62 G                                          | 5'529059      | 243 7 45  | 78 B                                          | 4'917515      | 358 0 58  |
| Pk.5                                          | ...           | ...       | KABUR h.s.                                    |               |           |
| 62 G                                          | 5'542781      | 244 49 46 | Pk.22                                         | ...           | ...       |
| Pk.6                                          | ...           | ...       | 78 A                                          | 4'341654      | 81 42 20  |
| 62 G                                          | 5'560374      | 246 32 38 | KALAPANI No. 1 h.s.                           |               |           |
| Pk.7                                          | ...           | ...       | Pk.148                                        | ...           | ...       |
| 62 G                                          | 5'525561      | 251 47 57 | 62 B                                          | 4'269278      | 216 33 9  |
| Pk.8 <sup>1</sup>                             | ...           | ...       | Pk.151                                        | ...           | ...       |
| 62 G                                          | 5'526972      | 252 19 24 | 62 B                                          | 3'920939      | 75 25 38  |
| Pk.8 <sup>2</sup>                             | ...           | ...       | KALAPANI No. 2 h.s.                           |               |           |
| 62 G                                          | 5'527568      | 252 24 8  | Pk.148                                        | ...           | ...       |
| Pk.10                                         | ...           | ...       | 62 B                                          | 4'091765      | 187 17 9  |
| 62 G                                          | 5'486724      | 255 57 46 | Pk.150                                        | ...           | ...       |
| Pk.11                                         | ...           | ...       | 62 B                                          | 4'392382      | 105 1 20  |
| 62 G                                          | 5'483848      | 256 15 31 | Pk.3                                          | ...           | ...       |
| Pk.12                                         | ...           | ...       | 62 F                                          | 4'451855      | 272 24 27 |
| 62 G                                          | 5'500564      | 271 1 56  | KALAPANI No. 3 h.s.                           |               |           |
| Pk.13                                         | ...           | ...       | Pk.150                                        | ...           | ...       |
| 62 G                                          | 5'666597      | 248 8 59  | 62 B                                          | 4'425456      | 94 0 38   |
| Pk.16                                         | ...           | ...       | Pk.3                                          | ...           | ...       |
| 62 G                                          | 5'655218      | 258 52 34 | 62 F                                          | 4'417997      | 282 38 9  |
| Pk.17                                         | ...           | ...       | KALANILA h.s.                                 |               |           |
| 62 G                                          | 5'612251      | 263 52 16 | Pk.19                                         | ...           | ...       |
| Pk.19                                         | ...           | ...       | 53 J                                          | 4'847320      | 138 23 38 |
| 62 G                                          | 5'592278      | 266 27 46 | Pk.20                                         | ...           | ...       |
| Pk.20                                         | ...           | ...       | 53 J                                          | 4'821006      | 141 39 33 |
| 62 G                                          | 5'647330      | 273 35 45 | Pk.22                                         | ...           | ...       |
| Pk.21                                         | ...           | ...       | 53 J                                          | 5'023265      | 115 55 47 |
| 62 G                                          | 5'646494      | 277 11 27 | Pk.23                                         | ...           | ...       |
| Pk.22                                         | ...           | ...       | 53 J                                          | 4'865594      | 127 27 3  |
| 62 G                                          | 5'658908      | 281 32 57 | Pk.24                                         | ...           | ...       |
| Pk.23                                         | ...           | ...       | 53 J                                          | 5'010666      | 114 55 17 |
| 62 G                                          | 5'668825      | 254 23 10 | Pk.25                                         | ...           | ...       |
| Pk.24                                         | ...           | ...       | 53 J                                          | 4'857895      | 120 55 34 |
| 62 G                                          | 5'670839      | 254 45 43 | Pk.26                                         | ...           | ...       |
| Pk.27                                         | ...           | ...       | 53 J                                          | 4'820167      | 106 38 45 |
| 62 G                                          | 5'667389      | 257 52 50 | Pk.27                                         | ...           | ...       |
| Pk.28                                         | ...           | ...       | 53 J                                          | 4'768912      | 100 22 11 |
| 62 G                                          | 5'673303      | 259 20 33 | Pk.28                                         | ...           | ...       |
| Pk.29                                         | ...           | ...       | 63 J                                          | 4'751322      | 96 49 48  |
| 62 G                                          | 5'670493      | 261 24 55 |                                               |               |           |
| Pk.30                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'668577      | 261 50 13 |                                               |               |           |
| Pk.31                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'672445      | 271 31 37 |                                               |               |           |
| Pk.32                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'669963      | 273 6 5   |                                               |               |           |
| Pk.34                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'657190      | 275 1 17  |                                               |               |           |
| Pk.35                                         | ...           | ...       |                                               |               |           |
| 62 G                                          | 5'720579      | 279 29 30 |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>KALASILA h.s.—(Contd.)</b>                 | <i>Feet</i>   | ° ' "     | <b>KANADEO h.s.—(Contd.)</b>                  | <i>Feet</i>   | ° ' "     |
| Pk.29 ... ..                                  | 4'749739      | 96 40 7   | Pk.39 ... ..                                  | 5'518576      | 231 29 14 |
| 53 J ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.30 ... ..                                  | 4'690556      | 86 21 38  | Pk.44 ... ..                                  | 5'456139      | 249 0 59  |
| 53 J ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.12 ... ..                                  | 4'673511      | 246 50 33 | Pk.46 ... ..                                  | 5'313260      | 253 51 26 |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.32 ... ..                                  | 4'875547      | 232 16 26 | Pk.47 ... ..                                  | 5'314983      | 254 43 46 |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.33 ... ..                                  | 4'880389      | 246 48 33 | Pk.48 ... ..                                  | 5'309599      | 255 43 7  |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.35 ... ..                                  | 4'933491      | 255 55 34 | Pk.49 ... ..                                  | 5'405720      | 262 43 43 |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.36 ... ..                                  | 4'898724      | 258 7 12  | Pk.50 ... ..                                  | 5'388484      | 263 36 28 |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.39 ... ..                                  | 4'793442      | 270 5 31  | Pk.51 ... ..                                  | 5'424475      | 267 57 47 |
| 53 N ... ..                                   |               |           | 62 C ... ..                                   |               |           |
| Pk.40 ... ..                                  | 4'648647      | 277 4 55  | Pk.10 ... ..                                  | 5'480853      | 247 6 45  |
| 53 N ... ..                                   |               |           | 62 G ... ..                                   |               |           |
|                                               |               |           | Pk.11 ... ..                                  | 5'477519      | 247 20 50 |
|                                               |               |           | 62 G ... ..                                   |               |           |
| <b>KALIANPUR, XIII</b>                        |               |           | Pk.12 ... ..                                  | 5'477202      | 262 48 24 |
| Pk.53 ... ..                                  | 5'621125      | 243 22 39 | 62 G ... ..                                   |               |           |
| 62 O ... ..                                   |               |           | Pk.19 ... ..                                  | 5'576968      | 259 43 14 |
| Pk.1 ... ..                                   | 5'547873      | 247 3 2   | 62 G ... ..                                   |               |           |
| 62 D ... ..                                   |               |           | Pk.20 ... ..                                  | 5'627810      | 267 55 27 |
| Pk.14 ... ..                                  | 5'865542      | 229 18 57 | 62 G ... ..                                   |               |           |
| 62 G ... ..                                   |               |           | Pk.21 ... ..                                  | 5'624173      | 271 40 2  |
| Pk.15 ... ..                                  | 5'842335      | 227 49 59 | 62 G ... ..                                   |               |           |
| 62 G ... ..                                   |               |           | Pk.22 ... ..                                  | 5'633969      | 276 24 37 |
|                                               |               |           | 62 G ... ..                                   |               |           |
|                                               |               |           | Pk.23 ... ..                                  | 5'664983      | 248 35 35 |
| <b>KALOGABHI h.s.</b>                         |               |           | 62 G ... ..                                   |               |           |
| Pk.2 ... ..                                   | 4'670425      | 36 19 15  | Pk.24 ... ..                                  | 5'666671      | 248 59 49 |
| 53 K ... ..                                   |               |           | 62 G ... ..                                   |               |           |
| Pk.6 ... ..                                   | 4'770978      | 7 7 42    | Pk.25 ... ..                                  | 5'664486      | 249 31 45 |
| 53 K ... ..                                   |               |           | 62 G ... ..                                   |               |           |
| Pk.7 ... ..                                   | 4'959702      | 349 16 45 | Pk.26 ... ..                                  | 5'663200      | 249 50 16 |
| 53 K ... ..                                   |               |           | 62 G ... ..                                   |               |           |
|                                               |               |           | Pk.27 ... ..                                  | 5'660910      | 252 5 36  |
|                                               |               |           | 62 G ... ..                                   |               |           |
|                                               |               |           | Pk.28 ... ..                                  | 5'665665      | 253 39 0  |
| <b>KAMALDAHA, CXII</b>                        |               |           | 62 G ... ..                                   |               |           |
| Pk.6 ... ..                                   | 5'293826      | 162 54 48 | Pk.29 ... ..                                  | 5'661181      | 255 42 54 |
| 72 N ... ..                                   |               |           | 62 G ... ..                                   |               |           |
| Pk.7 ... ..                                   | 5'287208      | 165 2 3   | Pk.30 ... ..                                  | 5'659040      | 256 7 10  |
| 72 N ... ..                                   |               |           | 62 G ... ..                                   |               |           |
| Pk.9 ... ..                                   | 5'287985      | 163 22 26 | Pk.31 ... ..                                  | 5'655407      | 266 6 31  |
| 72 N ... ..                                   |               |           | 62 G ... ..                                   |               |           |
|                                               |               |           | Pk.32 ... ..                                  | 5'651710      | 267 41 44 |
|                                               |               |           | 62 G ... ..                                   |               |           |
| <b>KANADEO h.s.</b>                           |               |           |                                               |               |           |
| Pk.159 ... ..                                 | 5'559362      | 225 4 48  | <b>KANCHIGO h.s.</b>                          |               |           |
| 62 B ... ..                                   |               |           | Pk.2 ... ..                                   | 5'817013      | 149 45 18 |
| Pk.15 ... ..                                  | 4'863722      | 242 22 51 | 62 P ... ..                                   |               |           |
| 62 C ... ..                                   |               |           | Pk.3 ... ..                                   | 5'801600      | 147 20 58 |
| Pk.36 ... ..                                  | 5'286129      | 250 13 41 | 62 P ... ..                                   |               |           |
| 62 C ... ..                                   |               |           |                                               |               |           |

## DISTANCES AND AZIMUTHS OF PEAKS.

191—T.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance               | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|-----------------------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>                 | ° ' "     |
| <b>KANCHIEGO h.s.—(Contd.)</b>                |               |           | <b>KANGRANG LA h.s.—(Contd.)</b>              |                             |           |
| Pk.4<br>52 P                                  | 5° 791028     | 145 1 48  | Pk.25<br>72 M                                 | 5° 275734                   | 142 56 2  |
| Pk.5<br>52 P                                  | 5° 789957     | 144 48 39 | Pk.27<br>72 M                                 | 5° 225132                   | 129 53 47 |
| Pk.9<br>52 P                                  | 5° 706040     | 160 38 0  | Pk.30<br>72 M                                 | 5° 163247                   | 133 21 2  |
| Pk.40<br>53 I                                 | 5° 767150     | 129 41 21 | Pk.31<br>72 M                                 | 5° 198741                   | 127 26 40 |
| Pk.70<br>53 I                                 | 5° 775599     | 133 0 49  | Pk.33<br>72 M                                 | 5° 078743                   | 108 0 32  |
| Pk.19<br>53 M                                 | 5° 023666     | 134 31 1  | Pk.34<br>72 M                                 | 5° 161716                   | 88 40 17  |
| Pk.14<br>62 A                                 | 5° 384426     | 231 47 16 | Pk.35<br>72 M                                 | 5° 005548                   | 76 58 22  |
| Pk.6<br>62 B                                  | 5° 608319     | 262 19 47 | Pk.37<br>72 M                                 | 5° 227225                   | 57 17 18  |
| Pk.12<br>62 F                                 | 5° 639906     | 270 35 46 | Pk.38<br>72 M                                 | 5° 270981                   | 46 15 43  |
|                                               |               |           | Pk.39<br>72 M                                 | 5° 326312                   | 47 42 2   |
|                                               |               |           | Pk.41<br>72 M                                 | 5° 269086                   | 154 48 2  |
|                                               |               |           | Pk.45<br>72 M                                 | 5° 052544                   | 161 40 2  |
| <b>KANGRANG LA h.s.</b>                       |               |           | Pk.47<br>72 M                                 | 4° 939653                   | 135 47 55 |
| Pk.46<br>72 I                                 | 5° 588472     | 106 10 32 | Pk.48<br>72 M                                 | 4° 806751                   | 130 48 10 |
| Pk.49<br>72 I                                 | 5° 544841     | 92 53 17  | Pk.49<br>72 M                                 | 4° 646755                   | 159 43 18 |
| Pk.51<br>72 I                                 | 5° 567576     | 81 5 10   | Pk.50<br>72 M                                 | 4° 753799                   | 114 40 47 |
| Pk.53<br>72 I                                 | 5° 580676     | 73 38 40  | Pk.52<br>72 M                                 | 4° 630472                   | 41 53 7   |
| Pk.55<br>72 I                                 | 5° 559523     | 68 45 5   | Pk.12<br>78 A                                 | 4° 992370                   | 180 46 41 |
| Pk.1<br>72 M                                  | 5° 542999     | 122 33 17 | Pk.15 <sup>3</sup><br>78 A                    | 4° 865711                   | 174 4 52  |
| Pk.6<br>72 M                                  | 5° 511907     | 113 38 17 | Pk.19<br>78 A                                 | 4° 839828                   | 214 48 18 |
| Pk.9<br>72 M                                  | 5° 518106     | 83 40 17  | Pk.20<br>78 A                                 | 4° 889111                   | 238 13 22 |
| Pk.10<br>72 M                                 | 5° 259539     | 108 46 47 | Pk.21<br>78 A                                 | 4° 582689                   | 197 37 52 |
| Pk.11<br>72 M                                 | 5° 267517     | 100 55 55 | Pk.22<br>78 A                                 | 4° 561965                   | 214 32 23 |
| Pk.12<br>72 M                                 | 5° 267209     | 95 38 17  | Pk.26<br>78 A                                 | 4° 621283                   | 320 31 49 |
| Pk.14<br>72 M                                 | 5° 268645     | 71 40 25  |                                               |                             |           |
| Pk.15<br>72 M                                 | 5° 290615     | 66 16 30  |                                               |                             |           |
| Pk.16<br>72 M                                 | 5° 321063     | 65 59 25  |                                               |                             |           |
| Pk.18<br>72 M                                 | 5° 308524     | 64 33 32  | <b>KANKRA No. 1 h.s.</b>                      |                             |           |
| Pk.20<br>72 M                                 | 5° 369237     | 60 40 55  | Pk.117<br>53 N                                | (Trisul West) ... 5° 186756 | 231 32 48 |
| Pk.24<br>72 M                                 | 5° 273171     | 147 5 17  | Pk.121<br>53 N                                | (Trisul East) ... 5° 232604 | 241 49 42 |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      |
|-----------------------------------------------|---------------|--------------|-----------------------------------------------|---------------|--------------|
|                                               | <i>Feet</i>   | <i>° ' "</i> |                                               | <i>Feet</i>   | <i>° ' "</i> |
| <b>KHAMLEK h.s.</b>                           |               |              | <b>KHAMLEK h.s.—(Contd.)</b>                  |               |              |
| Pk.120                                        | 5'223373      | 169 1 53     | Pk.41                                         |               |              |
| 53 N                                          |               |              | 62 C                                          | 5'473588      | 276 34 29    |
| Pk.40                                         | 5'219197      | 178 15 4     | Pk.42                                         |               |              |
| 62 B                                          |               |              | 62 C                                          | 5'469483      | 277 43 58    |
| Pk.45                                         | 5'178104      | 190 1 12     | Pk.45                                         |               |              |
| 62 B                                          |               |              | 62 C                                          | 5'471150      | 288 29 56    |
| Pk.47                                         | 5'200943      | 202 5 47     | Pk.1                                          |               |              |
| 62 B                                          |               |              | 62 G                                          | 5'488962      | 260 4 12     |
| Pk.53                                         | 5'151135      | 185 16 18    | Pk.3                                          |               |              |
| 62 B                                          |               |              | 62 G                                          | 5'495017      | 266 51 14    |
| Pk.66                                         | 5'011664      | 199 57 58    | Pk.4                                          |               |              |
| 62 B                                          |               |              | 62 G                                          | 5'493695      | 269 7 37     |
| Pk.69                                         | 4'958700      | 207 29 45    | Pk.5                                          |               |              |
| 62 B                                          |               |              | 62 G                                          | 5'513031      | 269 56 17    |
| Pk.70                                         | 4'905783      | 194 9 9      | Pk.9                                          |               |              |
| 62 B                                          |               |              | 62 G                                          | 5'498480      | 283 10 33    |
| Pk.71                                         | 4'884765      | 219 51 50    |                                               |               |              |
| 62 B                                          |               |              | <b>KHAMPUNG h.s.</b>                          |               |              |
| Pk.77                                         | 5'356392      | 199 30 48    | Pk.38                                         |               |              |
| 62 B                                          |               |              | 78 A                                          | 5'389000      | 165 11 49    |
| Pk.83                                         | 5'315844      | 209 45 38    |                                               |               |              |
| 62 B                                          |               |              | <b>KHANGLA h.s.</b>                           |               |              |
| Pk.84                                         | 5'278135      | 212 4 10     | Pk.123                                        |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'027859      | 145 15 35    |
| Pk.95                                         | 5'256158      | 222 39 10    | Pk.147                                        |               |              |
| 62 B                                          |               |              | 62 B                                          | 4'726869      | 198 33 56    |
| Pk.97                                         | 5'257844      | 224 8 54     | Pk.151                                        |               |              |
| 62 B                                          |               |              | 62 B                                          | 4'372987      | 190 0 26     |
| Pk.98                                         | 5'261386      | 225 44 59    |                                               |               |              |
| 62 B                                          |               |              | <b>KHAFARCHULA h.s.</b>                       |               |              |
| Pk.100                                        | 5'239628      | 227 30 47    | Pk.129                                        |               |              |
| 62 B                                          |               |              | 53 N                                          | 5'141798      | 144 10 54    |
| Pk.103                                        | 5'240839      | 230 2 21     | Pk.44 <sup>1</sup>                            |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'139451      | 184 12 12    |
| Pk.105                                        | 5'228363      | 232 32 30    | Pk.44 <sup>2</sup>                            |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'138733      | 184 0 18     |
| Pk.114                                        | 4'956482      | 224 6 56     | Pk.45                                         |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'143604      | 170 49 54    |
| Pk.131                                        | 5'392494      | 239 10 58    | Pk.47                                         |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'135474      | 184 45 56    |
| Pk.132                                        | 5'382027      | 241 12 30    | Pk.70                                         |               |              |
| 62 B                                          |               |              | 62 B                                          | 4'863328      | 156 45 21    |
| Pk.160                                        | 5'452611      | 257 24 28    | Pk.83                                         |               |              |
| 62 B                                          |               |              | 62 B                                          | 5'201915      | 197 53 8     |
| Pk.3                                          | 4'935347      | 231 4 14     | Pk.85                                         |               |              |
| 62 C                                          |               |              | 62 B                                          | 5'168236      | 194 8 26     |
| Pk.7                                          | 5'088478      | 248 9 39     | Pk.87                                         |               |              |
| 62 C                                          |               |              | 62 B                                          | 5'147391      | 192 54 3     |
| Pk.8                                          | 5'111116      | 254 43 26    | Pk.89                                         |               |              |
| 62 C                                          |               |              | 62 B                                          | 5'129696      | 186 0 32     |
| Pk.10                                         | 5'123411      | 260 19 22    | Pk.93                                         |               |              |
| 62 C                                          |               |              | 62 B                                          | 5'138556      | 204 2 44     |
| Pk.11                                         | 4'836917      | 253 9 45     | Pk.96                                         |               |              |
| 62 C                                          |               |              | 62 B                                          | 5'131563      | 207 30 25    |
| Pk.12                                         | 5'068393      | 265 42 25    |                                               |               |              |
| 62 C                                          |               |              |                                               |               |              |
| Pk.32                                         | 5'173362      | 282 55 54    |                                               |               |              |
| 62 C                                          |               |              |                                               |               |              |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>KHARANCHULA h.s.—(Contd.)</b>              |               |           | <b>KHARIK h.s.—(Contd.)</b>                   |               |           |
| Pk.101<br>62 B                                | 5°044171      | 197 34 34 | Pk.48<br>62 B                                 | 5°031116      | 221 23 37 |
| Pk.109<br>62 B                                | 5°012038      | 220 44 44 | Pk.52<br>62 B                                 | 5°031131      | 225 30 52 |
| Pk.112<br>62 B                                | 4°978123      | 227 58 39 | Pk.54<br>62 B                                 | 4°946447      | 219 39 28 |
| Pk.9<br>62 C                                  | 4°884373      | 255 58 43 |                                               |               |           |
| Pk.35<br>62 C                                 | 5°225700      | 313 47 30 | <b>KIRSONG h.s.</b>                           |               |           |
| <b>KHARBASIA No. 1 h.s.</b>                   |               |           | Pk.27<br>78 A                                 | 5°120178      | 66 7 39   |
| Pk.85<br>53 N                                 | 4°413567      | 285 0 57  | Pk.28<br>78 A                                 | 5°061810      | 40 37 47  |
| Pk.86<br>53 N                                 | 4°357557      | 301 41 48 | Pk.45<br>78 A                                 | 4°438918      | 146 22 31 |
|                                               |               |           | Pk.46<br>78 A                                 | 4°503086      | 81 36 34  |
| <b>KHARBASIA No. 2 h.s.</b>                   |               |           | Pk.47<br>78 A                                 | 4°215176      | 303 20 7  |
| Pk.56<br>53 N                                 | 4°790425      | 42 13 19  | Pk.59<br>78 A                                 | 5°069834      | 205 53 37 |
| Pk.87<br>53 N                                 | 4°511110      | 39 49 6   | Pk.60<br>78 A                                 | 5°005947      | 203 54 59 |
|                                               |               |           | Pk.64 <sup>2</sup><br>78 A                    | 4°706900      | 308 27 50 |
| <b>*KHAROU h.s.</b>                           |               |           |                                               |               |           |
| Pk.6<br>53 M                                  | 4°765005      | 262 36 3  | <b>KIUNGLUNG h.s.</b>                         |               |           |
| Pk.7<br>53 M                                  | 4°858806      | 266 16 22 | Pk.20<br>53 M                                 | 4°323994      | 195 3 18  |
| Pk.9<br>53 M                                  | 4°890188      | 272 3 20  | Pk.77<br>53 N                                 | 4°257736      | 132 29 22 |
| Pk.1<br>53 N                                  | 4°931540      | 276 22 27 | Pk.79<br>53 N                                 | 4°234795      | 55 12 59  |
| Pk.2<br>53 N                                  | 4°936116      | 280 42 47 | Pk.80<br>53 N                                 | 4°335236      | 41 55 27  |
| Pk.3<br>53 N                                  | 4°794143      | 297 56 52 | Pk.82<br>53 N                                 | 4°548856      | 309 52 46 |
| <b>KHARIK h.s.</b>                            |               |           |                                               |               |           |
| Pk.122<br>53 N                                | 4°960840      | 201 3 6   | <b>KU h.s.</b>                                |               |           |
| Pk.123<br>53 N                                | 4°915848      | 202 47 44 | Pk.3<br>53 M                                  | 4°443031      | 32 17 12  |
| Pk.126<br>53 N                                | 4°868561      | 208 22 43 | Pk.4 <sup>1</sup><br>53 M                     | 4°483485      | 349 24 21 |
| Pk.127<br>53 N                                | 4°872057      | 211 11 53 | Pk.5<br>53 M                                  | 4°585331      | 335 26 0  |
| Pk.128<br>53 N                                | 4°794179      | 190 7 31  | Pk.8<br>53 M                                  | 4°687515      | 348 25 10 |
| Pk.42<br>62 B                                 | 5°048897      | 217 0 19  | Pk.13<br>53 M                                 | 4°752664      | 302 48 55 |
| Pk.43<br>62 B                                 | 5°052431      | 218 33 57 | Pk.15<br>53 M                                 | 4°813175      | 310 33 52 |

\* This station appertains to the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth |
|-----------------------------------------------|---------------|---------|-----------------------------------------------|---------------|---------|
| <b>KUMARNA h.s.</b>                           | <i>Feet</i>   | ° ' "   | <b>KURKUTIDHAR h.s.—(Contd.)</b>              | <i>Feet</i>   | ° ' "   |
| <u>Pk.8</u> ... .. 5'699328                   | 177 43 16     |         | <u>Pk.90</u> ... .. 4'559116                  | 238 0 35      |         |
| <u>71 D</u> ... .. 5'662253                   | 198 58 26     |         | <u>53 N</u> ... .. 4'288358                   | 96 12 17      |         |
| <u>Pk.22</u> ... .. 5'182763                  | 222 26 2      |         | <u>Pk.93</u> ... .. 4'247437                  | 81 14 11      |         |
| <u>71 D</u> ... .. 5'059514                   | 139 44 39     |         | <u>53 N</u> ... .. 4'575758                   | 319 26 42     |         |
| <u>Pk.16</u> ... .. 5'045470                  | 147 25 53     |         | <u>Pk.96</u> ... .. 4'747445                  | 6 54 27       |         |
| <u>72 A</u> ... .. 4'645241                   | 110 10 33     |         | <u>53 N</u> ... .. 4'845505                   | 344 50 32     |         |
|                                               |               |         | <u>Pk.100</u> ... .. 4'777779                 | 170 17 58     |         |
| <b>KUNDHAR h.s.</b>                           |               |         | <u>53 N</u> ... .. 4'773550                   | 161 15 50     |         |
| <u>Pk.17</u> ... .. 4'778464                  | 155 28 14     |         | <u>Pk.101</u> ... .. 4'506240                 | 109 0 35      |         |
| <u>53 N</u> ... .. 4'388561                   | 210 34 40     |         |                                               |               |         |
| <u>Pk.20</u> ... .. 4'506240                  | 109 0 35      |         | <b>KURMURIA h.s.</b>                          |               |         |
| <u>53 N</u> ... .. 5'572515                   | 246 14 8      |         | <u>Pk.122</u> ... .. 4'852305                 | 161 26 28     |         |
| <u>53 N</u> ... .. 5'542140                   | 282 58 21     |         | <u>53 N</u> ... .. 4'797537                   | 157 55 58     |         |
| <u>Pk.37</u> ... .. 5'637144                  | 257 1 28      |         | <u>Pk.123</u> ... .. 4'711052                 | 156 38 4      |         |
| <u>53 N</u> ... .. 5'636448                   | 257 8 24      |         | <u>53 N</u> ... .. 4'689451                   | 159 45 17     |         |
| <u>Pk.57</u> ... .. 5'638425                  | 259 49 41     |         | <u>Pk.130</u> ... .. 4'555953                 | 135 3 10      |         |
| <u>53 N</u> ... .. 4'114211                   | 180 27 2      |         | <u>53 N</u> ... .. 4'409700                   | 145 0 34      |         |
| <u>Pk.59</u> ... .. 4'650766                  | 268 29 45     |         | <u>Pk.131</u> ... .. 4'415444                 | 94 57 54      |         |
| <u>53 N</u> ... .. 4'981527                   | 153 54 17     |         | <u>53 N</u> ... .. 4'856793                   | 191 56 0      |         |
| <u>Pk.60</u> ... .. 4'993907                  | 150 47 30     |         | <u>Pk.43</u> ... .. 4'810386                  | 193 55 28     |         |
| <u>53 N</u> ... .. 4'563482                   | 80 25 13      |         | <u>62 B</u> ... .. 4'786598                   | 200 13 42     |         |
| <u>Pk.61</u> ... .. 4'124703                  | 146 10 36     |         | <u>Pk.52</u> ... .. 4'700872                  | 181 2 34      |         |
| <u>53 N</u> ... .. 4'981527                   | 153 54 17     |         | <u>62 B</u> ... .. 4'764265                   | 216 34 19     |         |
| <u>Pk.89</u> ... .. 4'124703                  | 146 10 36     |         | <u>Pk.57</u> ... .. 4'771667                  | 220 43 59     |         |
| <u>63 N</u> ... .. 4'124703                   | 146 10 36     |         | <u>62 B</u> ... .. 4'501619                   | 193 19 6      |         |
|                                               |               |         | <u>Pk.59</u> ... .. 4'788845                  | 186 40 24     |         |
|                                               |               |         | <u>62 B</u> ... .. 4'472275                   | 178 19 54     |         |
|                                               |               |         | <u>Pk.60</u> ... .. 4'415441                  | 189 26 37     |         |
|                                               |               |         | <u>62 B</u> ... .. 4'657171                   | 236 45 18     |         |
|                                               |               |         | <u>Pk.61</u> ... .. 4'472275                  |               |         |
|                                               |               |         | <u>62 B</u> ... .. 4'415441                   |               |         |
|                                               |               |         | <u>Pk.62</u> ... .. 4'415441                  |               |         |
|                                               |               |         | <u>62 B</u> ... .. 4'657171                   |               |         |
|                                               |               |         | <u>Pk.63</u> ... .. 4'657171                  |               |         |
|                                               |               |         | <u>62 B</u> ... .. 4'657171                   |               |         |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>KUMBURIA h.s.—(Contd.)</b>                 |               |           | <b>LADHURDHURA h.s.—(Contd.)</b>              |               |           |
| Pk.64<br>62 B ... ..                          | 4'310348      | 190 46 1  | Pk.88<br>62 B ... ..                          | 5'154364      | 242 0 41  |
| Pk.67<br>62 B ... ..                          | 4'666118      | 262 57 37 | Pk.90<br>62 B ... ..                          | 5'085020      | 238 12 46 |
| Pk.68<br>62 B ... ..                          | 4'664597      | 267 36 7  | Pk.91<br>62 B ... ..                          | 5'135914      | 243 41 16 |
| Pk.90<br>62 B ... ..                          | 5'084865      | 240 26 44 | Pk.96<br>62 B ... ..                          | 5'110028      | 246 27 3  |
|                                               |               |           | Pk.104<br>62 B ... ..                         | 5'150609      | 258 28 8  |
| <b>LADHAUNDHURA h.s.</b>                      |               |           | Pk.107<br>62 B ... ..                         | 5'143569      | 261 33 8  |
| Pk.1<br>62 C ... ..                           | 4'626469      | 329 50 54 | Pk.108<br>62 B ... ..                         | 5'133738      | 265 24 20 |
|                                               |               |           | Pk.113<br>62 B ... ..                         | 5'146174      | 274 37 40 |
| <b>LADNIA, XCVIII</b>                         |               |           | Pk.115<br>62 B ... ..                         | 5'144459      | 277 11 33 |
| Pk.2<br>72 I ... ..                           | 5'762943      | 163 30 51 | Pk.61<br>62 C ... ..                          | 5'124777      | 282 24 25 |
| Pk.13<br>72 I ... ..                          | 5'723259      | 175 29 15 | Pk.62<br>62 C ... ..                          | 5'225843      | 282 40 44 |
| Pk.37<br>72 I (Mount Everest)                 | 5'759494      | 189 55 24 |                                               |               |           |
| Pk.43<br>72 I ... ..                          | 5'686731      | 187 48 20 | <b>LAMKISHUN h.s.</b>                         |               |           |
|                                               |               |           | Pk.49<br>62 B ... ..                          | 5'292445      | 192 11 6  |
| <b>LADHURDHURA h.s.</b>                       |               |           | Pk.82<br>62 B ... ..                          | 5'402473      | 206 42 32 |
| Pk.130<br>53 N ... ..                         | 4'608297      | 136 46 7  | Pk.85<br>62 B ... ..                          | 5'345259      | 205 27 56 |
| Pk.131<br>53 N ... ..                         | 4'483143      | 145 46 4  | Pk.114<br>62 B ... ..                         | 5'124755      | 213 38 31 |
| Pk.132<br>53 N ... ..                         | 4'462692      | 102 39 30 |                                               |               |           |
| Pk.50<br>62 B ... ..                          | 4'812507      | 178 59 56 | <b>LAMPHERAM h.s.</b>                         |               |           |
| Pk.55<br>62 B ... ..                          | 4'729793      | 196 38 8  | Pk.39<br>72 I ... ..                          | 5'602804      | 119 13 28 |
| Pk.56<br>62 B ... ..                          | 4'779208      | 212 25 6  | Pk.41 <sup>1</sup><br>72 I ... ..             | 5'611763      | 113 18 4  |
| Pk.57<br>62 B ... ..                          | 4'784125      | 216 30 31 | Pk.46<br>72 I ... ..                          | 5'614273      | 109 32 13 |
| Pk.59<br>62 B ... ..                          | 4'548232      | 188 1 11  | Pk.48<br>72 I ... ..                          | 5'569803      | 100 13 28 |
| Pk.61<br>62 B ... ..                          | 4'530393      | 174 30 30 | Pk.49<br>72 I ... ..                          | 5'565883      | 97 19 58  |
| Pk.62<br>62 B ... ..                          | 4'474794      | 183 37 42 | Pk.50<br>72 I ... ..                          | 5'570812      | 92 19 35  |
| Pk.63<br>62 B ... ..                          | 4'661943      | 230 50 0  | Pk.51<br>72 I ... ..                          | 5'580561      | 85 47 21  |
| Pk.65<br>62 B ... ..                          | 4'249222      | 183 28 42 | Pk.52<br>72 I ... ..                          | 5'579285      | 81 13 58  |
| Pk.67<br>62 B ... ..                          | 4'650380      | 257 21 39 | Pk.53<br>72 I ... ..                          | 5'588844      | 78 25 13  |
| Pk.68<br>62 B ... ..                          | 4'645273      | 262 9 4   | Pk.1<br>72 M ... ..                           | 5'577881      | 125 6 21  |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>LAMPHERAM h.s.—(Contd.)</b>                |               |           | <b>LAMPHERAM h.s.—(Contd.)</b>                |               |           |
| Pk.6                                          | ...           | ...       | Pk.52                                         | ...           | ...       |
| 72 M                                          | 5'545545      | 117 3 21  | 72 M                                          | 4'638881      | 86 37 6   |
| Pk.9                                          | ...           | ...       | Pk.1                                          | ...           | ...       |
| 72 M                                          | 5'534577      | 88 48 58  | 72 N                                          | 5'478720      | 63 38 58  |
| Pk.11                                         | ...           | ...       | Pk.3                                          | ...           | ...       |
| 72 M                                          | 5'315724      | 108 6 51  | 72 N                                          | 5'558376      | 62 41 28  |
| Pk.12                                         | ...           | ...       | Pk.4                                          | ...           | ...       |
| 72 M                                          | 5'310894      | 103 24 21 | 72 N                                          | 5'430891      | 59 12 58  |
| Pk.13                                         | ...           | ...       | Pk.12                                         | ...           | ...       |
| 72 M                                          | 5'298065      | 95 12 13  | 78 A                                          | 5'107830      | 173 55 31 |
| Pk.14                                         | ...           | ...       | Pk.14                                         | ...           | ...       |
| 72 M                                          | 5'286386      | 81 20 51  | 78 A (Simvo)                                  | 5'137155      | 204 12 12 |
| Pk.15                                         | ...           | ...       | Pk.20                                         | ...           | ...       |
| 72 M                                          | 5'300874      | 75 43 43  | 78 A                                          | 4'937304      | 216 2 48  |
| Pk.16                                         | ...           | ...       | Pk.26                                         | ...           | ...       |
| 72 M                                          | 5'329473      | 74 49 13  | 78 A                                          | 4'080248      | 284 47 34 |
| Pk.17                                         | ...           | ...       | Pk.28                                         | ...           | ...       |
| 72 M                                          | 5'317845      | 74 15 6   | 78 A                                          | 4'794152      | 322 4 39  |
| Pk.18                                         | ...           | ...       | Pk.45                                         | ...           | ...       |
| 72 M                                          | 5'316108      | 73 41 43  | 78 A                                          | 5'062612      | 237 51 59 |
| Pk.19                                         | ...           | ...       | Pk.49                                         | ...           | ...       |
| 72 M                                          | 5'364836      | 71 17 36  | 78 A                                          | 5'017455      | 269 41 6  |
| Pk.20                                         | ...           | ...       |                                               |               |           |
| 72 M                                          | 5'371126      | 68 43 13  | <b>LANGPIAR h.s.</b>                          |               |           |
| Pk.24                                         | ...           | ...       | Pk.84                                         | ...           | ...       |
| 72 M                                          | 5'343433      | 147 58 58 | 53 N                                          | 4'295347      | 141 31 15 |
| Pk.25                                         | ...           | ...       | Pk.88                                         | ...           | ...       |
| 72 M                                          | 5'344407      | 144 25 21 | 53 N                                          | 4'337641      | 270 23 5  |
| Pk.26                                         | ...           | ...       | Pk.91                                         | ...           | ...       |
| 72 M                                          | 5'313928      | 141 18 43 | 53 N                                          | 4'432286      | 304 4 34  |
| Pk.27                                         | ...           | ...       |                                               |               |           |
| 72 M                                          | 5'297854      | 133 37 13 | <b>LASPA h.s.</b>                             |               |           |
| Pk.33                                         | ...           | ...       | Pk.18                                         | ...           | ...       |
| 72 M                                          | 5'161019      | 117 11 58 | 62 B                                          | 4'997053      | 165 53 6  |
| Pk.34                                         | ...           | ...       | Pk.20                                         | ...           | ...       |
| 72 M                                          | 5'209773      | 99 11 43  | 62 B                                          | 4'978390      | 169 10 57 |
| Pk.35                                         | ...           | ...       | Pk.32                                         | ...           | ...       |
| 72 M                                          | 5'056136      | 93 13 58  | 62 B                                          | 4'730534      | 185 41 7  |
| Pk.36                                         | ...           | ...       | Pk.37                                         | ...           | ...       |
| 72 M                                          | 5'253390      | 85 52 51  | 62 B                                          | 4'293754      | 163 23 35 |
| Pk.37                                         | ...           | ...       | Pk.39                                         | ...           | ...       |
| 72 M                                          | 5'227435      | 68 28 6   | 62 B                                          | 4'087365      | 143 56 47 |
| Pk.38                                         | ...           | ...       | Pk.75                                         | ...           | ...       |
| 72 M                                          | 5'255215      | 56 20 28  | 62 B                                          | 4'835985      | 195 1 23  |
| Pk.39                                         | ...           | ...       |                                               |               |           |
| 72 M                                          | 5'313519      | 56 34 13  | <b>LATA h.s.</b>                              |               |           |
| Pk.45                                         | ...           | ...       | Pk.66                                         | ...           | ...       |
| 72 M                                          | 5'162856      | 159 43 28 | 53 N                                          | 4'721615      | 179 57 35 |
| Pk.47                                         | ...           | ...       | Pk.69                                         | ...           | ...       |
| 72 M                                          | 5'074809      | 140 28 58 | 53 N                                          | 4'458847      | 170 50 37 |
| Pk.48                                         | ...           | ...       | Pk.70                                         | ...           | ...       |
| 72 M                                          | 4'978719      | 138 14 43 | 53 N                                          | 4'429345      | 177 58 10 |
| Pk.50                                         | ...           | ...       |                                               |               |           |
| 72 M                                          | 4'929091      | 128 30 36 |                                               |               |           |
| Pk.51                                         | ...           | ...       |                                               |               |           |
| 72 M                                          | 5'013475      | 109 22 28 |                                               |               |           |



DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>LATA h.s.—(Contd.)</b>                     |               |           | <b>LINGTU h.s.—(Contd.)</b>                   |               |           |
| Pk.71<br>53 N                                 | 4'429416      | 156 16 11 | Pk.88<br>78 A                                 | 4'991929      | 332 33 55 |
| Pk.72<br>53 N                                 | 4'315768      | 342 30 52 | Pk.17<br>78 E                                 | 5'150097      | 290 34 0  |
| Pk.73<br>53 N                                 | 4'674074      | 64 11 27  | Pk.18<br>78 E                                 | 5'060674      | 308 28 16 |
| Pk.95<br>53 N                                 | 4'823801      | 197 19 19 | Pk.1<br>78 E                                  | 5'164494      | 314 11 25 |
| Pk.105<br>53 N                                | 4'500409      | 233 19 14 |                                               |               |           |
| <b>LENKABUI h.s.</b>                          |               |           | <b>LONGJONG h.s.</b>                          |               |           |
| Pk.45<br>78 A                                 | 4'730903      | 229 24 14 | Pk.17<br>78 A                                 | 4'813227      | 135 31 15 |
| Pk.46<br>78 A                                 | 4'410209      | 253 6 33  | Pk.24<br>78 A                                 | 4'322103      | 348 6 0   |
|                                               |               |           | Pk.28<br>78 A                                 | 4'988216      | 8 33 24   |
|                                               |               |           | Pk.64 <sup>s</sup><br>78 A                    | 5'034024      | 291 50 41 |
| <b>LINGARA h.s.</b>                           |               |           | <b>MADEGARH, I</b>                            |               |           |
| Pk.15<br>53 N                                 | 4'858823      | 179 18 49 | Pk.69 (Bandarpunch)<br>53 I                   | 5'613388      | 184 16 54 |
| Pk.21<br>53 N                                 | 4'739767      | 166 12 0  | Pk.15<br>53 J                                 | 5'597763      | 205 18 0  |
| Pk.22<br>53 N                                 | 4'710253      | 174 28 20 | Pk.17 (Jaonli)<br>53 J                        | 5'576462      | 199 26 53 |
| Pk.31<br>53 N                                 | 4'357055      | 147 10 32 | Pk.27 (Badrinath)<br>53 N                     | 5'609362      | 219 32 17 |
| Pk.52<br>53 N                                 | 4'754760      | 189 55 49 | Pk.63<br>53 N                                 | 5'691813      | 233 1 53  |
| Pk.57<br>53 N                                 | 4'600027      | 221 24 26 | Pk.75<br>53 N                                 | 5'641040      | 245 34 0  |
| Pk.60<br>53 N                                 | 4'445092      | 204 23 52 | Pk.76 (Nandakna)<br>53 N                      | 5'637751      | 246 26 36 |
| Pk.64<br>53 N                                 | 4'695415      | 279 27 4  | Pk.108 (Dunagiri)<br>53 N                     | 5'701079      | 242 8 31  |
| <b>LINGTU h.s.</b>                            |               |           | <b>*MAHLA h.s.</b>                            |               |           |
| Pk.2<br>77 D                                  | 5'461532      | 163 59 10 | Pk.6<br>53 M                                  | 4'524698      | 258 50 44 |
| Pk.63<br>78 A                                 | 4'715621      | 153 12 38 | Pk.7<br>53 M                                  | 4'990309      | 262 4 46  |
| Pk.67<br>78 A                                 | 4'585823      | 92 56 35  | Pk.9<br>53 M                                  | 5'010968      | 266 38 50 |
| Pk.81<br>78 A                                 | 4'573678      | 158 48 54 | Pk.1<br>53 N                                  | 5'040083      | 270 21 46 |
| Pk.83<br>78 A                                 | 4'333174      | 148 26 39 | Pk.2<br>53 N                                  | 5'040759      | 273 47 19 |
| Pk.84<br>78 A                                 | 4'345180      | 236 22 46 | Pk.3<br>53 N                                  | 4'915671      | 284 20 52 |
| Pk.86<br>78 A                                 | 4'884039      | 306 18 25 |                                               |               |           |
| Pk.87<br>78 A                                 | 4'855090      | 353 5 25  |                                               |               |           |

\* This station is identical with Mahla Hill Staff of the North-West Himalaya Series of the North-West Quadrilateral.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>MANDANI h.s.</b>                           |               |           | <b>MANIKPUR, CXI—(Contd.)</b>                 |               |           |
| Pk.11                                         | 4'655113      | 214 52 0  | Pk.47                                         | 5'747027      | 164 54 56 |
| 53 N                                          |               |           | 72 I                                          |               |           |
| Pk.12                                         | 4'442579      | 261 57 4  | Pk.28                                         | 5'744394      | 189 39 59 |
| 53 N                                          |               |           | 72 M                                          |               |           |
| Pk.29                                         | 4'694244      | 226 45 2  |                                               |               |           |
| 53 N                                          |               |           | <b>MARTOLI h.s.</b>                           |               |           |
| Pk.32                                         | 4'728816      | 234 16 30 | Pk.8                                          | 5'034539      | 151 34 49 |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.33                                         | 4'748071      | 254 13 18 | Pk.10                                         | 5'020977      | 152 49 21 |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.34                                         | 4'820754      | 262 13 45 | Pk.11                                         | 5'009094      | 154 7 58  |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.36                                         | 4'789604      | 268 29 19 | Pk.12                                         | 4'993277      | 154 58 37 |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.38                                         | 4'587321      | 281 35 57 | Pk.14                                         | 5'011822      | 148 5 2   |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.39                                         | 4'685959      | 287 43 26 | Pk.20                                         | 4'873411      | 169 53 24 |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.40                                         | 4'540446      | 305 29 50 | Pk.21 <sup>1</sup>                            | 4'919040      | 147 31 52 |
| 53 N                                          |               |           | 62 B                                          |               |           |
|                                               |               |           | Pk.21 <sup>2</sup>                            | 4'915564      | 148 20 34 |
| <b>MANIKNATH H.S.</b>                         |               |           | 62 B                                          |               |           |
| Pk.36                                         | 5'399635      | 165 9 48  | Pk.24                                         | 4'805292      | 168 53 39 |
| 53 I                                          |               |           | 62 B                                          |               |           |
| Pk.67                                         | 5'373247      | 169 34 0  | Pk.30                                         | 4'712828      | 141 36 32 |
| 53 I                                          |               |           | 62 B                                          |               |           |
| Pk.12                                         | 5'307004      | 203 54 14 | Pk.35                                         | 4'440827      | 127 46 16 |
| 53 J                                          |               |           | 62 B                                          |               |           |
| Pk.13                                         | 5'316840      | 210 8 32  | Pk.36                                         | 4'607982      | 109 9 28  |
| 53 J                                          |               |           | 62 B                                          |               |           |
| Pk.16                                         | 5'271836      | 198 52 18 | Pk.75                                         | 4'711730      | 205 55 37 |
| 53 J                                          |               |           | 62 B                                          |               |           |
| Pk.68                                         | 5'527020      | 255 20 2  | Pk.79                                         | 4'501782      | 222 37 18 |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.98                                         | 5'620081      | 256 27 25 |                                               |               |           |
| 53 N                                          |               |           | <b>MARTOLI s.</b>                             |               |           |
| Pk.99                                         | 5'622540      | 257 48 37 | Pk.37                                         | 4'080011      | 18 16 33  |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.109                                        | 5'608274      | 262 44 5  |                                               |               |           |
| 53 N                                          |               |           | <b>MASARA, LXXXI</b>                          |               |           |
| Pk.112                                        | 5'601477      | 264 32 55 | Pk.4                                          | 5'810797      | 180 7 17  |
| 53 N                                          |               |           | 71 H                                          |               |           |
| Pk.124                                        | 5'567119      | 277 50 22 | Pk.5                                          | 5'810051      | 178 57 57 |
| 53 N                                          |               |           | 71 H                                          |               |           |
| Pk.125                                        | 5'577542      | 278 56 25 | Pk.7                                          | 5'807745      | 177 49 20 |
| 53 N                                          |               |           | 71 H                                          |               |           |
| Pk.9                                          | 5'632373      | 259 19 13 | Pk.8                                          | 5'807270      | 177 37 7  |
| 62 B                                          |               |           | 71 H                                          |               |           |
|                                               |               |           | Pk.11                                         | 5'801795      | 178 8 9   |
| <b>MANIKPUR, CXI</b>                          |               |           | 71 H                                          |               |           |
| Pk.40                                         | 5'781720      | 162 23 35 | Pk.13                                         | 5'795598      | 180 46 17 |
| 72 I                                          |               |           | 71 H                                          |               |           |
| Pk.41 <sup>2</sup>                            | 5'769607      | 165 55 25 | Pk.16                                         | 5'791377      | 180 16 8  |
| 72 I                                          |               |           | 71 H                                          |               |           |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <i>MASANA, LXXXI—(Contd.)</i>                 |               |           | <i>MASANA, LXXXI—(Contd.)</i>                 |               |           |
| Pk.19<br>71 H                                 | 5'782912      | 190 51 21 | Pk.12<br>72 E                                 | 5'526923      | 201 28 57 |
| Pk.27<br>71 H                                 | 5'799602      | 194 49 44 | Pk.14<br>72 E                                 | 5'529109      | 204 46 49 |
| Pk.28<br>71 H                                 | 5'795457      | 195 5 43  | Pk.15<br>72 E                                 | 5'526431      | 204 8 26  |
| Pk.30<br>71 H                                 | 5'789333      | 192 41 28 | Pk.16<br>72 E                                 | 5'522596      | 206 47 18 |
| Pk.31<br>71 H                                 | 5'788533      | 192 51 48 | Pk.4<br>72 I                                  | 5'809171      | 220 1 46  |
| Pk.32<br>71 H                                 | 5'790817      | 194 35 57 | Pk.5<br>72 I                                  | 5'809979      | 220 12 54 |
| Pk.33<br>71 H                                 | 5'784397      | 191 9 48  | Pk.7<br>72 I                                  | 5'817883      | 221 58 8  |
| Pk.37<br>71 H                                 | 5'779018      | 195 34 33 | Pk.8<br>72 I                                  | 5'795399      | 218 32 19 |
| Pk.38 <sup>1</sup><br>71 H                    | 5'763122      | 193 14 19 | Pk.9<br>72 I                                  | 5'795265      | 218 46 36 |
| Pk.38 <sup>2</sup><br>71 H                    | 5'763079      | 193 22 34 | Pk.10<br>72 I                                 | 5'799785      | 219 31 49 |
| Pk.40<br>71 H                                 | 5'765172      | 195 18 27 | Pk.11<br>72 I                                 | 5'792756      | 219 11 20 |
| Pk.43<br>71 H                                 | 5'822917      | 197 55 36 | Pk.18<br>72 I                                 | 5'805913      | 224 5 27  |
| Pk.44<br>71 H                                 | 5'825085      | 199 1 38  | Pk.19<br>72 I                                 | 5'810285      | 225 23 34 |
| Pk.45<br>71 H                                 | 5'821238      | 197 38 26 | Pk.20<br>72 I                                 | 5'811242      | 225 47 3  |
| Pk.47<br>71 H                                 | 5'822640      | 198 32 42 | Pk.22<br>72 I                                 | 5'795770      | 226 1 54  |
| Pk.48<br>71 H                                 | 5'814588      | 199 28 7  | Pk.23<br>72 I                                 | 5'802612      | 226 55 33 |
| Pk.61<br>71 H                                 | 5'789582      | 199 55 2  | Pk.26<br>72 I                                 | 5'801662      | 227 10 16 |
| Pk.53<br>71 H                                 | 5'784429      | 201 16 50 | Pk.28<br>72 I                                 | 5'798181      | 227 18 27 |
| Pk.54<br>71 H                                 | 5'780745      | 200 1 30  | Pk.34<br>72 I                                 | 5'799026      | 229 49 57 |
| Pk.58<br>71 H                                 | 5'775295      | 203 42 42 |                                               |               |           |
| Pk.59<br>71 H                                 | 5'774620      | 204 34 39 | <i>MASURINO h.s.</i>                          |               |           |
| Pk.60<br>71 H                                 | 5'773055      | 204 42 53 | Pk.47<br>62 B                                 | 5'310110      | 185 16 37 |
| Pk.1<br>71 L                                  | 5'860812      | 221 19 22 | Pk.66<br>62 B                                 | 5'184361      | 177 46 12 |
| Pk.7<br>72 E                                  | 5'531162      | 199 21 28 | Pk.70<br>62 B                                 | 5'133474      | 170 57 40 |
| Pk.8<br>72 E                                  | 5'526938      | 198 51 3  | Pk.3<br>62 C                                  | 5'054387      | 193 14 25 |
| Pk.9<br>72 E                                  | 5'527621      | 200 7 48  | Pk.11<br>62 C                                 | 4'902938      | 197 56 34 |
| Pk.10<br>72 E                                 | 5'524819      | 199 52 5  | Pk.32<br>62 C                                 | 5'027596      | 257 40 51 |
| Pk.11 <sup>a</sup><br>72 E                    | 5'505167      | 194 6 1   | Pk.9<br>62 G                                  | 5'425023      | 273 25 48 |

## NORTH-EAST LONGITUDINAL SERIES.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>MENADUGRI h.s.</b>                         | <i>Feet</i>   | ° ' "     | <b>MILAM No. 1 h.s.—(Contd.)</b>              | <i>Feet</i>   | ° ' "     |
| Pk.5                                          | 4'913655      | 96 43 54  | Pk.22                                         | 4'445721      | 235 27 46 |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.23                                         | 4'637078      | 85 56 32  | Pk.25 <sup>1</sup>                            | 4'353068      | 252 0 7   |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.24                                         | 4'645169      | 82 57 58  | Pk.25 <sup>2</sup>                            | 4'353177      | 252 10 9  |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.26                                         | 4'796300      | 78 39 17  | Pk.26 <sup>1</sup>                            | 4'487841      | 261 46 46 |
| 63 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.51                                         | 4'470551      | 202 18 9  | Pk.27 <sup>1</sup>                            | 4'511975      | 90 42 53  |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.52                                         | 4'284227      | 229 15 22 | Pk.27 <sup>2</sup>                            | 4'506163      | 90 41 2   |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.53                                         | 4'388692      | 245 53 8  | Pk.28 <sup>1</sup>                            | 4'602918      | 85 51 10  |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.54                                         | 4'514885      | 252 4 36  | Pk.28 <sup>2</sup>                            | 4'614160      | 85 45 38  |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.55                                         | 4'485140      | 271 42 38 | Pk.29                                         | 4'325957      | 301 58 46 |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
| Pk.58                                         | 4'315200      | 317 58 32 | Pk.31                                         | 4'345065      | 28 33 11  |
| 53 N                                          | ...           | ...       | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.34                                         | 4'666400      | 53 3 20   |
|                                               |               |           | 62 B                                          | ...           | ...       |
| <b>MERUG LA h.s.</b>                          |               |           | Pk.36                                         | 4'689847      | 34 7 6    |
| Pk.1                                          | 5'454614      | 197 29 5  | 62 B                                          | ...           | ...       |
| 77 H                                          | ...           | ...       | Pk.38                                         | 4'794802      | 17 59 35  |
| Pk.74                                         | 5'295392      | 185 3 24  | 62 B                                          | ...           | ...       |
| 78 A                                          | ...           | ...       | Pk.72                                         | 4'678442      | 222 17 20 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.74                                         | 4'670563      | 225 56 56 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.76                                         | 4'636533      | 284 18 51 |
|                                               |               |           | 62 B                                          | ...           | ...       |
| <b>MIATHAMB h.s.</b>                          |               |           | <b>MILAM No. 2 h.s.</b>                       |               |           |
| Pk.24                                         | 4'971899      | 260 20 51 | Pk.104                                        | 4'750722      | 121 6 48  |
| 62 C                                          | ...           | ...       | 53 N                                          | ...           | ...       |
| Pk.29                                         | 4'655316      | 288 51 44 | Pk.10                                         | 4'769676      | 140 39 0  |
| 62 C                                          | ...           | ...       | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.11                                         | 4'744909      | 142 22 58 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.13                                         | 4'751944      | 134 40 26 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.14                                         | 4'769463      | 132 0 41  |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.17                                         | 4'767303      | 126 28 35 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.22                                         | 4'498955      | 226 16 42 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.25 <sup>1</sup>                            | 4'395792      | 238 47 55 |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.26 <sup>1</sup>                            | 4'504809      | 251 3 35  |
|                                               |               |           | 62 B                                          | ...           | ...       |
|                                               |               |           | Pk.27 <sup>1</sup>                            | 4'522608      | 101 3 17  |
|                                               |               |           | 62 B                                          | ...           | ...       |
| <b>MILAM No. 1 h.s.</b>                       |               |           |                                               |               |           |
| Pk.104                                        | 4'726817      | 115 42 23 |                                               |               |           |
| 53 N                                          | ...           | ...       |                                               |               |           |
| Pk.118                                        | 4'911091      | 41 46 19  |                                               |               |           |
| 53 N                                          | ...           | ...       |                                               |               |           |
| Pk.8                                          | 4'763841      | 155 27 58 |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.11                                         | 4'706249      | 138 26 4  |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.13                                         | 4'718569      | 130 9 21  |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.14                                         | 4'739072      | 127 29 43 |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.17                                         | 4'740455      | 121 34 41 |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.21 <sup>1</sup>                            | 4'572970      | 115 37 21 |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |
| Pk.21 <sup>2</sup>                            | 4'559062      | 116 37 45 |                                               |               |           |
| 62 B                                          | ...           | ...       |                                               |               |           |

| Name of Station with Peaks observed therefrom    | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|--------------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                                  | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>MILAM No. 2 h.s.—(Contd.)</b>                 |               |           | <b>MOBAINI, LXIII</b>                         |               |           |
| Pk.27 <sup>2</sup><br>62 B ... ..                | 4'516990      | 101 9 37  | Pk.4<br>62 P ... ..                           | 5'770464      | 164 49 14 |
| Pk.28 <sup>1</sup><br>62 B ... ..                | 4'605116      | 94 23 25  | Pk.5<br>62 P ... ..                           | 5'769395      | 170 29 36 |
| Pk.28 <sup>2</sup><br>62 B ... ..                | 4'616081      | 94 4 59   | Pk.6<br>62 P ... ..                           | 5'767436      | 170 6 7   |
| Pk.29<br>62 B ... ..                             | 4'267922      | 286 24 45 | Pk.7<br>62 P ... ..                           | 5'765595      | 167 59 2  |
| Pk.31<br>62 B ... ..                             | 4'236498      | 38 39 50  | Pk.8<br>62 P ... ..                           | 5'762948      | 169 30 18 |
| Pk.72<br>62 B ... ..                             | 4'717301      | 217 42 29 | Pk.9<br>62 P (Dhaulagiri) ... ..              | 5'747851      | 173 28 8  |
| Pk.74<br>62 B ... ..                             | 4'707992      | 220 58 9  | Pk.10<br>62 P ... ..                          | 5'751125      | 166 19 22 |
| Pk.76<br>62 B ... ..                             | 4'623625      | 276 27 13 | Pk.16<br>62 P ... ..                          | 5'716661      | 184 32 40 |
|                                                  |               |           | Pk.18<br>62 P ... ..                          | 5'719279      | 190 31 55 |
| <b>MINAI, CV</b>                                 |               |           | Pk.22 <sup>1</sup><br>62 P ... ..             | 5'690785      | 189 35 53 |
| Pk.31<br>72 I ... ..                             | 5'730972      | 162 51 45 | Pk.22 <sup>2</sup><br>62 P ... ..             | 5'689665      | 189 38 24 |
| Pk.37<br>72 I (Mount Everest) ... ..             | 5'778639      | 175 45 13 | Pk.2<br>71 D ... ..                           | 5'710479      | 194 9 54  |
| Pk.42<br>72 I (Chamlang) ... ..                  | 5'717957      | 177 2 8   | Pk.3<br>71 D ... ..                           | 5'712699      | 195 31 48 |
| Pk.43<br>72 I ... ..                             | 5'716298      | 171 23 52 | Pk.7<br>71 D ... ..                           | 5'704965      | 198 24 18 |
| Pk.2<br>72 M (Makalu) ... ..                     | 5'750714      | 180 50 34 | Pk.14<br>71 D ... ..                          | 5'760111      | 208 58 29 |
| Pk.10 <sup>1</sup><br>78 A (Kinchinjunga) ... .. | 5'784010      | 215 14 25 | Pk.16<br>71 D ... ..                          | 5'749692      | 210 1 4   |
| Pk.13<br>78 A (Jano) ... ..                      | 5'765661      | 212 59 11 | Pk.19<br>71 D ... ..                          | 5'742956      | 213 27 42 |
|                                                  |               |           |                                               |               |           |
| <b>MIRZAPUR, XCIV</b>                            |               |           | <b>MUSALDANGA, CXV</b>                        |               |           |
| Pk.6<br>72 I (Gaurisankar) ... ..                | 5'721337      | 182 7 40  | Pk.27<br>72 I ... ..                          | 5'825727      | 149 3 36  |
| Pk.13<br>72 I ... ..                             | 5'699413      | 187 58 12 | Pk.40<br>72 I ... ..                          | 5'810061      | 152 30 33 |
| Pk.37<br>72 I (Mount Everest) ... ..             | 5'759587      | 201 25 15 | Pk.41 <sup>2</sup><br>72 I ... ..             | 5'794296      | 155 30 30 |
| Pk.42<br>72 I (Chamlang) ... ..                  | 5'708844      | 206 27 39 | Pk.45<br>72 I ... ..                          | 5'796736      | 151 40 6  |
| Pk.2<br>72 M (Makalu) ... ..                     | 5'751783      | 207 45 16 | Pk.47<br>72 I ... ..                          | 5'774725      | 154 3 2   |
|                                                  |               |           | Pk.4<br>72 M ... ..                           | 5'794625      | 160 1 19  |
| <b>MOINAM h.s.</b>                               |               |           | Pk.5<br>72 M ... ..                           | 5'784662      | 163 27 49 |
| Pk.47<br>78 A ... ..                             | 4'565346      | 214 56 10 | Pk.7<br>72 M ... ..                           | 5'769720      | 161 23 22 |
| Pk.51<br>78 A ... ..                             | 4'442670      | 29 54 9   | Pk.29<br>72 M ... ..                          | 5'732062      | 176 45 50 |
| Pk.64 <sup>2</sup><br>78 A ... ..                | 4'679450      | 260 59 36 |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>MUSAPANI h.s.</b>                          | <i>Feet</i>   | ° ' "     | <b>NAONANGABHI, LXXI—(Contd.)</b>             | <i>Feet</i>   | ° ' "     |
| <u>Pk.16</u> ... ..                           | 4'877509      | 170 4 31  | <u>Pk.15<sup>1</sup></u> ... ..               | 5'754305      | 183 39 18 |
| <u>53 M</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.17</u> ... ..                           | 4'882365      | 165 10 32 | <u>Pk.15<sup>2</sup></u> ... ..               | 5'753712      | 183 43 38 |
| <u>53 M</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.17</u> ... ..                           | 5'729198      | 187 13 43 |
|                                               |               |           | <u>71 D</u> ... ..                            |               |           |
| <b>NAGA h.s.</b>                              |               |           | <u>Pk.18</u> ... ..                           | 5'725390      | 187 42 58 |
| <u>Pk.75</u> ... ..                           | 4'746731      | 134 4 47  | <u>71 D</u> ... ..                            |               |           |
| <u>53 I</u> ... ..                            |               |           | <u>Pk.20</u> ... ..                           | 5'717080      | 189 39 29 |
| <u>Pk.77</u> ... ..                           | 4'547275      | 105 13 24 | <u>71 D</u> ... ..                            |               |           |
| <u>53 I</u> ... ..                            |               |           | <u>Pk.24</u> ... ..                           | 5'771064      | 197 45 58 |
| <u>Pk.1</u> ... ..                            | 4'772845      | 158 48 49 | <u>71 D</u> ... ..                            |               |           |
| <u>53 M</u> ... ..                            |               |           | <u>Pk.25</u> ... ..                           | 5'770835      | 198 5 30  |
| <u>Pk.3</u> ... ..                            | 4'319937      | 0 13 20   | <u>71 D</u> ... ..                            |               |           |
| <u>53 M</u> ... ..                            |               |           | <u>Pk.10</u> ... ..                           | 5'738536      | 203 3 3   |
| <u>Pk.4<sup>2</sup></u> ... ..                | 4'533696      | 323 19 4  | <u>71 H</u> ... ..                            |               |           |
| <u>53 M</u> ... ..                            |               |           | <u>Pk.15</u> ... ..                           | 5'736786      | 206 13 20 |
| <u>Pk.5</u> ... ..                            | 4'650184      | 316 32 9  |                                               |               |           |
| <u>53 M</u> ... ..                            |               |           | <b>NAURANGIA h.s.</b>                         |               |           |
| <u>Pk.8</u> ... ..                            | 4'710704      | 331 29 20 | <u>Pk.11</u> ... ..                           | 5'696796      | 161 8 0   |
| <u>53 M</u> ... ..                            |               |           | <u>62 P</u> ... ..                            |               |           |
| <u>Pk.13</u> ... ..                           | 4'834578      | 294 15 56 | <u>Pk.15</u> ... ..                           | 5'624012      | 175 43 46 |
| <u>53 M</u> ... ..                            |               |           | <u>62 P</u> ... ..                            |               |           |
| <u>Pk.15</u> ... ..                           | 4'877642      | 301 45 31 | <u>Pk.21</u> ... ..                           | 5'592241      | 170 0 17  |
| <u>53 M</u> ... ..                            |               |           | <u>62 P</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.1</u> ... ..                            | 5'270647      | 127 42 24 |
| <b>NAICHU-KA-DHURA h.s.</b>                   |               |           | <u>63 M</u> ... ..                            |               |           |
| <u>Pk.32</u> ... ..                           | 4'295896      | 166 30 32 | <u>Pk.5</u> ... ..                            | 5'100314      | 153 57 12 |
| <u>62 B</u> ... ..                            |               |           | <u>63 M</u> ... ..                            |               |           |
| <u>Pk.33</u> ... ..                           | 4'577386      | 119 5 40  | <u>Pk.9</u> ... ..                            | 5'085922      | 124 13 27 |
| <u>62 B</u> ... ..                            |               |           | <u>63 M</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.10</u> ... ..                           | 4'711895      | 106 20 5  |
|                                               |               |           | <u>63 M</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.8</u> ... ..                            | 5'682209      | 193 44 13 |
| <b>NAONANGABHI, LXXI</b>                      |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.13</u> ... ..                           | 5'788637      | 164 20 49 | <u>Pk.11</u> ... ..                           | 5'626988      | 198 40 27 |
| <u>62 P</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.14</u> ... ..                           | 5'786289      | 164 38 50 | <u>Pk.13</u> ... ..                           | 5'576535      | 190 56 24 |
| <u>62 P</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.17</u> ... ..                           | 5'782028      | 164 15 33 | <u>Pk.21</u> ... ..                           | 5'592216      | 210 22 43 |
| <u>62 P</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.19</u> ... ..                           | 5'784977      | 161 48 52 | <u>Pk.23</u> ... ..                           | 5'690598      | 215 31 17 |
| <u>62 P</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.1</u> ... ..                            | 5'756382      | 171 39 35 | <u>Pk.26<sup>1</sup></u> ... ..               | 5'664091      | 220 32 20 |
| <u>71 D</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.4</u> ... ..                            | 5'754363      | 169 39 29 | <u>Pk.26<sup>2</sup></u> ... ..               | 5'663805      | 220 36 21 |
| <u>71 D</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.5</u> ... ..                            | 5'750540      | 171 41 43 | <u>Pk.27</u> ... ..                           | 5'617656      | 214 22 16 |
| <u>71 D</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.6</u> ... ..                            | 5'748172      | 171 3 44  | <u>Pk.28</u> ... ..                           | 5'606014      | 213 31 1  |
| <u>71 D</u> ... ..                            |               |           | <u>71 D</u> ... ..                            |               |           |
| <u>Pk.12</u> ... ..                           | 5'735855      | 175 38 56 | <u>Pk.1</u> ... ..                            | 5'708072      | 218 35 21 |
| <u>71 D</u> ... ..                            |               |           | <u>71 H</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.2</u> ... ..                            | 5'665378      | 220 54 20 |
|                                               |               |           | <u>71 H</u> ... ..                            |               |           |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>NAURANGIA h.s.—(Contd.)</b>                |               |           | <b>NIRPANIA No. 1 h.s.</b>                    |               |           |
| Pk.3<br>71 H ... ..                           | 5'664303      | 221 31 32 | Pk.153<br>62 B ... ..                         | 4'717782      | 212 37 39 |
| Pk.9<br>71 H ... ..                           | 5'668459      | 223 25 41 | Pk.154<br>62 B ... ..                         | 4'521217      | 203 58 41 |
| Pk.14<br>71 H ... ..                          | 5'679941      | 227 48 0  | Pk.156<br>62 B ... ..                         | 4'304207      | 214 39 13 |
| Pk.17<br>71 H ... ..                          | 5'672678      | 230 3 50  |                                               |               |           |
| Pk.18<br>71 H ... ..                          | 5'673575      | 230 12 25 | <b>NIRPUR, CX</b>                             |               |           |
| Pk.21<br>71 H ... ..                          | 5'725756      | 240 21 6  | Pk.6<br>72 N ... ..                           | 5'262445      | 182 8 3   |
| Pk.25<br>71 H ... ..                          | 5'796683      | 234 25 55 | Pk.7<br>72 N ... ..                           | 5'260565      | 179 41 13 |
| Pk.26<br>71 H ... ..                          | 5'797827      | 234 56 0  | Pk.9<br>72 N ... ..                           | 5'257472      | 180 24 16 |
| Pk.41<br>71 H ... ..                          | 5'726808      | 240 52 21 |                                               |               |           |
| Pk.42<br>71 H ... ..                          | 5'727017      | 241 6 46  | <b>NISU h.s.</b>                              |               |           |
| Pk.49<br>71 H ... ..                          | 5'790877      | 241 36 41 | Pk.123<br>62 B ... ..                         | 4'951511      | 144 57 37 |
| Pk.4<br>72 A ... ..                           | 5'069420      | 171 28 30 | Pk.124<br>62 B ... ..                         | 4'882023      | 141 16 34 |
| Pk.6<br>72 A ... ..                           | 5'058871      | 181 34 3  | Pk.149<br>62 B ... ..                         | 4'392183      | 162 17 46 |
| Pk.7 <sup>1</sup><br>72 A ... ..              | 5'066777      | 192 3 15  |                                               |               |           |
| Pk.7 <sup>2</sup><br>72 A ... ..              | 5'064891      | 192 39 44 | <b>NITI No. 1 h.s.</b>                        |               |           |
| Pk.9<br>72 A ... ..                           | 5'321605      | 222 0 8   | Pk.78<br>53 N ... ..                          | 4'324648      | 87 49 14  |
| Pk.12<br>72 A ... ..                          | 5'335331      | 238 25 59 | Pk.79<br>53 N ... ..                          | 4'469328      | 49 49 14  |
| Pk.13<br>72 A ... ..                          | 5'353538      | 244 56 3  | Pk.81<br>53 N ... ..                          | 4'564829      | 34 47 41  |
| Pk.1<br>72 E ... ..                           | 5'503146      | 259 13 20 | Pk.3<br>62 A ... ..                           | 5'347298      | 204 5 14  |
| Pk.2<br>72 E ... ..                           | 5'527523      | 260 57 3  | Pk.6 <sup>1</sup><br>62 A ... ..              | 5'344020      | 212 45 19 |
|                                               |               |           | Pk.8<br>62 A ... ..                           | 5'303163      | 225 46 26 |
| <b>NILANG No. 2 h.s.</b>                      |               |           | Pk.13 <sup>1</sup><br>62 A ... ..             | 5'525397      | 235 42 16 |
| Pk.77<br>53 I ... ..                          | 3'835879      | 154 6 56  |                                               |               |           |
| Pk.3<br>53 M ... ..                           | 4'592807      | 307 42 46 | <b>NITI No. 2 h.s.</b>                        |               |           |
| Pk.4 <sup>1</sup><br>53 M ... ..              | 4'776087      | 300 36 19 | Pk.3<br>62 A ... ..                           | 5'351674      | 203 7 13  |
| Pk.4 <sup>2</sup><br>53 M ... ..              | 4'776773      | 300 36 19 | Pk.6 <sup>1</sup><br>62 A ... ..              | 5'347281      | 211 42 14 |
| Pk.5<br>53 M ... ..                           | 4'852860      | 299 50 59 | Pk.8<br>62 A ... ..                           | 5'304683      | 224 32 26 |
| Pk.8<br>53 M ... ..                           | 4'866703      | 310 54 39 | Pk.13 <sup>1</sup><br>62 A ... ..             | 5'525273      | 234 57 22 |
| Pk.13<br>53 M ... ..                          | 4'992959      | 288 25 3  |                                               |               |           |
| Pk.15<br>53 M ... ..                          | 5'018562      | 294 9 36  |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>NITI No. 3 h.s.</b>                        | <i>Feet</i>   | ° ' "     | <b>PATALPANI h.s.</b>                         | <i>Feet</i>   | ° ' "     |
| <u>Pk.20</u>                                  |               |           | <u>Pk.82</u>                                  |               |           |
| <u>53 M</u> ... ..                            | 4'193097      | 159 3 46  | <u>53 N</u> ... ..                            | 4'430711      | 277 58 43 |
| <u>Pk.77</u>                                  |               |           | <u>Pk.83</u>                                  |               |           |
| <u>53 N</u> ... ..                            | 4'402109      | 104 47 53 | <u>53 N</u> ... ..                            | 4'100555      | 56 48 31  |
| <u>Pk.78</u>                                  |               |           |                                               |               |           |
| <u>53 N</u> ... ..                            | 4'378499      | 96 19 12  | <b>PATANI h.s.</b>                            |               |           |
| <u>Pk.79</u>                                  |               |           | <u>Pk.17</u>                                  |               |           |
| <u>53 N</u> ... ..                            | 4'471419      | 58 15 27  | <u>53 N</u> ... ..                            | 4'858611      | 147 32 43 |
| <u>Pk.80</u>                                  |               |           | <u>Pk.18</u>                                  |               |           |
| <u>53 N</u> ... ..                            | 4'526563      | 49 23 37  | <u>53 N</u> ... ..                            | 4'887721      | 140 48 52 |
| <u>Pk.81</u>                                  |               |           | <u>Pk.20</u>                                  |               |           |
| <u>53 N</u> ... ..                            | 4'552095      | 41 28 12  | <u>53 N</u> ... ..                            | 4'836932      | 150 16 28 |
| <u>Pk.3</u>                                   |               |           | <u>Pk.31</u>                                  |               |           |
| <u>62 A</u> ... ..                            | 5'351321      | 203 6 54  | <u>53 N</u> ... ..                            | 4'434707      | 122 9 0   |
| <u>Pk.6<sup>1</sup></u>                       |               |           | <u>Pk.37</u>                                  |               |           |
| <u>62 A</u> ... ..                            | 5'346902      | 211 42 17 | <u>53 N</u> ... ..                            | 4'387305      | 40 4 11   |
| <u>Pk.8</u>                                   |               |           | <u>Pk.59</u>                                  |               |           |
| <u>62 A</u> ... ..                            | 5'304295      | 224 33 6  | <u>53 N</u> ... ..                            | 4'367449      | 196 37 29 |
| <u>Pk.13<sup>1</sup></u>                      |               |           | <u>Pk.67</u>                                  |               |           |
| <u>62 A</u> ... ..                            | 5'525107      | 234 58 4  | <u>53 N</u> ... ..                            | 4'378194      | 11 0 20   |
|                                               |               |           |                                               |               |           |
| <b>PARGAWA, LXXXVIII</b>                      |               |           | <b>PATHAR h.s.</b>                            |               |           |
| <u>Pk.17</u>                                  |               |           | <u>Pk.24</u>                                  |               |           |
| <u>72 B</u> ... ..                            | 5'484540      | 176 32 20 | <u>62 C</u> ... ..                            | 5'055092      | 247 46 14 |
| <u>Pk.11</u>                                  |               |           | <u>Pk.29</u>                                  |               |           |
| <u>72 I</u> ... ..                            | 5'725067      | 200 27 57 | <u>62 C</u> ... ..                            | 4'755058      | 257 12 33 |
| <u>Pk.23</u>                                  |               |           |                                               |               |           |
| <u>72 I</u> ... ..                            | 5'714256      | 209 44 57 | <b>PATILDIHUA h.s.</b>                        |               |           |
| <u>Pk.28</u>                                  |               |           | <u>Pk.135</u>                                 |               |           |
| <u>72 I</u> ... ..                            | 5'707995      | 209 58 47 | <u>62 B</u> ... ..                            | 4'397399      | 184 42 18 |
| <u>Pk.36</u>                                  |               |           | <u>Pk.142</u>                                 |               |           |
| <u>72 I</u> ... ..                            | 5'698457      | 213 42 24 | <u>62 B</u> ... ..                            | 4'956095      | 229 27 2  |
|                                               |               |           | <u>Pk.165</u>                                 |               |           |
|                                               |               |           | <u>62 B</u> ... ..                            | 4'997729      | 232 22 37 |
| <b>PARIAPAL h.s.</b>                          |               |           | <u>Pk.22</u>                                  |               |           |
| <u>Pk.15</u>                                  |               |           | <u>62 C</u> ... ..                            | 4'886217      | 260 42 40 |
| <u>53 N</u> ... ..                            | 4'560437      | 191 13 21 | <u>Pk.29</u>                                  |               |           |
| <u>Pk.18</u>                                  |               |           | <u>62 C</u> ... ..                            | 4'737317      | 308 20 3  |
| <u>53 N</u> ... ..                            | 4'613587      | 132 45 20 | <u>Pk.31</u>                                  |               |           |
| <u>Pk.21</u>                                  |               |           | <u>62 C</u> ... ..                            | 4'776719      | 329 10 51 |
| <u>53 N</u> ... ..                            | 4'243536      | 162 52 37 |                                               |               |           |
| <u>Pk.22</u>                                  |               |           | <b>PAUNDALA h.s.</b>                          |               |           |
| <u>53 N</u> ... ..                            | 4'169998      | 191 42 13 | <u>Pk.20</u>                                  |               |           |
| <u>Pk.25</u>                                  |               |           | <u>53 J</u> ... ..                            | 4'867347      | 172 14 59 |
| <u>53 N</u> ... ..                            | 4'059711      | 74 19 19  | <u>Pk.26</u>                                  |               |           |
| <u>Pk.51</u>                                  |               |           | <u>53 J</u> ... ..                            | 4'710151      | 141 11 37 |
| <u>53 N</u> ... ..                            | 4'569298      | 202 48 45 | <u>Pk.27</u>                                  |               |           |
| <u>Pk.52</u>                                  |               |           | <u>53 J</u> ... ..                            | 4'616177      | 139 56 5  |
| <u>53 N</u> ... ..                            | 4'419976      | 222 26 6  | <u>Pk.30</u>                                  |               |           |
| <u>Pk.54</u>                                  |               |           | <u>53 J</u> ... ..                            | 4'402099      | 135 18 58 |
| <u>53 N</u> ... ..                            | 4'582685      | 243 44 23 | <u>Pk.35</u>                                  |               |           |
| <u>Pk.55</u>                                  |               |           | <u>53 N</u> ... ..                            | 5'085921      | 249 49 20 |
| <u>53 N</u> ... ..                            | 4'534478      | 260 0 15  | <u>Pk.36</u>                                  |               |           |
| <u>Pk.58</u>                                  |               |           | <u>53 N</u> ... ..                            | 5'060540      | 250 58 30 |
| <u>53 N</u> ... ..                            | 4'278968      | 296 33 0  |                                               |               |           |



DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| PAUNDALA h.s.—(Contd.)                        |               |           | PHALLUT h.s.—(Contd.)                         |               |           |
| Pk.41<br>53 N                                 | 4'964873      | 261 36 42 | Pk.22<br>72 M                                 | 5'364112      | 75 9 10   |
| Pk.42<br>53 N                                 | 4'955656      | 263 23 23 | Pk.23<br>72 M                                 | 5'355460      | 74 37 29  |
| Pk.43<br>53 N                                 | 4'963241      | 264 52 7  | Pk.40<br>72 M                                 | 5'100972      | 56 10 26  |
|                                               |               |           | Pk.41<br>72 M                                 | 5'404735      | 162 24 20 |
| PAWALGARH h.s.                                |               |           | Pk.43<br>72 M                                 | 5'380396      | 160 6 40  |
| Pk.19<br>53 J                                 | 4'759707      | 171 14 30 | Pk.46<br>72 M                                 | 5'145859      | 172 41 52 |
| Pk.20<br>53 J                                 | 4'750187      | 176 49 26 | Pk.51<br>72 M                                 | 5'050969      | 134 37 5  |
| Pk.23<br>53 J                                 | 4'723300      | 157 26 34 | Pk.53<br>72 M                                 | 4'737468      | 38 11 49  |
| Pk.25<br>53 J                                 | 4'678196      | 149 57 19 | Pk.2<br>72 N                                  | 5'503521      | 73 40 3   |
| Pk.26<br>53 J                                 | 4'535371      | 132 25 5  | Pk.4<br>72 N                                  | 5'369421      | 66 28 20  |
| Pk.27<br>53 J                                 | 4'392479      | 126 47 35 | Pk.5<br>72 N                                  | 5'377319      | 60 30 25  |
| Pk.28<br>53 J                                 | 4'323241      | 121 15 39 | Pk.10<br>72 N                                 | 5'333286      | 54 8 30   |
| Pk.80<br>53 J                                 | 4'040427      | 95 48 14  | Pk.13<br>72 N                                 | 5'270429      | 46 57 32  |
|                                               |               |           | Pk.14<br>72 N                                 | 5'286621      | 48 17 32  |
| PEMBIRINGO h.s.                               |               |           | Pk.11<br>78 A                                 | 5'236936      | 179 19 51 |
| Pk.80<br>78 E                                 | 5'428891      | 276 0 19  | Pk.23<br>78 A                                 | 5'015315      | 177 47 52 |
|                                               |               |           | Pk.25<br>78 A                                 | 4'889031      | 213 22 10 |
| PHALLUK LA h.s.                               |               |           | Pk.75<br>78 A                                 | 5'496235      | 234 22 40 |
| Pk.81<br>72 M                                 | 5'362582      | 138 43 15 | PHUGARHI h.s.                                 |               |           |
|                                               |               |           | Pk.1<br>78 B                                  | 4'276040      | 111 42 0  |
| PHALLUT h.s.                                  |               |           | Pk.4<br>78 B                                  | 4'554112      | 77 29 0   |
| Pk.8<br>71 L                                  | 5'659793      | 133 1 43  | Pk.5<br>78 B                                  | 4'380070      | 59 37 15  |
| Pk.48<br>72 I                                 | 5'562626      | 107 37 5  | Pk.7<br>78 B                                  | 4'344848      | 24 49 30  |
| Pk.50<br>72 I                                 | 5'555936      | 99 33 50  | PILKHUNTA h.s.                                |               |           |
| Pk.52<br>72 I                                 | 5'553353      | 87 52 40  | Pk.50<br>63 N                                 | 5'199737      | 186 2 35  |
| Pk.54<br>72 I                                 | 5'541285      | 81 34 36  | Pk.62<br>63 N                                 | 5'007336      | 204 30 39 |
| Pk.1<br>72 J                                  | 5'647968      | 76 58 52  | Pk.71<br>63 N                                 | 4'741170      | 228 28 9  |
| Pk.10<br>72 M                                 | 5'332987      | 127 59 5  | Pk.111<br>63 N                                | 4'946508      | 262 53 9  |
| Pk.19<br>72 M                                 | 5'310521      | 81 40 55  |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>POKRIDHUA h.s.</b>                         |               |           | <b>PURENA, LV—(Contd.)</b>                    |               |           |
| <u>Pk.24</u> ... ..                           | 4'947417      | 250 22 10 | <u>Pk.18</u> ... ..                           | 5'757293      | 207 1 24  |
| <u>62 C</u> ... ..                            |               |           | <u>62 P</u> ... ..                            |               |           |
| <u>Pk.29</u> ... ..                           | 4'529267      | 270 56 48 | <u>Pk.20</u> ... ..                           | 5'720158      | 202 30 7  |
| <u>62 C</u> ... ..                            |               |           | <u>62 P</u> ... ..                            |               |           |
| <b>PONGMERONG h.s.</b>                        |               |           | <u>Pk.22<sup>2</sup></u> ... ..               | 5'729606      | 207 18 28 |
| <u>Pk.19</u> ... ..                           | 4'797412      | 183 19 3  | <u>62 P</u> ... ..                            |               |           |
| <u>78 A</u> ... ..                            |               |           |                                               |               |           |
| <u>Pk.24</u> ... ..                           | 4'558164      | 264 52 29 | <b>RAGSHI h.s.</b>                            |               |           |
| <u>78 A</u> ... ..                            |               |           | <u>Pk.11</u> (Gangotri) ... ..                | 5'264788      | 149 38 6  |
| <b>PULAMSAMDA h.s.</b>                        |               |           | <u>53 J</u> ... ..                            | 5'219520      | 153 17 18 |
| <u>Pk.2</u> ... ..                            | 4'577076      | 310 11 19 | <u>Pk.18</u> ... ..                           |               |           |
| <u>53 M</u> ... ..                            |               |           | <u>53 J</u> ... ..                            |               |           |
| <u>Pk.12</u> ... ..                           | 4'919306      | 282 31 7  | <u>Pk.8</u> (Kharchakund)... ..               | 5'084899      | 174 26 48 |
| <u>53 M</u> ... ..                            |               |           | <u>53 N</u> ... ..                            | 5'074413      | 173 33 45 |
| <b>PUNLAGIRI h.s.</b>                         |               |           | <u>Pk.10</u> ... ..                           |               |           |
| <u>Pk.159</u> ... ..                          | 5'589419      | 217 31 38 | <u>53 N</u> ... ..                            | 4'788613      | 223 25 33 |
| <u>62 B</u> ... ..                            |               |           | <u>Pk.41</u> ... ..                           |               |           |
| <u>Pk.16</u> ... ..                           | 4'812051      | 241 47 23 | <u>53 N</u> ... ..                            | 4'764783      | 224 23 4  |
| <u>62 C</u> ... ..                            |               |           | <u>53 N</u> ... ..                            | 4'763173      | 227 10 38 |
| <u>Pk.17</u> ... ..                           | 4'758996      | 238 29 48 | <u>Pk.43</u> ... ..                           |               |           |
| <u>62 C</u> ... ..                            |               |           | <u>53 N</u> ... ..                            | 4'752052      | 231 46 18 |
| <u>Pk.52</u> ... ..                           | 5'337505      | 275 49 43 | <u>Pk.44</u> ... ..                           |               |           |
| <u>62 C</u> ... ..                            |               |           | <u>53 N</u> ... ..                            | 4'722977      | 249 31 45 |
| <u>Pk.53</u> ... ..                           | 5'352844      | 276 26 8  | <b>RALAM h.s.</b>                             |               |           |
| <u>62 C</u> ... ..                            |               |           | <u>Pk.33</u> ... ..                           | 4'759970      | 138 11 14 |
| <u>Pk.15</u> ... ..                           | 5'649420      | 235 19 38 | <u>62 B</u> ... ..                            |               |           |
| <u>62 G</u> ... ..                            |               |           | <u>Pk.37</u> ... ..                           | 4'358147      | 113 26 28 |
| <b>PUNYA h.s.</b>                             |               |           | <u>62 B</u> ... ..                            |               |           |
| <u>Pk.80</u> ... ..                           | 5'030730      | 198 55 46 | <u>Pk.39</u> ... ..                           | 4'352344      | 90 17 24  |
| <u>62 B</u> ... ..                            |               |           | <u>62 B</u> ... ..                            |               |           |
| <u>Pk.81</u> ... ..                           | 4'967704      | 198 41 18 | <b>RAMKUTA h.s.</b>                           |               |           |
| <u>62 B</u> ... ..                            |               |           | <u>Pk.46</u> ... ..                           | 4'896840      | 156 23 21 |
| <u>Pk.94</u> ... ..                           | 4'797907      | 233 55 26 | <u>53 N</u> ... ..                            |               |           |
| <u>62 B</u> ... ..                            |               |           | <u>Pk.47</u> ... ..                           | 4'910781      | 152 32 29 |
| <u>Pk.102</u> ... ..                          | 4'966085      | 257 23 47 | <u>53 N</u> ... ..                            |               |           |
| <u>62 B</u> ... ..                            |               |           | <u>Pk.84</u> ... ..                           | 4'451854      | 146 53 58 |
| <b>PURENA, LV</b>                             |               |           | <u>53 N</u> ... ..                            |               |           |
| <u>Pk.2</u> ... ..                            | 5'754499      | 178 53 5  | <u>Pk.87</u> ... ..                           | 4'305535      | 132 49 19 |
| <u>62 P</u> ... ..                            |               |           | <u>53 N</u> ... ..                            |               |           |
| <u>Pk.6</u> ... ..                            | 5'758652      | 186 19 23 | <u>Pk.91</u> ... ..                           | 4'310400      | 289 44 57 |
| <u>62 P</u> ... ..                            |               |           | <u>53 N</u> ... ..                            |               |           |
| <u>Pk.7</u> ... ..                            | 5'752158      | 184 18 38 | <b>RAMNAGAR, XXIV</b>                         |               |           |
| <u>62 P</u> ... ..                            |               |           | <u>Pk.116</u> ... ..                          | 5'896399      | 164 49 6  |
| <u>Pk.9</u> (Dhaulagiri) ... ..               | 5'747135      | 190 20 34 | <u>53 N</u> ... ..                            |               |           |
|                                               |               |           | <u>Pk.121</u> (Trisul East) ... ..            | 5'884412      | 161 16 35 |
|                                               |               |           | <u>53 N</u> ... ..                            |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>RAMNAGAR, XXIV—(Contd.)</b>                |               |           | <b>RAMNAGAR, LXX—(Contd.)</b>                 |               |           |
| <u>Pk.41</u> (Nandakot) ...                   | 5'876214      | 165 50 35 | <u>Pk.22<sup>1</sup></u> ...                  | 5'804459      | 219 32 42 |
| <u>62 B</u>                                   |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.92</u> (Panch Chulhi)                   | 5'850081      | 174 15 28 | <u>Pk.22<sup>2</sup></u> ...                  | 5'805230      | 219 32 41 |
| <u>62 B</u>                                   |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.1</u> ...                               | 5'399974      | 187 49 18 | <u>Pk.23</u> ...                              | 5'800603      | 220 30 22 |
| <u>62 D</u> ...                               |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.2</u> ...                               | 5'353042      | 188 38 16 | <u>Pk.29</u> ...                              | 5'768630      | 225 46 25 |
| <u>62 D</u> ...                               |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.2</u> ...                               | 5'793682      | 190 48 2  | <u>Pk.34</u> ...                              | 5'761808      | 225 36 35 |
| <u>62 G</u> ...                               |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.13</u> ...                              | 5'807734      | 203 7 24  | <u>Pk.35</u> (Dayabhang) ...                  | 5'745810      | 223 34 29 |
| <u>62 G</u> ...                               |               |           | <u>71 H</u> ...                               |               |           |
| <u>Pk.35</u> ...                              | 5'675173      | 225 38 41 | <u>Pk.39</u> ...                              | 5'758669      | 229 30 50 |
| <u>62 G</u> ...                               |               |           | <u>71 H</u> ...                               |               |           |
| <b>RAMNAGAR, LXX</b>                          |               |           | <u>Pk.41</u> ...                              | 5'723966      | 225 59 28 |
| <u>Pk.9</u> (Dhaulagiri) ...                  | 5'794283      | 154 39 17 | <u>71 H</u> ...                               |               |           |
| <u>62 P</u> ...                               |               |           | <u>Pk.42</u> ...                              | 5'723628      | 226 13 59 |
| <u>Pk.11</u> ...                              | 5'798954      | 157 5 34  | <u>71 H</u> ...                               |               |           |
| <u>62 P</u> ...                               |               |           | <u>Pk.50</u> ...                              | 5'783132      | 230 19 31 |
| <u>Pk.5</u> ...                               | 5'420362      | 147 44 26 | <u>71 H</u> ...                               |               |           |
| <u>63 M</u> ...                               |               |           | <u>Pk.52</u> ...                              | 5'785178      | 231 10 17 |
| <u>Pk.9</u> ...                               | 5'739887      | 179 56 41 | <u>71 H</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.1</u> ...                               | 5'376769      | 163 21 30 |
| <u>Pk.10</u> ...                              | 5'738471      | 179 9 54  | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.2</u> ...                               | 5'389173      | 158 34 49 |
| <u>Pk.11</u> ...                              | 5'710020      | 185 42 41 | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.3</u> ...                               | 5'361730      | 171 33 57 |
| <u>Pk.14</u> ...                              | 5'711156      | 188 27 7  | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.8</u> ...                               | 5'351501      | 169 35 29 |
| <u>Pk.21</u> ...                              | 5'663052      | 194 12 52 | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.13</u> ...                              | 5'374297      | 210 14 23 |
| <u>Pk.26<sup>1</sup></u> ...                  | 5'705366      | 205 6 17  | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.17</u> ...                              | 5'392054      | 235 40 55 |
| <u>Pk.26<sup>2</sup></u> ...                  | 5'705020      | 205 9 15  | <u>72 A</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.5</u> ...                               | 5'476881      | 246 28 27 |
| <u>Pk.27</u> ...                              | 5'676800      | 198 19 21 | <u>72 E</u> ...                               |               |           |
| <u>71 D</u> ...                               |               |           |                                               |               |           |
| <u>Pk.28</u> ...                              | 5'668703      | 197 14 8  | <b>RAMUAPUR, XXII</b>                         |               |           |
| <u>71 D</u> ...                               |               |           | <u>Pk.2</u> ...                               | 5'780029      | 196 36 8  |
| <u>Pk.1</u> ...                               | 5'747317      | 204 43 56 | <u>62 G</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           |                                               |               |           |
| <u>Pk.2</u> ...                               | 5'705753      | 205 28 4  | <b>RANIGARRI, II</b>                          |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.36</u> ...                              | 5'557550      | 167 10 1  |
| <u>Pk.3</u> ...                               | 5'703684      | 205 58 40 | <u>53 I</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.67</u> ...                              | 5'539928      | 170 15 8  |
| <u>Pk.9</u> ...                               | 5'703704      | 207 47 40 | <u>53 I</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.69</u> ...                              | 5'536500      | 171 36 3  |
| <u>Pk.12</u> ...                              | 5'697453      | 209 12 48 | <u>53 I</u> (Bandarpunch)                     |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.7</u> (Srikanta) ...                    | 5'511373      | 185 2 30  |
| <u>Pk.14</u> ...                              | 5'705533      | 212 6 6   | <u>53 J</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.9</u> ...                               | 5'487570      | 212 33 55 |
| <u>Pk.17</u> ...                              | 5'694280      | 213 54 39 | <u>53 N</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           | <u>Pk.27</u> (Badrinath) ...                  | 5'479945      | 216 4 57  |
| <u>Pk.18</u> ...                              | 5'694947      | 214 4 20  | <u>53 N</u> ...                               |               |           |
| <u>71 H</u> ...                               |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth      |
|-----------------------------------------------|---------------|--------------|-----------------------------------------------|---------------|--------------|
| <b>RANIGARR, II—(Contd.)</b>                  | <i>Feet</i>   | <i>° ' "</i> | <b>RHENOK h.s.</b>                            | <i>Feet</i>   | <i>° ' "</i> |
| <u>Pk.65</u>                                  |               |              | <u>Pk.52</u>                                  |               |              |
| 53 N ... ..                                   | 5'578483      | 236 22 10    | 78 A ... ..                                   | 4'768318      | 82 24 40     |
| <u>Pk.68</u>                                  |               |              | <u>Pk.61</u>                                  |               |              |
| 53 N ... ..                                   | 5'562963      | 237 52 9     | 78 A ... ..                                   | 5'243875      | 164 43 20    |
| <u>Pk.99</u>                                  |               |              | <u>Pk.62</u>                                  |               |              |
| 53 N ... ..                                   | 5'644157      | 243 20 40    | 78 A ... ..                                   | 5'194303      | 167 39 28    |
| <u>Pk.108</u>                                 |               |              | <u>Pk.64<sup>1</sup></u>                      |               |              |
| 53 N (Dunagiri) ...                           | 5'600457      | 245 35 29    | 78 A ... ..                                   | 4'873890      | 145 13 43    |
| <u>Pk.112</u>                                 |               |              | <u>Pk.64<sup>3</sup></u>                      |               |              |
| 53 N ... ..                                   | 5'611751      | 248 55 0     | 78 A ... ..                                   | 4'870247      | 144 29 21    |
| <u>Pk.119</u>                                 |               |              | <u>Pk.65</u>                                  |               |              |
| 53 N ... ..                                   | 5'557772      | 256 48 15    | 78 A ... ..                                   | 4'718754      | 191 9 50     |
| <u>Pk.125</u>                                 |               |              | <u>Pk.66</u>                                  |               |              |
| 53 N ... ..                                   | 5'557433      | 261 57 54    | 78 A ... ..                                   | 4'798364      | 131 31 10    |
| <u>Pk.9</u>                                   |               |              | <u>Pk.67</u>                                  |               |              |
| 62 B ... ..                                   | 5'650537      | 245 2 58     | 78 A ... ..                                   | 4'508081      | 180 16 48    |
|                                               |               |              | <u>Pk.81</u>                                  |               |              |
| <b>REKAKOTA h.s.</b>                          |               |              | 78 A ... ..                                   | 4'844176      | 201 1 48     |
| <u>Pk.125</u>                                 |               |              | <u>Pk.83</u>                                  |               |              |
| 62 B ... ..                                   | 5'001755      | 189 11 22    | 78 A ... ..                                   | 4'746495      | 209 21 48    |
| <u>Pk.126</u>                                 |               |              |                                               |               |              |
| 62 B ... ..                                   | 4'979755      | 193 29 53    | <b>RICHI LA h.s.</b>                          |               |              |
| <u>Pk.127</u>                                 |               |              | <u>Pk.63</u>                                  |               |              |
| 62 B ... ..                                   | 4'964496      | 191 49 49    | 78 A ... ..                                   | 4'994931      | 176 6 32     |
| <u>Pk.128</u>                                 |               |              | <u>Pk.86</u>                                  |               |              |
| 62 B ... ..                                   | 4'935534      | 182 18 7     | 78 A ... ..                                   | 4'896275      | 264 56 58    |
| <u>Pk.133</u>                                 |               |              | <u>Pk.87</u>                                  |               |              |
| 62 B ... ..                                   | 4'756781      | 197 42 18    | 78 A ... ..                                   | 4'499927      | 306 37 28    |
| <u>Pk.134</u>                                 |               |              | <u>Pk.88</u>                                  |               |              |
| 62 B ... ..                                   | 4'723937      | 201 23 38    | 78 A ... ..                                   | 4'851979      | 299 20 58    |
| <u>Pk.135</u>                                 |               |              | <u>Pk.14</u>                                  |               |              |
| 62 B ... ..                                   | 4'737307      | 153 51 24    | 78 E ... ..                                   | 5'084240      | 241 19 33    |
| <u>Pk.137</u>                                 |               |              | <u>Pk.17</u>                                  |               |              |
| 62 B ... ..                                   | 4'672904      | 164 28 35    | 78 E ... ..                                   | 5'173341      | 268 58 33    |
| <u>Pk.138</u>                                 |               |              | <u>Pk.18</u>                                  |               |              |
| 62 B ... ..                                   | 4'629598      | 169 28 10    | 78 E ... ..                                   | 5'035477      | 280 13 25    |
| <u>Pk.139</u>                                 |               |              | <u>Pk.1</u>                                   |               |              |
| 62 B ... ..                                   | 4'681762      | 209 28 30    | 78 F ... ..                                   | 5'117911      | 292 10 28    |
| <u>Pk.141</u>                                 |               |              |                                               |               |              |
| 62 B ... ..                                   | 4'609726      | 144 49 14    | <b>RINCHINPUNG h.s.</b>                       |               |              |
| <u>Pk.142</u>                                 |               |              | <u>Pk.27</u>                                  |               |              |
| 62 B ... ..                                   | 4'682796      | 232 22 16    | 78 A ... ..                                   | 4'885651      | 107 54 37    |
| <u>Pk.143</u>                                 |               |              | <u>Pk.51</u>                                  |               |              |
| 62 B ... ..                                   | 4'474948      | 225 34 12    | 78 A ... ..                                   | 4'474065      | 242 3 56     |
| <u>Pk.155</u>                                 |               |              |                                               |               |              |
| 62 B ... ..                                   | 4'760166      | 236 59 14    | <b>RINGALBANJ h.s.</b>                        |               |              |
| <u>Pk.23</u>                                  |               |              | <u>Pk.11</u>                                  |               |              |
| 62 C ... ..                                   | 4'648261      | 311 36 52    | 53 J (Gangotri) ...                           | 5'200733      | 166 45 6     |
| <u>Pk.25</u>                                  |               |              | <u>Pk.16</u>                                  |               |              |
| 62 C ... ..                                   | 4'786102      | 316 46 41    | 53 J ... ..                                   | 5'161377      | 172 55 8     |
| <u>Pk.26</u>                                  |               |              | <u>Pk.20</u>                                  |               |              |
| 62 C ... ..                                   | 4'765413      | 329 57 33    | 53 J ... ..                                   | 5'000826      | 178 46 42    |
| <u>Pk.27</u>                                  |               |              |                                               |               |              |
| 62 C ... ..                                   | 4'733566      | 344 14 58    |                                               |               |              |
| <u>Pk.38</u>                                  |               |              |                                               |               |              |
| 62 C ... ..                                   | 4'852122      | 302 52 40    |                                               |               |              |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>RINGALDANJ h.s.—(Contd.)</b>               |               |           | <b>RUPDI, LXXIX—(Contd.)</b>                  |               |           |
| Pk 28<br>53 J                                 | 4'759615      | 162 47 23 | Pk.19<br>71 H                                 | 5'780345      | 196 34 47 |
| Pk.4<br>53 N                                  | 5'119478      | 192 47 47 | Pk.20<br>71 H                                 | 5'777649      | 196 11 13 |
| Pk.6<br>53 N                                  | 5'105710      | 187 3 36  | Pk.27<br>71 H                                 | 5'799988      | 200 19 27 |
| Pk.8 (Kharchakund)...                         | 5'097824      | 201 0 48  | Pk.32<br>71 H                                 | 5'791081      | 200 12 34 |
| Pk.10<br>53 N                                 | 5'085779      | 200 51 31 | Pk.33<br>71 H                                 | 5'782068      | 196 52 3  |
| Pk.41<br>53 N                                 | 5'029661      | 247 41 39 | Pk.36<br>71 H                                 | 5'789073      | 201 59 17 |
| Pk.42<br>53 N                                 | 5'019103      | 248 55 28 | Pk.37<br>71 H                                 | 5'780103      | 201 20 9  |
| Pk.43<br>53 N                                 | 5'023047      | 250 23 2  | Pk.38 <sup>1</sup><br>71 H                    | 5'762464      | 199 13 48 |
| Pk.44<br>53 N                                 | 5'024635      | 252 59 16 | Pk.40<br>71 H                                 | 5'766156      | 201 15 29 |
|                                               |               |           | Pk.44<br>71 H                                 | 5'828240      | 204 10 18 |
| <b>RINKINPONG h.s.</b>                        |               |           | Pk.48<br>71 H                                 | 5'818172      | 204 44 2  |
| Pk.50<br>78 A                                 | 4'965975      | 187 10 26 | Pk.51<br>71 H                                 | 5'793826      | 205 29 24 |
| Pk.64 <sup>1</sup><br>78 A                    | 5'072578      | 192 51 33 | Pk.53<br>71 H                                 | 5'789765      | 206 53 54 |
|                                               |               |           | Pk.56<br>71 H                                 | 5'788097      | 206 59 19 |
| <b>RISUM No. 1 h.s.</b>                       |               |           | Pk.58<br>71 H                                 | 5'782626      | 209 24 5  |
| Pk.64 <sup>1</sup><br>78 A                    | 4'975974      | 168 15 49 | Pk.1<br>71 L                                  | 5'876918      | 225 29 51 |
| Pk.64 <sup>3</sup><br>78 A                    | 4'971575      | 167 52 34 | Pk.3<br>72 E                                  | 5'497164      | 191 50 21 |
| Pk.66<br>78 A                                 | 4'884243      | 162 1 25  | Pk.6<br>72 E                                  | 5'482810      | 195 13 0  |
|                                               |               |           | Pk.7<br>72 E                                  | 5'541115      | 209 26 11 |
| <b>RISUM No. 2 h.s.</b>                       |               |           | Pk.8<br>72 E                                  | 5'536382      | 209 2 43  |
| Pk.38<br>78 A                                 | 5'379883      | 168 45 37 | Pk.9<br>72 E                                  | 5'538723      | 210 15 32 |
|                                               |               |           | Pk.10<br>72 E                                 | 5'535691      | 210 4 18  |
| <b>RUPDI, LXXIX</b>                           |               |           | Pk.11 <sup>1</sup><br>72 E                    | 5'508562      | 204 45 50 |
| Pk.4<br>71 H                                  | 5'800483      | 185 22 16 | Pk.11 <sup>2</sup><br>72 E                    | 5'508777      | 204 58 7  |
| Pk.5<br>71 H                                  | 5'798887      | 184 12 4  | Pk.13<br>72 E                                 | 5'541437      | 211 59 25 |
| Pk.7<br>71 H                                  | 5'795704      | 183 3 38  | Pk.14<br>72 E                                 | 5'546121      | 214 39 29 |
| Pk.8<br>71 H                                  | 5'795071      | 182 51 29 | Pk.15<br>72 E                                 | 5'542770      | 214 6 39  |
| Pk.11<br>71 H                                 | 5'789843      | 183 27 25 | Pk.18<br>72 E                                 | 5'732397      | 215 54 47 |
| Pk.13<br>71 H                                 | 5'785468      | 186 13 40 | Pk.1<br>72 I                                  | 5'777835      | 218 10 11 |
| Pk.16<br>71 H                                 | 5'780789      | 185 46 16 |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
| <b>RUPDI, LXXIX—(Contd.)</b>                  | <i>Feet</i>   | ° ' "     | <b>SAMI h.s.—(Contd.)</b>                     | <i>Feet</i>   | ° ' "     |
| Pk.4                                          | ...           | ...       | Pk.7                                          | ...           | ...       |
| 72 I                                          | 5'826544      | 224 46 54 | 62 A                                          | 5'313554      | 191 14 45 |
| Pk.7                                          | ...           | ...       | Pk.9                                          | ...           | ...       |
| 72 I                                          | 5'836045      | 226 32 42 | 62 A                                          | 5'285558      | 187 19 55 |
| Pk.8                                          | ...           | ...       | Pk.10                                         | ...           | ...       |
| 72 I                                          | 5'812421      | 223 30 15 | 62 A                                          | 5'292289      | 195 40 5  |
| Pk.9                                          | ...           | ...       | Pk.11 <sup>1</sup>                            | ...           | ...       |
| 72 I                                          | 5'812446      | 223 44 1  | 62 A                                          | 5'525076      | 199 2 4   |
| Pk.10                                         | ...           | ...       | Pk.11 <sup>3</sup>                            | ...           | ...       |
| 72 I                                          | 5'817248      | 224 24 17 | 62 A                                          | 5'524716      | 199 15 31 |
| Pk.11                                         | ...           | ...       | Pk.12                                         | ...           | ...       |
| 72 I                                          | 5'810307      | 224 9 20  | 62 A                                          | 5'515637      | 198 3 51  |
| Pk.14                                         | ...           | ...       | Pk.13 <sup>2</sup>                            | ...           | ...       |
| 72 I                                          | 5'816145      | 229 31 49 | 62 A                                          | 5'465483      | 213 33 49 |
| Pk.17                                         | ...           | ...       | Pk.14                                         | ...           | ...       |
| 72 I                                          | 5'824618      | 228 22 28 | 62 A                                          | 5'394892      | 225 27 13 |
| Pk.18                                         | ...           | ...       | Pk.15                                         | ...           | ...       |
| 72 I                                          | 5'825883      | 228 41 34 | 62 A                                          | 5'383921      | 228 13 32 |
| Pk.19                                         | ...           | ...       | Pk.16                                         | ...           | ...       |
| 72 I                                          | 5'830801      | 229 53 12 | 62 A                                          | 5'386022      | 229 8 38  |
| Pk.20                                         | ...           | ...       | Pk.17                                         | ...           | ...       |
| 72 I                                          | 5'831936      | 230 14 57 | 62 A                                          | 5'386906      | 229 47 4  |
| Pk.22                                         | ...           | ...       | Pk.73                                         | ...           | ...       |
| 72 I                                          | 5'817394      | 230 38 27 | 62 B                                          | 4'980845      | 344 32 50 |
| Pk.23                                         | ...           | ...       | Pk.117                                        | ...           | ...       |
| 72 I                                          | 5'824399      | 231 25 7  | 62 B                                          | 5'125207      | 267 18 56 |
| Pk.25                                         | ...           | ...       | Pk.118                                        | ...           | ...       |
| 72 I                                          | 5'816869      | 230 49 57 | 62 B                                          | 5'123509      | 270 42 26 |
| Pk.26                                         | ...           | ...       | Pk.119                                        | ...           | ...       |
| 72 I                                          | 5'823641      | 231 39 40 | 62 B                                          | 5'200269      | 311 47 50 |
| Pk.28                                         | ...           | ...       | Pk.121                                        | ...           | ...       |
| 72 I                                          | 5'820419      | 231 49 30 | 62 B                                          | 5'188027      | 319 38 1  |
| Pk.29                                         | ...           | ...       | Pk.122                                        | ...           | ...       |
| 72 I                                          | 5'818306      | 232 26 18 | 62 B                                          | 5'277668      | 315 29 59 |
| Pk.30                                         | ...           | ...       | Pk.144                                        | ...           | ...       |
| 72 I                                          | 5'822562      | 233 4 4   | 62 B                                          | 5'263437      | 260 18 43 |
|                                               |               |           | Pk.145                                        | ...           | ...       |
|                                               |               |           | 62 B                                          | 5'270378      | 261 26 55 |
| <b>SACHOLI h.s.</b>                           |               |           | Pk.146                                        | ...           | ...       |
| Pk.19                                         | ...           | ...       | 62 B                                          | 5'382119      | 313 58 59 |
| 62 G                                          | 5'570399      | 263 13 4  | Pk.1                                          | ...           | ...       |
|                                               |               |           | 62 F                                          | 5'425805      | 273 43 44 |
| <b>SAMI h.s.</b>                              |               |           | Pk.2                                          | ...           | ...       |
| Pk.18                                         | ...           | ...       | 62 F                                          | 5'428510      | 274 8 43  |
| 53 M                                          | 5'593896      | 155 45 24 | Pk.9                                          | ...           | ...       |
| Pk.48                                         | ...           | ...       | 62 F                                          | 5'614875      | 299 31 31 |
| 53 N                                          | 5'333427      | 103 25 29 |                                               |               |           |
| Pk.50                                         | ...           | ...       | <b>SANDAKPHU No. 1 h.s.</b>                   |               |           |
| 53 N                                          | 5'293984      | 97 9 43   | Pk.6                                          | ...           | ...       |
| Pk.2                                          | ...           | ...       | 71 L                                          | 5'692908      | 138 42 3  |
| 62 A                                          | 5'426196      | 173 42 39 | Pk.7                                          | ...           | ...       |
| Pk.5                                          | ...           | ...       | 71 L                                          | 5'699655      | 137 31 2  |
| 62 A                                          | 5'382496      | 179 49 45 | Pk.2                                          | ...           | ...       |
| Pk.6 <sup>3</sup>                             | ...           | ...       | 71 F                                          | 5'578625      | 160 32 42 |
| 62 A                                          | 5'381064      | 181 3 3   | Pk.33                                         | ...           | ...       |
|                                               |               |           | 72 I                                          | 5'702124      | 117 8 10  |

DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| SANDAKPHU No. 1 h.s.—(Contd.)                 |               |           | SANDAKPHU No. 1 h.s.—(Contd.)                 |               |           |
| Pk.35<br>72 I ... ..                          | 5'712190      | 115 57 21 | Pk.28<br>72 M ... ..                          | 5'396799      | 152 14 55 |
| Pk.38<br>72 I ... ..                          | 5'658986      | 132 59 57 | Pk.29<br>72 M ... ..                          | 5'398082      | 150 5 39  |
| Pk.41 <sup>1</sup><br>72 I ... ..             | 5'633877      | 124 50 9  | Pk.32<br>72 M ... ..                          | 5'397784      | 142 58 59 |
| Pk.45<br>72 I ... ..                          | 5'656925      | 120 25 41 | Pk.33<br>72 M ... ..                          | 5'265315      | 144 44 6  |
| Pk.49<br>72 I ... ..                          | 5'564321      | 110 55 46 | Pk.36<br>72 M ... ..                          | 5'234676      | 114 31 1  |
| Pk.50<br>72 I ... ..                          | 5'560032      | 105 50 24 | Pk.40<br>72 M ... ..                          | 5'017758      | 72 46 17  |
| Pk.51<br>72 I ... ..                          | 5'558216      | 98 55 14  | Pk.42<br>72 M ... ..                          | 5'463483      | 165 22 21 |
| Pk.52<br>72 I ... ..                          | 5'548061      | 94 14 31  | Pk.43<br>72 M ... ..                          | 5'440881      | 163 55 36 |
| Pk.53<br>72 I ... ..                          | 5'553475      | 90 58 46  | Pk.44<br>72 M ... ..                          | 5'376008      | 173 49 48 |
| Pk.54<br>72 I ... ..                          | 5'530066      | 88 2 24   | Pk.47<br>72 M ... ..                          | 5'263951      | 163 12 14 |
| Pk.55<br>72 I ... ..                          | 5'519778      | 86 51 34  | Pk.48<br>72 M ... ..                          | 5'205568      | 165 14 46 |
| Pk.1<br>72 J ... ..                           | 5'635634      | 81 54 37  | Pk.50<br>72 M ... ..                          | 5'158171      | 162 14 0  |
| Pk.2<br>72 J ... ..                           | 5'583836      | 84 1 2    | Pk.51<br>72 M ... ..                          | 5'146146      | 147 43 31 |
| Pk.1<br>72 M ... ..                           | 5'619215      | 136 24 59 | Pk.53<br>72 M ... ..                          | 4'457812      | 82 53 47  |
| Pk.3<br>72 M ... ..                           | 5'588589      | 133 24 37 | Pk.54<br>72 M ... ..                          | 4'723519      | 70 23 51  |
| Pk.4<br>72 M ... ..                           | 5'607434      | 130 42 7  | Pk.1<br>72 N ... ..                           | 5'401695      | 78 39 32  |
| Pk.5<br>72 M ... ..                           | 5'573403      | 134 24 41 | Pk.2<br>72 N ... ..                           | 5'484008      | 80 30 8   |
| Pk.6<br>72 M ... ..                           | 5'578613      | 130 1 28  | Pk.3<br>72 N ... ..                           | 5'491436      | 74 39 53  |
| Pk.9<br>72 M ... ..                           | 5'517257      | 103 31 44 | Pk.5<br>72 N ... ..                           | 5'335984      | 68 54 14  |
| Pk.11<br>72 M ... ..                          | 5'359499      | 130 26 58 | Pk.8<br>72 N ... ..                           | 5'334390      | 66 29 34  |
| Pk.12<br>72 M ... ..                          | 5'342649      | 126 41 56 | Pk.10<br>72 N ... ..                          | 5'279281      | 62 50 50  |
| Pk.13<br>72 M ... ..                          | 5'307107      | 120 13 46 | Pk.11<br>72 N ... ..                          | 5'128901      | 68 7 53   |
| Pk.14<br>72 M ... ..                          | 5'248772      | 108 4 22  | Pk.12<br>72 N ... ..                          | 5'132237      | 51 31 20  |
| Pk.17<br>72 M ... ..                          | 5'254203      | 98 52 19  | Pk.13<br>72 N ... ..                          | 5'197672      | 56 8 16   |
| Pk.19<br>72 M ... ..                          | 5'294732      | 92 50 52  | Pk.14<br>72 N ... ..                          | 5'218357      | 57 17 21  |
| Pk.20<br>72 M ... ..                          | 5'293124      | 89 38 47  | Pk.15<br>72 N ... ..                          | 5'193423      | 40 55 25  |
| Pk.21<br>72 M ... ..                          | 5'336232      | 84 56 37  | Pk.16<br>72 N ... ..                          | 5'201957      | 37 56 45  |
| Pk.25<br>72 M ... ..                          | 5'454011      | 158 5 44  | Pk.17<br>72 N ... ..                          | 4'858420      | 40 14 2   |
| Pk.26<br>72 M ... ..                          | 5'426310      | 156 33 1  | Pk.18<br>72 N ... ..                          | 4'995824      | 27 17 39  |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>SANDAKPHU No. 1 h.s.—(Contd.)</b>          |               |           | <b>SAONCHALIA, VI—(Contd.)</b>                |               |           |
| Pk.19<br>72 N                                 | 4'980009      | 6 52 9    | Pk.116<br>53 N                                | 5'579305      | 214 23 50 |
| Pk.20<br>72 N                                 | 4'995681      | 14 36 5   | Pk.117<br>53 N (Trisul West)                  | 5'514579      | 206 17 15 |
| Fk.21<br>72 N                                 | 5'187881      | 29 11 44  | Pk.121<br>53 N (Trisul East)                  | 5'516927      | 212 11 10 |
| Pk.22<br>72 N                                 | 5'204774      | 21 32 49  | Pk.41<br>62 B (Nandakot)                      | 5'566700      | 220 1 47  |
| Pk.23<br>72 N                                 | 5'186400      | 12 24 4   | Pk.86<br>62 B                                 | 5'635053      | 230 43 41 |
| Pk.11<br>78 A                                 | 5'326271      | 180 53 3  | Pk.92<br>62 B (Panch Chulhi)                  | 5'639258      | 233 32 28 |
| Pk.15 <sup>1</sup><br>78 A                    | 5'270824      | 180 0 22  | Pk.37<br>62 C                                 | 5'724818      | 250 27 10 |
| Pk.25<br>78 A                                 | 5'059105      | 204 42 45 | <b>SATHDUNGA h.s.</b>                         |               |           |
| Pk.49<br>78 A                                 | 5'183263      | 236 11 57 | Pk.61<br>53 N                                 | 4'708418      | 95 46 41  |
| Pk.75<br>78 A                                 | 5'534012      | 229 31 6  | Pk.66<br>53 N                                 | 4'790358      | 62 41 36  |
| Pk.1<br>78 B                                  | 4'981679      | 330 53 57 | Pk.92<br>53 N                                 | 4'211882      | 153 56 37 |
| Pk.2<br>78 B                                  | 4'935526      | 359 0 34  | Pk.93<br>53 N                                 | 4'563159      | 111 22 19 |
| Pk.3<br>78 B                                  | 4'977293      | 354 56 44 | Pk.94<br>53 N                                 | 4'522857      | 104 50 7  |
| Pk.4<br>78 B                                  | 5'012014      | 343 37 49 | Pk.96<br>53 N                                 | 4'299425      | 330 48 24 |
| Pk.5<br>78 B                                  | 5'048314      | 337 14 19 | Pk.1<br>62 B                                  | 4'574911      | 265 44 27 |
| Pk.6<br>78 B                                  | 5'035206      | 350 15 14 | <b>SAUNBARSA, LIX</b>                         |               |           |
| <b>SANDAKPHU No. 2 h.s.</b>                   |               |           | Pk.5<br>62 P                                  | 5'757082      | 181 7 52  |
| Pk.21<br>72 M                                 | 5'350085      | 86 34 35  | Pk.7<br>62 P                                  | 5'749536      | 178 40 55 |
| <b>SAONCHALIA, VI</b>                         |               |           | Pk.9<br>62 P (Dhaulagiri)                     | 5'739861      | 184 41 10 |
| Pk.15<br>53 J                                 | 5'701661      | 168 23 58 | <b>SENCAL No. 1 h.s.</b>                      |               |           |
| Pk.7<br>53 N (Kedarnath)                      | 5'677928      | 170 30 31 | Pk.9<br>78 A (Kambachen)                      | 5'434873      | 167 27 6  |
| Pk.27<br>53 N (Badrinath)                     | 5'651228      | 178 29 20 | Pk.10 <sup>1</sup><br>78 A (Kinchinjunga)     | 5'422995      | 169 44 56 |
| Pk.29<br>53 N (Nilakanta)                     | 5'649575      | 183 35 42 | Pk.10 <sup>2</sup><br>78 A (Kinchinjunga)     | 5'415990      | 170 3 21  |
| Pk.30<br>53 N                                 | 5'646206      | 177 28 31 | Pk.13<br>78 A (Jano)                          | 5'424714      | 162 19 40 |
| Pk.49<br>53 N (Kamet)                         | 5'717240      | 189 30 34 | Pk.16<br>78 A (Kabru)                         | 5'369042      | 165 24 16 |
| Pk.114<br>53 N                                | 5'577391      | 213 0 51  | Pk.18<br>78 A (Pandim)                        | 5'335328      | 173 25 50 |
| Pk.115<br>53 N (Nanda Devi)                   | 5'577346      | 213 4 42  |                                               |               |           |



DISTANCES AND AZIMUTHS OF PEAKS.

| Name of Station with Peaks observed therefrom                    | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom      | Log. Distance | Azimuth   |
|------------------------------------------------------------------|---------------|-----------|----------------------------------------------------|---------------|-----------|
| <p>SENCHAL No. 1 h.s.—(Contd.)</p> <p><i>Feet</i>      ° ' "</p> |               |           | <p>SHERALEK h.s.</p> <p><i>Feet</i>      ° ' "</p> |               |           |
| Pk.41<br>78 A                                                    | 5'427573      | 186 38 31 | Pk.51<br>62 C                                      | 5'380762      | 293 25 41 |
| Pk.42<br>78 A                                                    | 5'426167      | 186 55 50 | Pk.17<br>62 G                                      | 5'536427      | 273 1 50  |
| Pk.44 (Narsing)<br>78 A                                          | 5'281165      | 178 50 6  | Pk.18<br>62 G                                      | 5'527988      | 274 51 51 |
| Pk.55<br>78 A                                                    | 5'584893      | 199 59 13 | SHIALEK h.s.                                       |               |           |
| Pk.69 (Paubunri)<br>78 A                                         | 5'594091      | 206 47 23 | Pk.153<br>62 B                                     | 4'147132      | 165 40 6  |
| Pk.70 <sup>1</sup><br>78 A                                       | 5'580519      | 205 21 13 | Pk.154<br>62 B                                     | 4'258711      | 89 55 17  |
| Pk.78<br>78 A                                                    | 5'418889      | 215 52 16 | Pk.156<br>62 B                                     | 4'388340      | 55 40 13  |
| Pk.80 (Chumunko)<br>78 A                                         | 5'370213      | 222 44 31 | SHIKANI h.s.                                       |               |           |
| Pk.85 (Gyi-mo-chi)<br>78 A                                       | 5'349212      | 241 54 22 | Pk.122<br>53 N                                     | 4'980540      | 207 53 21 |
| Pk.20 (Chumalhari)<br>78 E                                       | 5'643565      | 225 43 23 | Pk.123<br>53 N                                     | 4'939641      | 210 14 19 |
| SENCHAL LA h.s.                                                  |               |           | Pk.126<br>53 N                                     | 4'900991      | 216 12 21 |
| Pk.72<br>78 A                                                    | 5'333414      | 175 25 35 | Pk.127<br>53 N                                     | 4'906848      | 218 44 4  |
| Pk.77<br>78 A                                                    | 5'078101      | 183 28 50 | Pk.128<br>53 N                                     | 4'810803      | 200 41 29 |
| Pk.2<br>78 E                                                     | 5'100905      | 185 53 20 | Pk.42<br>62 B                                      | 5'075165      | 221 48 36 |
| Pk.3<br>78 E                                                     | 5'072750      | 192 32 35 | Pk.43<br>62 B                                      | 5'079400      | 223 14 11 |
| Pk.4<br>78 E                                                     | 5'013048      | 197 41 35 | Pk.48<br>62 B                                      | 5'061153      | 226 5 30  |
| Pk.21<br>78 E                                                    | 5'319890      | 222 31 21 | Pk.54<br>62 B                                      | 4'981826      | 225 26 3  |
| Pk.22<br>78 E                                                    | 5'298200      | 236 5 5   | Pk.60<br>62 B                                      | 4'929968      | 236 28 27 |
| Pk.23<br>78 E                                                    | 5'220204      | 229 20 20 | Pk.64<br>62 B                                      | 4'905207      | 242 27 50 |
| SHAUKUL h.s.                                                     |               |           | Pk.83<br>62 B                                      | 5'298607      | 241 7 15  |
| Pk.70<br>62 B                                                    | 5'029191      | 198 13 1  | Pk.99<br>62 B                                      | 5'332947      | 254 49 7  |
| Pk.114<br>62 B                                                   | 5'068686      | 220 55 27 | SHILLONG No. 1 h.s.                                |               |           |
| Pk.3<br>62 C                                                     | 5'049585      | 226 7 4   | Pk.7<br>62 B                                       | 4'497077      | 182 59 13 |
| Pk.10<br>62 C                                                    | 5'181439      | 252 24 0  | Pk.15<br>62 B                                      | 4'188995      | 138 55 35 |
| Pk.12<br>62 C                                                    | 5'128578      | 256 4 58  | Pk.16<br>62 B                                      | 4'138696      | 215 49 56 |
|                                                                  |               |           | Pk.23 <sup>1</sup><br>62 B                         | 4'228932      | 303 24 10 |



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|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| SINGALILA h.s.                                |               |           | SINGALILA h.s.—(Contd.)                       |               |           |
| Pk.8                                          | 5'655654      | 131 49 20 | Pk.23                                         | 4'975872      | 175 32 18 |
| 71 L                                          |               |           | 78 A                                          |               |           |
| Pk.46                                         | 5'614594      | 114 50 13 | Pk.79                                         | 5'420875      | 249 32 37 |
| 72 I                                          |               |           | 78 A                                          |               |           |
| Pk.48                                         | 5'563491      | 106 5 7   | SITPANI h.s.                                  |               |           |
| 72 I                                          |               |           | Pk.16                                         | 4'227361      | 197 54 4  |
| Pk.55                                         | 5'538408      | 78 53 17  | 62 B                                          |               |           |
| 72 I                                          |               |           | Pk.22                                         | 4'021905      | 270 12 12 |
| Pk.10                                         | 5'327757      | 125 27 11 | 62 B                                          |               |           |
| 72 M                                          |               |           | Pk.23 <sup>1</sup>                            | 4'083103      | 291 25 10 |
| Pk.15                                         | 5'256137      | 85 37 41  | 62 B                                          |               |           |
| 72 M                                          |               |           | Pk.38                                         | 4'911559      | 22 54 37  |
| Pk.16                                         | 5'286357      | 83 56 44  | 62 B                                          |               |           |
| 72 M                                          |               |           | SOMESHWAR h.s.                                |               |           |
| Pk.18                                         | 5'269965      | 83 1 44   | Pk.13                                         |               |           |
| 72 M                                          |               |           | 71 D                                          | 5'601044      | 176 48 9  |
| Pk.22                                         | 5'374524      | 73 12 14  | Pk.22 <sup>2</sup>                            | 5'757345      | 224 0 34  |
| 72 M                                          |               |           | 71 H                                          |               |           |
| Pk.23                                         | 5'366102      | 72 38 44  | Pk.24                                         | 5'733827      | 223 45 36 |
| 72 M                                          |               |           | 71 H                                          |               |           |
| Pk.24                                         | 5'389362      | 155 8 41  | Pk.25                                         | 5'756232      | 226 42 28 |
| 72 M                                          |               |           | 71 H                                          |               |           |
| Pk.27                                         | 5'334359      | 143 1 29  | Pk.11                                         | 5'113048      | 187 59 59 |
| 72 M                                          |               |           | 72 A                                          |               |           |
| Pk.36                                         | 5'034259      | 112 49 41 | Pk.14                                         | 5'330128      | 236 29 38 |
| 72 M                                          |               |           | 72 A                                          |               |           |
| Pk.37                                         | 5'163304      | 79 32 12  | Pk.17                                         | 5'307319      | 253 23 20 |
| 72 M                                          |               |           | 72 A                                          |               |           |
| Pk.40                                         | 5'127864      | 53 43 7   | SOMESHWAR FORT h.s.                           |               |           |
| 72 M                                          |               |           | Pk.11                                         | 5'739489      | 154 11 23 |
| Pk.41                                         | 5'391718      | 161 0 26  | 62 P                                          |               |           |
| 72 M                                          |               |           | Pk.16                                         | 5'659186      | 166 5 33  |
| Pk.44                                         | 5'280827      | 169 40 57 | 62 P                                          |               |           |
| 72 M                                          |               |           | Pk.21                                         | 5'637564      | 160 18 2  |
| Pk.45                                         | 5'245140      | 167 59 56 | 62 P                                          |               |           |
| 72 M                                          |               |           | Pk.2                                          | 5'381960      | 123 52 22 |
| Pk.46                                         | 5'118239      | 170 43 33 | 63 M                                          |               |           |
| 72 M                                          |               |           | Pk.3                                          | 5'343722      | 129 58 12 |
| Pk.52                                         | 4'646691      | 138 8 43  | 63 M                                          |               |           |
| 72 M                                          |               |           | Pk.4                                          | 5'263968      | 139 18 39 |
| Pk.1                                          | 5'438066      | 69 1 45   | 63 M                                          |               |           |
| 72 N                                          |               |           | Pk.6                                          | 5'347644      | 127 18 4  |
| Pk.3                                          | 5'524468      | 67 1 15   | 63 M                                          |               |           |
| 72 N                                          |               |           | Pk.8                                          | 5'276908      | 128 15 16 |
| Pk.4                                          | 5'381733      | 64 47 29  | 63 M                                          |               |           |
| 72 N                                          |               |           | Pk.8                                          | 5'691521      | 184 12 2  |
| Pk.5                                          | 5'391047      | 59 2 15   | 71 D                                          |               |           |
| 72 N                                          |               |           | Pk.11                                         | 5'631762      | 187 40 58 |
| Pk.8                                          | 5'391434      | 56 53 54  | 71 D                                          |               |           |
| 72 N                                          |               |           |                                               |               |           |
| Pk.10                                         | 5'349515      | 52 44 35  |                                               |               |           |
| 72 N                                          |               |           |                                               |               |           |
| Pk.11                                         | 5'220341      | 53 32 37  |                                               |               |           |
| 72 N                                          |               |           |                                               |               |           |
| Pk.12                                         | 5'212349      | 180 5' 56 |                                               |               |           |
| 78 A                                          |               |           |                                               |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>SOMESHWAR FORT h.s.—(Contd.)</b>           |               |           | <b>SOMESHWAR FORT h.s.—(Contd.)</b>           |               |           |
| Pk.13                                         |               |           | Pk.17                                         |               |           |
| 71 D ... ..                                   | 5'595115      | 178 59 58 | 72 A ... ..                                   | 5'335545      | 255 47 56 |
| Pk.22                                         |               |           | Pk.4                                          |               |           |
| 71 D ... ..                                   | 5'673946      | 205 47 11 | 72 E                                          |               |           |
| Pk.23                                         |               |           |                                               | 5'448576      | 260 39 8  |
| 71 D ... ..                                   | 5'671861      | 206 4 48  |                                               |               |           |
| Pk.17                                         |               |           | <b>SONAM h.s.</b>                             |               |           |
| 71 H ... ..                                   | 5'633332      | 221 0 12  | Pk.75                                         |               |           |
| Pk.21                                         |               |           | 53 I                                          |               |           |
| 71 H ... ..                                   | 5'679406      | 233 20 13 | Pk.77                                         |               |           |
| Pk.22 <sup>1</sup>                            |               |           | 53 I                                          |               |           |
| 71 H ... ..                                   | 5'762284      | 225 26 48 | Pk.1                                          |               |           |
| Pk.23                                         |               |           | 53 M                                          |               |           |
| 71 H ... ..                                   | 5'758602      | 226 33 30 | Pk.10                                         |               |           |
| Pk.24                                         |               |           | 53 M                                          |               |           |
| 71 H ... ..                                   | 5'739543      | 225 16 19 |                                               | 5'348255      | 201 53 37 |
| Pk.25                                         |               |           |                                               |               |           |
| 71 H ... ..                                   | 5'762821      | 228 6 11  | <b>SONGCHONGLU h.s.</b>                       |               |           |
| Pk.26                                         |               |           | Pk.9                                          |               |           |
| 71 H ... ..                                   | 5'763323      | 228 39 32 | 78 A (Kambachen)                              |               |           |
| Pk.29                                         |               |           | Pk.38                                         |               |           |
| 71 H ... ..                                   | 5'728616      | 232 50 38 | 78 A                                          |               |           |
| Pk.34                                         |               |           | Pk.41                                         |               |           |
| 71 H ... ..                                   | 5'721032      | 232 47 16 | 78 A                                          |               |           |
| Pk.39                                         |               |           | Pk.42                                         |               |           |
| 71 H ... ..                                   | 5'721970      | 237 4 21  | 78 A                                          |               |           |
| Pk.49                                         |               |           | Pk.55                                         |               |           |
| 71 H ... ..                                   | 5'749822      | 235 47 42 | 78 A                                          |               |           |
| Pk.50                                         |               |           | Pk.69                                         |               |           |
| 71 H ... ..                                   | 5'749365      | 237 29 46 | 78 A (Pauhunri)                               |               |           |
| Pk.52                                         |               |           | Pk.70 <sup>1</sup>                            |               |           |
| 71 H ... ..                                   | 5'752391      | 238 21 39 | 78 A                                          |               |           |
| Pk.1                                          |               |           |                                               | 5'542091      | 193 1 2   |
| 72 A ... ..                                   | 5'190582      | 156 27 3  |                                               |               |           |
| Pk.2                                          |               |           | <b>SUBERKUM h.s.</b>                          |               |           |
| 72 A ... ..                                   | 5'216705      | 149 38 21 | Pk.6                                          |               |           |
| Pk.3                                          |               |           | 71 L                                          |               |           |
| 72 A ... ..                                   | 5'159064      | 169 0 32  | Pk.7                                          |               |           |
| Pk.4                                          |               |           | 71 L                                          |               |           |
| 72 A ... ..                                   | 5'229094      | 145 21 22 | Pk.8                                          |               |           |
| Pk.6                                          |               |           | 71 L                                          |               |           |
| 72 A ... ..                                   | 5'196755      | 151 11 1  | Pk.41 <sup>1</sup>                            |               |           |
| Pk.7 <sup>1</sup>                             |               |           | 72 I                                          |               |           |
| 72 A ... ..                                   | 5'169798      | 158 19 17 |                                               | 5'626421      | 121 38 21 |
| Pk.7 <sup>2</sup>                             |               |           |                                               |               |           |
| 72 A ... ..                                   | 5'166489      | 158 36 35 | <b>SUJANBONGA h.s.</b>                        |               |           |
| Pk.8                                          |               |           | Pk.116                                        |               |           |
| 72 A ... ..                                   | 5'143973      | 165 43 20 | 62 B                                          |               |           |
| Pk.10                                         |               |           | Pk.4                                          |               |           |
| 72 A ... ..                                   | 5'161366      | 177 5 22  | 62 C                                          |               |           |
| Pk.11                                         |               |           |                                               | 4'542333      | 196 6 21  |
| 72 A ... ..                                   | 5'107167      | 195 11 31 |                                               |               |           |
| Pk.12                                         |               |           | <b>SUKADHAR h.s.</b>                          |               |           |
| 72 A ... ..                                   | 5'236298      | 217 43 11 | Pk.28                                         |               |           |
| Pk.14                                         |               |           | 62 C                                          |               |           |
| 72 A ... ..                                   | 5'351066      | 239 43 9  | Pk.31                                         |               |           |
| Pk.15                                         |               |           | 62 C                                          |               |           |
| 72 A ... ..                                   | 5'274608      | 234 41 41 |                                               | 4'844390      | 301 52 10 |
|                                               |               |           |                                               | 4'857235      | 319 4 22  |

## DISTANCES AND AZIMUTHS OF PEAKS.

217—Z.

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>SUMDHAB h.s.</b>                           |               |           | <b>SUPUR LXII—(Contd.)</b>                    |               |           |
| Pk.142                                        | 4'464541      | 196 13 44 | Pk.22 <sup>2</sup>                            | 5'647898      | 192 53 11 |
| 62 B                                          |               |           | 62 P                                          |               |           |
| Pk.155                                        | 4'544821      | 211 24 0  | Pk.3                                          | 5'676007      | 199 7 17  |
| 62 B                                          |               |           | 71 D                                          |               |           |
| Pk.22                                         | 4'378870      | 320 8 58  | Pk.7                                          | 5'669176      | 202 18 47 |
| 62 C                                          |               |           | 71 D                                          |               |           |
| Pk.23                                         | 4'493275      | 354 5 21  |                                               |               |           |
| 62 C                                          |               |           | <b>SUSALA h.s.</b>                            |               |           |
| Pk.27                                         | 4'745757      | 16 1 43   | Pk.5                                          | 4'940807      | 98 33 45  |
| 62 C                                          |               |           | 53 N                                          |               |           |
| Pk.33                                         | 4'697784      | 323 27 59 | Pk.23                                         | 4'682451      | 90 22 8   |
| 62 C                                          |               |           | 53 N                                          |               |           |
| <b>SUNGARKOT H.S.</b>                         |               |           | <b>TADANG h.s.</b>                            |               |           |
| Pk.120                                        | 5'286253      | 207 51 19 | Pk.147                                        | 4'779877      | 193 6 4   |
| 53 N                                          |               |           | 62 B                                          |               |           |
| Pk.40                                         | 5'318862      | 214 11 7  | Pk.151                                        | 4'496708      | 181 25 13 |
| 62 B                                          |               |           | 62 B                                          |               |           |
| Pk.53                                         | 5'301898      | 222 26 28 | Pk.4                                          | 4'823470      | 279 23 25 |
| 62 B                                          |               |           | 62 F                                          |               |           |
| Pk.84                                         | 5'445728      | 233 0 12  |                                               |               |           |
| 62 B                                          |               |           | <b>TARHARWA, LXII</b>                         |               |           |
| Pk.95                                         | 5'449720      | 240 13 13 | Pk.14                                         | 5'721654      | 181 51 28 |
| 62 B                                          |               |           | 71 D                                          |               |           |
| Pk.97                                         | 5'452921      | 241 5 23  | Pk.19                                         | 5'686918      | 185 4 41  |
| 62 B                                          |               |           | 71 D                                          |               |           |
| Pk.98                                         | 5'457317      | 241 58 52 | Pk.21                                         | 5'669494      | 186 41 22 |
| 62 B                                          |               |           | 71 D                                          |               |           |
| <b>SUPI h.s.</b>                              |               |           | Pk.9                                          | 5'696670      | 200 51 22 |
| Pk.50                                         | 4'799327      | 197 15 31 | 71 H                                          |               |           |
| 62 B                                          |               |           | Pk.21                                         | 5'701257      | 219 19 40 |
| <b>SUPUR, LXII</b>                            |               |           | 71 H                                          |               |           |
| Pk.1                                          | 5'748020      | 162 0 14  | Pk.22 <sup>1</sup>                            | 5'790037      | 214 19 10 |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.2                                          | 5'739395      | 163 17 53 | Pk.22 <sup>2</sup>                            | 5'790504      | 214 19 5  |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.3                                          | 5'740424      | 162 16 31 | Pk.23                                         | 5'784820      | 215 14 50 |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.5                                          | 5'729732      | 171 25 52 | Pk.24                                         | 5'769331      | 213 35 36 |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.6                                          | 5'727533      | 171 0 23  | Pk.29                                         | 5'747797      | 220 18 4  |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.8                                          | 5'722531      | 170 21 43 | Pk.34                                         | 5'740807      | 220 2 16  |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.12                                         | 5'692217      | 183 26 30 | Pk.39                                         | 5'734605      | 224 5 15  |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.16                                         | 5'675403      | 187 5 15  | Pk.41                                         | 5'700931      | 219 53 43 |
| 62 P                                          |               |           | 71 H                                          |               |           |
| Pk.18                                         | 5'680742      | 193 37 29 | Pk.42                                         | 5'700404      | 220 8 38  |
| 62 P                                          |               |           | 71 H                                          |               |           |
|                                               |               |           | Pk.49                                         | 5'763034      | 223 39 30 |
|                                               |               |           | 71 H                                          |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>TARHARWA, LXXII—(Contd.)</b>               |               |           | <b>THAGA LA No. 2 h.s.—(Contd.)</b>           |               |           |
| Pk.50                                         | 5'760097      | 225 16 11 | Pk.11                                         | 4'835565      | 273 4 48  |
| 71 H                                          |               |           | 53 M                                          |               |           |
| Pk.52                                         | 5'761343      | 226 10 22 | Pk.12                                         | 4'970114      | 309 39 30 |
| 71 H                                          |               |           | 53 M                                          |               |           |
| Pk.9                                          | 5'451559      | 179 15 44 | Pk.1                                          | 5'504158      | 239 12 10 |
| 72 A                                          |               |           | 62 A                                          |               |           |
| Pk.14                                         | 5'401558      | 210 40 32 | Pk.4                                          | 5'507213      | 264 39 26 |
| 72 A                                          |               |           | 62 A                                          |               |           |
| Pk.1                                          | 5'399605      | 222 12 29 | <b>THAKALA h.s.</b>                           |               |           |
| 72 E                                          |               |           | Pk.4                                          | 4'216497      | 135 26 24 |
| Pk.2                                          | 5'415049      | 226 25 33 | 62 C                                          |               |           |
| 72 E                                          |               |           | Pk.5                                          | 4'388312      | 117 2 25  |
| Pk.4                                          | 5'413522      | 234 51 33 | 62 C                                          |               |           |
| 72 E                                          |               |           | <b>THAKIL h.s.</b>                            |               |           |
| Pk.5                                          | 5'407794      | 237 32 39 | Pk.58                                         | 5'386798      | 177 58 56 |
| 72 E                                          |               |           | 62 B                                          |               |           |
| <b>TENDONG h.s.</b>                           |               |           | Pk.77                                         | 5'525351      | 185 18 15 |
| Pk.14 (Simvo)                                 | 5'256051      | 162 37 41 | 62 B                                          |               |           |
| 78 A                                          |               |           | Pk.78                                         | 5'515097      | 186 58 26 |
| Pk.41                                         | 5'269539      | 188 7 43  | 62 B                                          |               |           |
| 78 A                                          |               |           | Pk.140                                        | 5'445805      | 218 29 30 |
| Pk.42                                         | 5'266987      | 188 29 55 | 62 B                                          |               |           |
| 78 A                                          |               |           | Pk.152                                        | 5'529734      | 223 53 46 |
| Pk.47                                         | 4'893231      | 192 11 3  | 62 B                                          |               |           |
| 78 A                                          |               |           | Pk.159                                        | 5'480955      | 232 34 0  |
| Pk.51                                         | 4'460616      | 140 30 51 | 62 B                                          |               |           |
| 78 A                                          |               |           | Pk.7                                          | 5'252677      | 202 34 33 |
| Pk.59                                         | 5'298033      | 195 47 51 | 62 C                                          |               |           |
| 78 A                                          |               |           | Pk.8                                          | 5'237955      | 207 21 11 |
| Pk.60                                         | 5'263560      | 193 50 21 | 62 C                                          |               |           |
| 78 A                                          |               |           | Pk.13                                         | 4'961048      | 251 36 49 |
| Pk.73                                         | 5'461902      | 211 36 51 | 62 C                                          |               |           |
| 78 A                                          |               |           | Pk.14                                         | 4'852041      | 277 15 26 |
| <b>THAGA LA No. 1 h.s.</b>                    |               |           | 62 C                                          |               |           |
| Pk.2                                          | 4'764808      | 348 43 9  | Pk.16                                         | 5'047316      | 326 50 39 |
| 53 M                                          |               |           | 62 C                                          |               |           |
| Pk.10                                         | 5'207726      | 206 6 8   | Pk.18 <sup>1</sup>                            | 5'087239      | 320 30 36 |
| 53 M                                          |               |           | 62 C                                          |               |           |
| Pk.11                                         | 4'780726      | 265 4 35  | Pk.18 <sup>2</sup>                            | 5'089918      | 320 54 37 |
| 53 M                                          |               |           | 62 C                                          |               |           |
| Pk.12                                         | 4'910363      | 308 34 5  | Pk.30                                         | 5'190971      | 229 40 53 |
| 53 M                                          |               |           | 62 C                                          |               |           |
| Pk.1                                          | 5'500991      | 237 4 29  | Pk.33                                         | 5'213165      | 261 28 45 |
| 62 A                                          |               |           | 62 C                                          |               |           |
| Pk.4                                          | 5'497323      | 262 55 12 | Pk.34                                         | 5'169304      | 263 36 54 |
| 62 A                                          |               |           | 62 C                                          |               |           |
| <b>THAGA LA No. 2 h.s.</b>                    |               |           | Pk.35                                         | 5'099151      | 263 26 25 |
| Pk.2                                          | 4'837565      | 343 24 31 | 62 C                                          |               |           |
| 53 M                                          |               |           | Pk.39                                         | 5'441435      | 241 6 2   |
| Pk.10                                         | 5'196998      | 210 12 33 | 62 C                                          |               |           |
| 53 M                                          |               |           | Pk.42                                         | 5'414018      | 252 6 13  |
|                                               |               |           | 62 C                                          |               |           |
|                                               |               |           | Pk.43                                         | 5'404161      | 261 42 53 |
|                                               |               |           | 62 C                                          |               |           |

| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>THAKIL h.s.—(Contd.)</b>                   |               |           | <b>TIKDAR h.s.—(Contd.)</b>                   |               |           |
| Pk.46 ... ..                                  | 5'259517      | 274 39 35 | Pk.21 ... ..                                  | 4'556411      | 155 37 20 |
| 62 C ... ..                                   |               |           | 53 N ... ..                                   |               |           |
| Pk.49 ... ..                                  | 5'379043      | 279 33 53 | Pk.22 ... ..                                  | 4'495041      | 167 36 59 |
| 62 C ... ..                                   |               |           | 53 N ... ..                                   |               |           |
| Pk.50 ... ..                                  | 5'363627      | 281 10 10 | Pk.25 ... ..                                  | 4'388608      | 121 53 18 |
| 62 C ... ..                                   |               |           | 53 N ... ..                                   |               |           |
| Pk.51 ... ..                                  | 5'409717      | 284 5 33  |                                               |               |           |
| 62 C ... ..                                   |               |           | <b>TINGLING h.s.</b>                          |               |           |
| Pk.6 ... ..                                   | 5'505059      | 248 45 46 | Pk.1 ... ..                                   | 4'371058      | 118 57 30 |
| 62 G ... ..                                   |               |           | 78 B ... ..                                   |               |           |
| Pk.7 ... ..                                   | 5'467554      | 254 59 2  | Pk.4 ... ..                                   | 4'581327      | 84 56 15  |
| 62 G ... ..                                   |               |           | 78 B ... ..                                   |               |           |
| Pk.8 <sup>1</sup> ... ..                      | 5'469391      | 255 34 15 | Pk.5 ... ..                                   | 4'397022      | 71 56 0   |
| 62 G ... ..                                   |               |           | 78 B ... ..                                   |               |           |
| Pk.8 <sup>2</sup> ... ..                      | 5'470134      | 255 39 20 | Pk.7 ... ..                                   | 4'299641      | 38 7 30   |
| 62 G ... ..                                   |               |           | 78 B ... ..                                   |               |           |
| Pk.14 ... ..                                  | 5'638255      | 251 6 32  |                                               |               |           |
| 62 G ... ..                                   |               |           | <b>TINGRI h.s.</b>                            |               |           |
| Pk.17 ... ..                                  | 5'570854      | 267 42 17 | Pk.19 ... ..                                  | 4'956794      | 133 30 10 |
| 62 G ... ..                                   |               |           | 53 J ... ..                                   |               |           |
| Pk.18 ... ..                                  | 5'561891      | 269 17 43 | Pk.22 ... ..                                  | 5'103130      | 116 8 32  |
| 62 G ... ..                                   |               |           | 53 J ... ..                                   |               |           |
| Pk.22 ... ..                                  | 5'631974      | 286 16 49 | Pk.23 ... ..                                  | 4'975031      | 125 8 18  |
| 62 G ... ..                                   |               |           | 53 J ... ..                                   |               |           |
| Pk.25 ... ..                                  | 5'629270      | 257 52 21 | Pk.24 ... ..                                  | 5'092645      | 115 18 43 |
| 62 G ... ..                                   |               |           | 53 J ... ..                                   |               |           |
| Pk.26 ... ..                                  | 5'628197      | 258 13 49 | Pk.30 ... ..                                  | 4'834022      | 95 32 59  |
| 62 G ... ..                                   |               |           | 53 J ... ..                                   |               |           |
| Pk.34 ... ..                                  | 5'626023      | 279 20 29 | Pk.11 ... ..                                  | 4'816279      | 200 21 57 |
| 62 G ... ..                                   |               |           | 53 N ... ..                                   |               |           |
|                                               |               |           | Pk.12 ... ..                                  | 4'571578      | 220 50 58 |
| <b>THAKURGANJ, CXX</b>                        |               |           | 53 N ... ..                                   |               |           |
| Pk.16 (Kabru) ... ..                          | 5'636393      | 179 20 16 | Pk.29 ... ..                                  | 4'825485      | 209 32 7  |
| 78 A ... ..                                   |               |           | 53 N ... ..                                   |               |           |
|                                               |               |           | Pk.32 ... ..                                  | 4'837258      | 216 1 46  |
| <b>TIGER HILL h.s.</b>                        |               |           | 53 N ... ..                                   |               |           |
| Pk.2 ... ..                                   | 5'587637      | 192 30 0  | Pk.34 ... ..                                  | 4'850241      | 241 59 0  |
| 77 D ... ..                                   |               |           | 53 N ... ..                                   |               |           |
| Pk.54 ... ..                                  | 5'579835      | 198 22 52 | Pk.38 ... ..                                  | 4'586178      | 244 34 57 |
| 78 A ... ..                                   |               |           | 53 N ... ..                                   |               |           |
| Pk.69 ... ..                                  | 5'592201      | 207 19 30 | Pk.39 ... ..                                  | 4'645619      | 257 31 25 |
| 78 A (Pauhunri) ... ..                        |               |           | 53 N ... ..                                   |               |           |
|                                               |               |           | <b>TOLA h.s.</b>                              |               |           |
| <b>TIKDAR h.s.</b>                            |               |           | Pk.1 ... ..                                   | 4'440194      | 351 23 10 |
| Pk.16 ... ..                                  | 5'049266      | 168 35 53 | 62 C ... ..                                   |               |           |
| 53 M ... ..                                   |               |           |                                               |               |           |
| Pk.15 ... ..                                  | 4'714060      | 177 5 33  | <b>TONGLU h.s.</b>                            |               |           |
| 53 N ... ..                                   |               |           | Pk.35 ... ..                                  | 5'741491      | 117 11 29 |
| Pk.17 ... ..                                  | 4'732492      | 146 29 1  | 72 I ... ..                                   |               |           |
| 53 N ... ..                                   |               |           | Pk.1 ... ..                                   | 5'659317      | 85 40 11  |
|                                               |               |           | 72 J ... ..                                   |               |           |





| Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   | Name of Station with Peaks observed therefrom | Log. Distance | Azimuth   |
|-----------------------------------------------|---------------|-----------|-----------------------------------------------|---------------|-----------|
|                                               | <i>Feet</i>   | ° ' "     |                                               | <i>Feet</i>   | ° ' "     |
| <b>TULSIPIUN, XLVI—(Contd.)</b>               |               |           | <b>UMRA, XV—(Contd.)</b>                      |               |           |
| Pk.2                                          | 5'703742      | 207 26 8  | Pk.14                                         | 5'862459      | 224 46 37 |
| 62 P                                          |               |           | 62 G                                          |               |           |
| Pk.3                                          | 5'698571      | 206 32 15 | Pk.15                                         | 5'840207      | 223 2 11  |
| 62 P                                          |               |           | 62 G                                          |               |           |
| Pk.4                                          | 5'707833      | 209 47 8  | <b>UNIAKADAK h.s.</b>                         |               |           |
| 62 P                                          |               |           | Pk.14                                         | 5'028526      | 155 9 26  |
| Pk.6                                          | 5'737050      | 214 14 35 | 53 M                                          |               |           |
| 62 P                                          |               |           | Pk.16                                         | 4'962108      | 164 21 59 |
| Pk.9 (Dhaulagiri)                             | 5'741582      | 218 37 50 | 53 M                                          |               |           |
| 62 P                                          |               |           | Pk.17                                         | 4'968872      | 160 24 30 |
| Pk.12                                         | 5'772123      | 225 17 19 | 53 M                                          |               |           |
| 62 P                                          |               |           | Pk.5                                          | 4'959817      | 96 55 17  |
| Pk.16                                         | 5'777128      | 228 41 16 | 53 N                                          |               |           |
| 62 P                                          |               |           | Pk.14                                         | 4'654811      | 150 40 39 |
| Pk.18                                         | 5'805115      | 232 9 19  | 53 N                                          |               |           |
| 62 P                                          |               |           | Pk.16                                         | 4'483873      | 145 10 3  |
| Pk.20                                         | 5'761237      | 230 31 6  | 53 N                                          |               |           |
| 62 P                                          |               |           | Pk.19                                         | 4'463130      | 140 16 10 |
| Pk.22 <sup>1</sup>                            | 5'784328      | 233 42 26 | 53 N                                          |               |           |
| 62 P                                          |               |           | Pk.24                                         | 4'725041      | 85 38 3   |
| Pk.22 <sup>2</sup>                            | 5'783867      | 233 48 54 | 53 N                                          |               |           |
| 62 P                                          |               |           | Pk.25                                         | 4'395317      | 69 46 26  |
| Pk.2                                          | 5'814596      | 234 57 12 | 53 N                                          |               |           |
| 71 D                                          |               |           | Pk.26                                         | 4'852972      | 81 10 33  |
| Pk.3                                          | 5'821224      | 235 36 31 | 53 N                                          |               |           |
| 71 D                                          |               |           | Pk.51                                         | 4'458958      | 184 14 6  |
| <b>TUNGNATH h.s.</b>                          |               |           | Pk.62                                         | 4'174728      | 201 31 3  |
| Pk.13                                         | 4'450792      | 194 21 20 | 53 N                                          |               |           |
| 53 N                                          |               |           | Pk.53                                         | 4'241586      | 229 24 16 |
| Pk.45                                         | 4'508125      | 262 57 7  | 53 N                                          |               |           |
| 53 N                                          |               |           | Pk.54                                         | 4'394903      | 242 36 50 |
| <b>UDEPUR, XVIII</b>                          |               |           | 53 N                                          |               |           |
| Pk.2                                          | 5'779027      | 206 17 28 | Pk.55                                         | 4'331497      | 268 50 4  |
| 62 G                                          |               |           | 53 N                                          |               |           |
| <b>UMRA, XV</b>                               |               |           | Pk.58                                         | 4'169544      | 341 19 6  |
| Pk.16                                         | 5'513008      | 210 4 44  | 53 N                                          |               |           |
| 62 C                                          |               |           | <b>VISHNUGARH h.s.</b>                        |               |           |
| Pk.17                                         | 5'506701      | 208 52 20 | Pk.20                                         | 4'963468      | 159 54 55 |
| 62 O                                          |               |           | 53 N                                          |               |           |
| Pk.52                                         | 5'597706      | 234 33 35 | Pk.31                                         | 4'662805      | 153 28 52 |
| 62 C                                          |               |           | 53 N                                          |               |           |
| Pk.53                                         | 5'602472      | 235 33 18 | Pk.37                                         | 4'188903      | 121 15 49 |
| 62 C                                          |               |           | 53 N                                          |               |           |
| Pk.1                                          | 5'521921      | 237 52 0  | Pk.57                                         | 4'740134      | 199 15 20 |
| 62 D                                          |               |           | 53 N                                          |               |           |
| Pk.2                                          | 5'504231      | 241 47 45 | Pk.69                                         | 4'697821      | 190 35 15 |
| 62 D                                          |               |           | 53 N                                          |               |           |
| Pk.6                                          | 5'802084      | 219 7 0   | Pk.60                                         | 4'676985      | 183 59 17 |
| 62 G                                          |               |           | 53 N                                          |               |           |
| Pk.13                                         | 5'857112      | 223 42 49 | Pk.64                                         | 4'633564      | 251 9 50  |
| 62 G                                          |               |           | 53 N                                          |               |           |
|                                               |               |           | Pk.67                                         | 3'584189      | 147 30 26 |
|                                               |               |           | 53 N                                          |               |           |

March, 1909.

H. H. TURNER, CAPT., R.E.,  
In charge of Computing Office.

## NORTH-EAST LONGITUDINAL SERIES.

## CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

The following table gives the co-ordinates of all the stations and other fixed points appertaining to the North-East Longitudinal Series, it also includes all stations and points of other series, which fall within the degree sheets with which this series deals. The degree sheets are numbered in accordance with the numbering of the Survey of India maps.

The stations, points and peaks have been collected for each degree sheet; the stations and points are arranged alphabetically; the peaks follow in order of their numbering. The system of numbering is explained on page 166—*I* of this volume. The name of any well-known peak is put in brackets after its number.

If the name of a station is followed by the letters *n.s.*, *h.s.*, *s.* or *t.s.*, they denote that the station has been visited and observations taken at it and has been marked by a circle and dot engraved on the rock *in situ* or on a block of stone embedded in the ground. If a point is followed by Hill Staff or Hill Mark it has been similarly marked but not visited.

For visited stations and points of superior accuracy, the values of Latitude and Longitude are given to two places of decimals, for well determined objects to one place, and for the remaining points to the nearest second.

The values of Longitudes given in the table are the latest values in Greenwich terms and differ from the terms given in the former Synoptical Volumes of the G. T. Survey by  $-2' 27'' \cdot 18$ .

In the case of visited stations the heights refer to the upper surface of the pillar unless otherwise specified.

Where the triangles fixing a point are contained in the preceding pages, the reference to the triangle number is given in the last column.

## DEGREE SHEET No. 52 P, between Lats. 32° - 33° and Longs. 79° - 80°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAFFS DETERMINING |        | Discrepancies per mile in communication of triangles | Reference of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|------------------------------|--------|------------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                                                                                                                                            |              |                           |                                     | Position                     | Height |                                                      |                       |
| *Chánglung No. 1 Hill Staff             | On spur, about $\frac{1}{2}$ mile W. of ridge between the Hámle river and the Koyúl stream, and between the Radar and Radar Forma streams flowing into the Hámle river below Hámle Gonpa (Lamasery) and the Kíárlak Le camping ground, and about $\frac{1}{4}$ miles below the latter. ( <i>Kashmir</i> ). | 32 53 32' 3  | 79 3 45' 3                | 20091                               | 3                            | 2      | Feet 1' 5                                            | ...                   |
| *Chánglung No. 2 "                      | On ridge between the Hámle river and the Koyúl stream, about 6 miles N. E. by E. of the Kíárlak Le camping ground below Hámle Gonpa (Lamasery), at head of Lúblung a branch of the Koyúl, and 6 miles N. W. by W. of Kále village on the Koyúl. ( <i>Kashmir</i> ).                                        | 32 51 29' 44 | 79 4 34' 76               | 19810                               | 3                            | 2      | 0' 2                                                 | ...                   |

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 52 P, between Lats. 32° - 33° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Chünmag No. 1 Hill Staff               | On spur, about $\frac{1}{2}$ mile N. of ridge between the Hánle river and the Koyúl stream, near head of the latter, about $\frac{5}{4}$ miles S.S.W. of the Chüam Le camping ground at junction of stream from the Boizardin La (pass) and the Dilúg, both flowing into the Koyúl. (Kashmir). | 32 34 7.74  | 79 10 6.13                | ...                                 | 3                          | ...    | Feet<br>0.3                                         | ...                          |
| *Chünmag No. 2 "                        | On ridge between the Hánle river and the Koyúl stream, towards head of the latter, about 2 miles S.S.E. of the Boizardin La (pass), and 2 $\frac{1}{2}$ miles N.E. of the Siri Gíálba Le camping ground on the Pácháúg a branch of the Hánle river. (Kashmir).                                 | 32 34 28.7  | 79 7 12.0                 | ...                                 | 3                          | ...    | 0.4                                                 | ...                          |
| *Dilúg "                                | On spur between the Dilúg and Tulang streams at head of the Koyúl, about 1 mile from ridge, and 4 miles S.S.E. of junction of those two streams. (Kashmir).                                                                                                                                    | 32 33 7.5   | 79 14 2.0                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Hánle s.                               | On Gonpa (Lamasery) at end of spur immediately above and about midway up the course of the Hánle river. (Kashmir).                                                                                                                                                                             | 32 47 27.68 | 79 0 12.97                | 14270                               | ...                        | 2      | ...                                                 | ...                          |
| *Iriria Hill Staff                      | On ridge between the Indus river and the Koyúl stream, about 8 miles N. of main ridge, at head of the Lomolúg stream flowing into the former, and near head of the Lálung flowing into the latter. (Kashmir-Tartary).                                                                          | 32 38 27.8  | 79 17 50.8                | ...                                 | 3                          | ...    | 0.3                                                 | ...                          |
| *Kaphun "                               | On spur, about 3 miles S.E. a little S. of the Súndo Le camping ground on the Tonggómálung a stream flowing into the Hánle river towards its head. (Kashmir).                                                                                                                                  | 32 29 25.8  | 79 4 42.5                 | ...                                 | 3                          | ...    | 1.5                                                 | ...                          |
| *Mánlúg "                               | On watershed of the Hánle river and the Koyúl stream, at head of the Mánlúg stream flowing into the former opposite Hánle Gonpa (Lamasery), and 3 $\frac{1}{4}$ miles W.S.W. of the Sirgalia camping ground on the Koyúl. (Kashmir).                                                           | 32 42 48.38 | 79 6 16.53                | ...                                 | 3                          | ...    | 0.3                                                 | ...                          |
| *Tashidásogo "                          | On minor spur, about 3 $\frac{1}{4}$ miles S.E. of the Há Le camping ground on the Lúng Maru stream at head of the Hánle river, and 2 $\frac{1}{2}$ miles E.S.E. of the Darlúg Le camping ground 1 mile to right of that stream and above Há Le. (Kashmir).                                    | 32 28 36.15 | 79 3 10.62                | ...                                 | 3                          | ...    | 0.2                                                 | ...                          |
| *Thaktea "                              | At end of spur to S.W. of Mánlúg stream, and about 1 $\frac{1}{4}$ miles S.S.E. of Hánle Gonpa (Lamasery). (Kashmir).                                                                                                                                                                          | 32 46 35.8  | 79 0 43.7                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 52 P, between Lats. 32° - 33° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                       | Height |                                                     |                     |
| *Thanlangiápo Hill Staff                | On spur between the Púchálung and Tonggómálung heads of the Hámle river, and about 3½ miles E.S.E. of the Siri Giábba Le camping ground on the former stream. ( <i>Kashmir</i> ).                                                                                         | 32 31 14.55 | 79 8 48.71                | ...                                 | 3                              | ...    | Feet<br>0                                           | ...                 |
| *Zádo                                   | h.s. On spur, about 1½ miles E. of the Zádo Le camping ground, 2½ miles E. a little N. of Kiangma Chúmik (spring) on road from Hámle by the Gongma La and the Imis La (passes), and 2½ miles N. of the Giákra Le camping ground. ( <i>Kashmir</i> ).                      | 32 38 8.06  | 79 2 32.03                | 18000                               | ...                            | 2      | ...                                                 | ...                 |
| * Pk.1<br>52 P                          | ... On watershed of the Hámle and Indus rivers, at head of the Shánglúng Yok stream flowing into the latter and the Shánglúng stream flowing into the former, and 1½ miles N. of the Mig La (pass). ( <i>Kashmir</i> ). (Called Shánglúnggo peak in Synoptical Vol. VII). | 32 55 57.0  | 79 3 34.7                 | ...                                 | 3                              | ...    | 0.9                                                 | ...                 |
| Pk.2<br>52 P                            | ... Snowy peak. Observed in 1877.                                                                                                                                                                                                                                         | 32 26 9     | 79 7 26                   | 19900                               | 3                              | 2      | 0.6                                                 | ...                 |
| Pk.3<br>52 P                            | ... Snowy peak. Observed in 1877.                                                                                                                                                                                                                                         | 32 20 35    | 79 5 20                   | 20260                               | 2                              | 2      | ...                                                 | ...                 |
| Pk.4<br>52 P                            | ... Sharp snowy peak. Observed in 1877.                                                                                                                                                                                                                                   | 32 16 9     | 79 2 56                   | 20260                               | 3                              | 1      | 2.6                                                 | ...                 |
| Pk.5<br>52 P                            | ... Sharp snowy peak. Observed in 1877.                                                                                                                                                                                                                                   | 32 15 43    | 79 2 44                   | 20230                               | 3                              | 1      | 2.2                                                 | ...                 |
| * Pk.6<br>52 P                          | ... On spur to right of the Indus river, about 2½ miles N.E. of the Gnángsang Le camping ground on that river, and 3½ miles below Damchok village. ( <i>Tartary</i> ). (Called Gnángsang Ri peak in Synoptical Vol. VII).                                                 | 32 46 19    | 79 28 3                   | ...                                 | 2                              | ...    | ...                                                 | ...                 |
| * Pk.7<br>52 P                          | ... E. of eastern watershed of the Koyúl stream. ( <i>Chinese-Tartary</i> ). (Called Nilúngringmago peak in Synoptical Vol. VII).                                                                                                                                         | 32 34 39    | 79 16 48                  | ...                                 | 2                              | ...    | ...                                                 | ...                 |
| Pk.8<br>52 P                            | ... Snowy peak. Observed in 1877.                                                                                                                                                                                                                                         | 32 19 0     | 79 21 8                   | 19200                               | 3                              | 2      | 4.2                                                 | ...                 |
| Pk.9<br>52 P                            | ... Observed in 1877.                                                                                                                                                                                                                                                     | 32 11 56    | 79 39 1                   | ...                                 | 3                              | ...    | 6.6                                                 | ...                 |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Badrol Pagoda                          | s. On spur, about 2½ miles W.S.W. of Pursari village at junction of the Parsar stream with the Pabar river, and 3½ miles W. a little N. of Raiengarh fort. ( <i>Bashahr</i> ).                                                                             | 31 8 20.11  | 77 41 44.39               | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Bambura                                | Hill On spur between the Matreti and Sapal streams flowing into the Pabar river, about 1½ miles N. of Bortu village on the Pabar river. ( <i>Bashahr</i> ).                                                                                                | 31 14 33    | 77 46 59                  | ...                                 | 3                          | ...    | 5.5                                                 | ...                          |
| *Barikanda                              | h.s. On spur, about 3½ miles S.W. of Wángtu bridge over the Sutlej a little below junction of the Wangar stream with that river, and 3 miles S.E. of Pang village. ( <i>Bashahr</i> ).                                                                     | 31 31 17.79 | 77 57 43.18               | 12188                               | ...                        | 2      | ...                                                 | ...                          |
| *Baugitách                              | " On spur, about 3½ miles W. of Manglaur village at junction of the Báh and Barirúpa streams which enter the Beas river. ( <i>Mandi</i> ).                                                                                                                 | 31 39 46.33 | 77 14 53.10               | 9928                                | ...                        | 2      | ...                                                 | ...                          |
| *Bhosle                                 | " On spur, about 2½ miles E. a little S. of Sarhan on road from Rámpur up the Sutlej valley. ( <i>Bashahr</i> ).                                                                                                                                           | 31 30 5.32  | 77 50 20.01               | 12730                               | ...                        | 3      | ...                                                 | ...                          |
| *Bijli                                  | " On spur between the Beas and Párbati rivers, about 1½ miles N. of Jía village at junction of those rivers. ( <i>Kángra</i> ).                                                                                                                            | 31 55 26.83 | 77 9 5.84                 | 8066                                | ...                        | 2      | ...                                                 | ...                          |
| *Chaglot                                | " On spur between the Karpan stream and the Sutlej river, in Kulu, and about 2 miles W. of Rámpur town. ( <i>Kángra</i> ).                                                                                                                                 | 31 27 18.81 | 77 36 17.03               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Chainele                               | " Or Changeil, on spur between the Burábati or Rupin stream and the Pabar river, about ½ mile N. of where road, from Lorot on the latter to Dodra on the former, crosses the spur, and 2½ miles S.E. of Thulthar village on the Pabar. ( <i>Bashahr</i> ). | 31 12 52.30 | 77 59 44.44               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Chausái                                | Fort Highest building, on spur between the Kotlu stream and the Bisán river flowing into the Sutlej, about 2½ miles from Tumun village at junction of the Arni stream with the Bisán, and 1½ miles N.E. of Shaso village on the Kotlu. ( <i>Suket</i> ).   | 31 24 55    | 77 19 46                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Cheru                                  | h.s. On ridge between the Beas and Sutlej rivers, about 3½ miles E. a little N. of Maungarh hill fort in the Suket state, and 2 miles S.W. of Bokra at head of stream which joins the Beas ½ mile E. of Pando. ( <i>Suket-Mandi</i> ).                     | 31 27 57.20 | 77 4 0.30                 | 10126                               | ...                        | 1      | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                  | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies Per mille of triangles | Reference Numbers of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|--------------------------------|
|                                         |                                                                                                                                                                                                                                                                              |               |                           |                                     | Position                   | Height |                                      |                                |
| *Chijera                                | h.s. Or Chuchar, on ridge between the Beas and Sutlej rivers, about 4 miles W. of Dudhaun on a branch of the Bisúá river; 2½ miles S. of Sulungwára village at head of stream which joins the Beas at Bhakal village, and 2 miles N.N.E. of Brámgarh fort. ( <i>Mandi</i> ). | 31 27 13' 41" | 77 13 53' 66"             | 10250                               | ...                        | 2      | Feet                                 | ...                            |
| *Chimbi                                 | Hill Staff On spur between the Shallu stream and the Giri river, about 1½ miles E.N.E. of Dhár at head of the Choti nála, a branch of the latter, and 3 miles N. of Matil in the Pandur state. ( <i>Balsan-Pandur</i> ).                                                     | 31 2 52' 2"   | 77 32 28' 7"              | ...                                 | 3                          | ...    | 0'4"                                 | ...                            |
| *Dálikér                                | h.s. On spur between the Sukati stream and that which joins the Beas at ¼ mile E. of Pando, about 3 miles W. of Banúr on the latter, and 2½ miles E. of Gágál on the former. ( <i>Mandi</i> ).                                                                               | 31 37 39' 55" | 77 0 40' 23"              | 6140                                | ...                        | 2      | ...                                  | ...                            |
| *Dando                                  | Hill On spur between the Parsrár and Sikni streams, about ¾ mile N.E. of Kuthár at head of the former, and 1½ miles W. of Khangla at head of a branch of the latter. ( <i>Bashahr</i> ).                                                                                     | 31 14 58"     | 77 37 50"                 | ...                                 | 3                          | ...    | 1'0"                                 | ...                            |
| *Desu                                   | h.s. On same ridge as Phágu h.s., and within a few feet of that station. ( <i>Keonthal</i> ).                                                                                                                                                                                | 31 5 1' 69"   | 77 18 1' 43"              | 8759                                | ...                        | 2      | ...                                  | ...                            |
| *Dháman Nág                             | " On spur W. of the Kotlu stream, about 1½ miles N.W. of Senji village, and 2 miles N. of Kurna. ( <i>Suket</i> ).                                                                                                                                                           | 31 19 54' 28" | 77 17 17' 68"             | 8270                                | ...                        | 2      | ...                                  | ...                            |
| *Dhaur                                  | " On hill fort on spur between the Karpan stream and the Sutlej river, about 2½ miles N.W. of Rámpur, in Kulu. ( <i>Kángra</i> ).                                                                                                                                            | 31 27 57' 47" | 77 35 47' 80"             | ...                                 | ...                        | ...    | ...                                  | ...                            |
| *Gargajni                               | " On spur, about ¼ mile S.W. of Dalpur village near Sultánpur town, in Kulu. ( <i>Kángra</i> ).                                                                                                                                                                              | 31 57 6' 82"  | 77 5 45' 05"              | 6569                                | ...                        | 2      | ...                                  | ...                            |
| *Garh                                   | Hill Staff On ridge between the Sutlej and Jumna rivers, which separates the common sources of the Parsrár, Jagaunli and Bera streams. ( <i>Bashahr</i> ).                                                                                                                   | 31 15 1' 2"   | 77 35 15' 0"              | ...                                 | 2                          | ...    | ...                                  | ...                            |
| *Gatiár                                 | h.s. On spur, about 3½ miles S.E. of Darla village on the Beas, and 2½ miles E. of Siglot. ( <i>Mandi</i> ).                                                                                                                                                                 | 31 39 4' 86"  | 77 11 5' 71"              | 9642                                | ...                        | 3      | ...                                  | ...                            |
| *Gaura                                  | s. Near Rája's temple, on road from Rámpur town in Bashahr up the Sutlej river, 5 miles from Rámpur. ( <i>Bashahr</i> ).                                                                                                                                                     | 31 28 48' 3"  | 77 42 47' 9"              | 6009                                | ...                        | 1      | ...                                  | ...                            |

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                     | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                 |              |                           |                                     | Position                   | Height |                                                     |                              |
| *Ghamain h.s.                           | On spur between the Karpan stream and the Sutlej river, in Kulu, about 4½ miles N. a little W. of Rámpur in Bushahr, and 3 miles E. of Búen village on the Karpan. ( <i>Kángra</i> ).                                                                                           | 31 30 37' 22 | 77 36 46' 69              | 11715                               | ...                        | 3      | Feet                                                | ...                          |
| *Girauli Hill Staff                     | On spur S. of the Párbati river, in Kulu, about 6½ miles E. a little N. of junction of that river with the Beas, 2½ miles N. a little W. of Koin village, and 2½ miles E. of that of Barogi. ( <i>Kángra</i> ).                                                                 | 31 54 56' 36 | 77 15 42' 96              | 12059                               | 4                          | 2      | 0' 4                                                | ...                          |
| *Gund Pagoda                            | On spur between the Giri river and the Choti náls, about ½ mile W. of Gund town. ( <i>Gund</i> ).                                                                                                                                                                               | 31 4 39' 8   | 77 25 9' 2                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Hátipur Hill Staff                     | On spur in great bend of the Beas river, in Kulu, about 6½ miles S.W. of Suktánpur town, 2½ miles S.W. of Jang village, and the same distance W. N. W. of Bansu. ( <i>Kángra-Mandi</i> ).                                                                                       | 31 54 6' 05  | 77 1 33' 92               | 10609                               | 4                          | 2      | 0' 3                                                | ...                          |
| *Hátágarh h.s.                          | On ridge between the Sutlej and Jumna rivers, about 3½ miles W. N. W. of Hadsala on the Jaganli stream, 2½ miles S. of Kanúti village, and 5 miles S. of Kotgarh town. ( <i>Bashahr-Kumhársain-Kanúti</i> ).                                                                    | 31 14 10' 52 | 77 29 46' 80              | 10456                               | ...                        | 3      | ...                                                 | ...                          |
| *Jagatpur Hill Staff                    | On spur between the Arni and Karpan streams flowing into the Sutlej, in Kulu, about 3½ miles E. a little S. of Shamasha on the Arni, and 2½ miles N.W. of Surli village. ( <i>Kángra</i> ).                                                                                     | 31 25 32' 22 | 77 29 27' 17              | ...                                 | 3                          | ...    | 0                                                   | ...                          |
| *Jako h.s.                              | Towards E. end of Simla. ( <i>Simla</i> ). (Called Jacko h.s. in Synoptical Vol. VII).                                                                                                                                                                                          | 31 6 4' 32   | 77 11 6' 08               | 8053                                | ...                        | 2      | ...                                                 | ...                          |
| *Jamero "                               | On spur in Kulu, about 1½ miles E. of Badul village on left bank of the Beas, and 1½ miles N. a little E. of Chisani village. ( <i>Kángra</i> ).                                                                                                                                | 31 48 54' 00 | 77 13 26' 04              | 8963                                | ...                        | 1      | ...                                                 | ...                          |
| *Jau "                                  | Or Joker, on spur, about 2½ miles W. N. W. of Pando town, 2 miles S. of Lohaug village near junction of the Ul and the Beas rivers, and 5 miles E. S. E. of Mandi town. ( <i>Mandi</i> ).                                                                                       | 31 40 59' 99 | 77 0 37' 00               | 5921                                | ...                        | 2      | ...                                                 | ...                          |
| *Jaur Hill Fort                         | On spur, about 2 miles W. N. W. of Pangna, and immediately N. of Rhausi hill fort. ( <i>Suket</i> ).                                                                                                                                                                            | 31 23 44     | 77 5 29                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Jháru h.s.                             | On watershed of the Sutlej and Pabar rivers, about 3½ miles N. E. of Gurshori on the Matretti stream, 3 miles N. W. of Rausi on the Andreti stream entering the Pabar, and 4½ miles S. E. of Durkarl on the Nogli stream which flows into the Sutlej river. ( <i>Bashahr</i> ). | 31 20 2' 09  | 77 50 16' 23              | 13478                               | ...                        | 3      | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point |             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille of triangles | Reference Number of Triangles |
|-----------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|-------------------------------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                      |                               |
| *Kandighát                              | h.s.        | On spur W. of the Rupin, about 5 miles W.S.W. of Dodra on that stream, and at head of the Khumjádó stream. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 31 9 47·60  | 77 58 42·09               | 12926                               | ...                        | 2      | Feet                                 | ...                           |
| *Kasal                                  | Hill Staff  | On spur between the two streams which join the Beas at Larji and Badul villages, in Kulu, about 2 miles N. of Pasi on the former, and 4½ miles E. of Dilaun on the latter stream. ( <i>Kángra</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 31 50 25·3  | 77 20 5·7                 | 11784                               | 2                          | 2      | ...                                  | ...                           |
| *Kokan                                  | h.s.        | On spur in Kulu, about 1½ miles S.W. of Kokan village, and 1½ miles in the same direction from the junction of the Párbati and Beas rivers. ( <i>Kángra</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 31 51 51·08 | 77 6 52·77                | 8510                                | ...                        | 2      | ...                                  | ...                           |
| *Kolu                                   | E. Temple   | Near each other and on spur between the Naule Gad stream and the Sutlej river, close to junction of boundaries of the Bhajji, Kumbhársain, Keonthal and Madhan states. ( <i>Kumbhársain</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 31 13 24·7  | 77 20 3·6                 | ...                                 | 2                          | ...    | ...                                  | ...                           |
| *Kolu                                   | W. "        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 31 13 24·8  | 77 20 2·1                 | ...                                 | 2                          | ...    | ...                                  | ...                           |
| *Kúa                                    | h.s.        | On spur between the streams which join the Sutlej near Ganing and Kaltra villages, and 2½ miles N. a little W. of Darmákot. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 31 38 6·27  | 77 49 28·18               | 13268                               | ...                        | 2      | ...                                  | ...                           |
| *Kupta                                  | Hill Temple | On spur, about 1½ miles S. of Simla Magnetic Observatory. ( <i>Koti-Keonthal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 31 4 48·4   | 77 11 0·6                 | ...                                 | 2                          | ...    | ...                                  | ...                           |
| Lambatach                               | h.s.        | On the highest point of Lambatach hill, which lies N.E. from the junction of the Pabar and Tous Rivers, in the lands of village Manjoi Patti Pingal ( <i>Tehri-Garhwál</i> ) about 1½ miles N.W. of Deola Forest Bungalow 1 mile N.E. of Maijón and Lambatach Forest Bungalow. This was a secondary station of the N.W. Himalaya Series ( <i>vide</i> Synoptical Vol. VII) but its position was re-determined and the old values of its co-ordinates revised in 1903 when the circle and dot were cut in a stone embedded in the upper surface of a masonry pillar 3 feet in diameter and one foot high. This mark is placed vertically over the old mark. The pillar is isolated in the usual manner from the surrounding platform. The easiest approach is <i>via</i> Thadiar and Deola Forest Bungalow. | 31 1 7·65   | 77 54 2·93                | 10474                               | ...                        | 3      | ...                                  | 279, 280                      |
| *Madanpur                               | "           | On spur running into great bend of the Beas, about 6 miles S.W. of junction of the Párbati and Beas rivers, 2½ miles W.S.W. of Karki village in Kulu, and 2 miles N. of Tihar at head of a branch of the U river. ( <i>Kángra-Mandi</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 31 50 33·05 | 77 3 23·62                | 9143                                | ...                        | 2      | ...                                  | ...                           |
| *Mahásau                                | "           | On watershed of the Giri and Sutlej, on road from Mussooree to Simla, about 2 miles W.N.W. of Phágu bungalow, and 2½ miles S.E. of Mahásau. ( <i>Bhajji-Patiála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 31 5 41·62  | 77 16 22·96               | 8960                                | ...                        | 1      | ...                                  | ...                           |
| *Maidángarh                             | Hill Fort   | On spur running S. from ridge between the Sutlej and Beas rivers, about 2½ miles N. of Pangna town in Suket. ( <i>Mandi</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 31 25 27    | 77 6 54                   | ...                                 | 2                          | ...    | ...                                  | ...                           |

\* These points appertain to the North-West Himalaya Series.



## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Malána Hill Staff                      | On watershed of the Giri and Pabar rivers, about 2½ miles W. of Matil town in Pandur, and 3¼ miles E.S.E. of Ghodna in Balsau. ( <i>Pandur-Jubbai-Balsau</i> ).                                                                      | 31 1 10.5   | 77 31 54.4                | 9175                                | 3                          | 2      | Feet<br>2.4                                         | ...                          |
| *Marárl h.s.                            | On ridge between the Nogli stream and the Pabar river, about 2¼ miles N.W. of Durrara on the Matreti stream a branch of the latter, and 3¼ miles S. of Burshol on the former. ( <i>Bashahr</i> ).                                    | 31 19 47.73 | 77 45 23.39               | 12243                               | ...                        | 2      | ...                                                 | ...                          |
| *Margiál Hill Temple                    | On spur, about 1½ miles N. a little E. of Mauar on right bank of the Beas opposite to Pando, and ½ mile N. of Nágdhar village. ( <i>Mandi</i> ).                                                                                     | 31 42 39.2  | 77 4 24.8                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Mau Nóg Temple                         | On spur, about 3 miles N.W. of Barlog village on right bank of the Sutlej, and 1¼ miles N.E. of Manjo. ( <i>Mandi</i> ).                                                                                                             | 31 17 24.6  | 77 14 11.8                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Maungarh Hill Fort                     | On spur trending W. from ridge between the Sutlej and Beas rivers, about ¼ mile N. of Sit at head of stream which enters the Sutlej a little below Kanúr and Su villages, and 2¼ miles S.E. of Fatehpur Hill Fort. ( <i>Suket</i> ). | 31 27 8     | 77 0 42                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Munum Temple                           | Top of kalas (broken), on spur, about 3¼ miles S.W. of Phágu bungalow, and 1 mile N. a little W. of Plári village. ( <i>Potidia</i> ).                                                                                               | 31 3 22.67  | 77 15 48.26               | 8475                                | 4                          | 2      | 0                                                   | ...                          |
| *Núnúkánda h.s.                         | On spur between the Arni and Karpan streams which enter the Sutlej, in Kulu, about 3¼ miles E. a little N. of Shamasha on the former stream, and 1¼ miles N. a little W. of Jagatpur Hill Staff. ( <i>Kángra</i> ).                  | 31 26 35.42 | 77 29 7.33                | 10321                               | ...                        | 3      | ...                                                 | ...                          |
| *Odithána "                             | On spur, about ½ mile N.N.W. of Guraiñh village, 3¼ miles N.N.E. of Bartm, and 6 miles N.N.W. of Jádún on the Sutlej. ( <i>Suket</i> ).                                                                                              | 31 21 35.26 | 77 0 46.50                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Paukari "                              | On spur in Kulu, about 8 miles E. a little S. of Pláñh on road from Rámpur in Bashahr to Sultánpur, and 2¼ miles E. a little N. of Farári on same road. ( <i>Kángra</i> ).                                                           | 31 37 54.88 | 77 28 46.33               | 11359                               | ...                        | 2      | ...                                                 | ...                          |
| *Phágu Bungalow                         | On ridge between the Sutlej and Jumna rivers, about 7 miles E. of Simla; the bungalow is on road from Chakráta to Simla about ¼ mile N.E. of Phágu h.s. ( <i>Keonthal</i> ).                                                         | 31 5 13     | 77 18 17                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Phágu h.s.                             |                                                                                                                                                                                                                                      | 31 5 1.95   | 77 18 1.44                | 8740                                | ...                        | 3      | ...                                                 | ...                          |

\* These points pertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------|
|                                         |                                                                                                                                                                                                                                     |             |                           |                                     | Position                       | Height |                                                     |                        |
| *Rámgarh Hill Fort                      | On spur trending S. from ridge between the Beas and Sutlej rivers, about 1½ miles N. W. of Surkol village, and 1½ miles N. E. of Kursal. ( <i>Suket</i> ).                                                                          | 31 24 33    | 77 10 36                  | ...                                 | 2                              | ...    | ...                                                 | Feet                   |
| *Rámpur s.                              | Near Rája's kachhri in town. ( <i>Bashahr</i> ).                                                                                                                                                                                    | 31 26 59'22 | 77 37 53'43               | ...                                 | ...                            | ...    | ...                                                 | ...                    |
| *Rámpur Temple                          | Highest spire of double temple in town. ( <i>Bashahr</i> ).                                                                                                                                                                         | 31 26 56'5  | 77 37 51'9                | ...                                 | 2                              | ...    | ...                                                 | ...                    |
| *Rathpur h.s.                           | On spur W. of the Wangar, a confluent of the Sutlej river, about 2½ miles W. of Kaupna village on the former, 3½ miles N. W. of Yeti, and 2½ miles N. a little E. of Nágsodli and Natpa villages on the Sutlej. ( <i>Bashahr</i> ). | 31 36 50'52 | 77 59 0'67                | 14225                               | ...                            | 3      | ...                                                 | ...                    |
| *Rhausi Hill Fort                       | On spur, about 1½ miles W. a little N. of Pangna, and immediately S. of Jaur Hill Fort. ( <i>Suket</i> ).                                                                                                                           | 31 23 32    | 77 5 31                   | ...                                 | 2                              | ...    | ...                                                 | ...                    |
| *Rungal h.s.                            | On spur in Kulu, about 2 miles E. of Dilani village on left bank of the Beas. ( <i>Kángra</i> ).                                                                                                                                    | 31 46 49'92 | 77 14 7'87                | 9057                                | ...                            | 2      | ...                                                 | ...                    |
| *Sainj Fort                             | Near Tiker village. ( <i>Theog</i> ).                                                                                                                                                                                               | 31 4 25     | 77 23 30                  | ...                                 | 2                              | ...    | ...                                                 | ...                    |
| *Sarhan h.s.                            | Near Rája's palace on road from Rámpur town up the left bank of the Sutlej. ( <i>Bashahr</i> ).                                                                                                                                     | 31 30 40'57 | 77 47 47'79               | 7102                                | ...                            | 2      | ...                                                 | ...                    |
| *Shakon Dhár "                          | On watershed of the Giri and Pabar rivers, about 1½ miles S.S.E. of Dargoti town, and ½ mile S.W. of Jori village. ( <i>Dargoti-Kel Khá</i> ).                                                                                      | 31 6 14'36  | 77 36 59'52               | 9487                                | ...                            | 2      | ...                                                 | ...                    |
| *Sháli "                                | On spur between the Nauli Gad stream and the Sutlej river. ( <i>Bhujji</i> ).                                                                                                                                                       | 31 11 30'31 | 77 16 33'81               | 9406                                | ...                            | 2      | ...                                                 | ...                    |
| *Sháli Temple                           |                                                                                                                                                                                                                                     | 31 11 30'22 | 77 16 33'54               | 9413                                | 3                              | 1      | 0'1                                                 | ...                    |
| *Shikáridevi Hill Staff                 | On spur running N. from ridge between the Sutlej and Beas rivers, about 2½ miles S.S.E. of Karwáli village at head of stream which joins the Beas at Bhokal village. ( <i>Bandi</i> ).                                              | 31 28 52'6  | 77 10 11'7                | 11052                               | 2                              | 1      | ...                                                 | ...                    |
| *Shokpulta Hill                         | On spur between the Sikni and Parar streams entering the Pabar river, about 1 mile E. a little N. of Fakrol village on the latter. ( <i>Bashahr</i> ).                                                                              | 31 11 46    | 77 41 11                  | ...                                 | 2                              | ...    | ...                                                 | ...                    |
| *Sikar Hill Staff                       | On spur between the Nogli stream and the Sutlej river, about 3½ miles E. a little S. of Rámpur town, and ½ mile from Sanathli. ( <i>Bashahr</i> ).                                                                                  | 31 26 23'93 | 77 41 55'18               | 10123                               | 3                              | 1      | 0'3                                                 | ...                    |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77' - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Simla Church                           | N. W. corner of steeple.                                                                                                                                                                                                        | 31 6 19.5   | 77 10 21.0                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Simla Flag Staff                       | At Magnetic Observatory.                                                                                                                                                                                                        | 31 6 11.8   | 77 8 32.7                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Simla Govt. House                      | Centre chimney.                                                                                                                                                                                                                 | 31 6 25.1   | 77 10 9.3                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Simla Mosque                           | In bazar.                                                                                                                                                                                                                       | 31 6 17.9   | 77 10 27.9                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Simla s.                               | Mark on level of roof near weather-cock on Magnetic Observatory. ( <i>Simla</i> ).                                                                                                                                              | 31 6 12.83  | 77 8 33.06                | 7116                                | ...                        | 2      | ...                                                 | ...                          |
| *Sirtibba h.s.                          | On spur running into great bend of the Beas river, about 4½ miles N. a little E. of Munzar village on right bank of the Beas opposite Pando, 5 miles E.N.E. of Kound, and 5½ miles E.S.E. of Hulog on the Ul. ( <i>Mandi</i> ). | 31 45 12.99 | 77 5 13.70                | 9322                                | ...                        | 4      | ...                                                 | ...                          |
| *Srikot Temple                          | On spur, about 3½ miles W. a little S. of Kumbharsain town. ( <i>Kumbharsain</i> ).                                                                                                                                             | 31 18 17.6  | 77 23 18.5                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Sultánpur Díwánkhána                   | Top of dome, in town on right bank of the Beas at its junction with the sivbari stream. ( <i>Kahlúr</i> ).                                                                                                                      | 31 57 45.6  | 77 6 53.2                 | 4034                                | ...                        | 2      | ...                                                 | ...                          |
| *Sultánpur h.s.                         | In the town. ( <i>Kahlúr</i> ).                                                                                                                                                                                                 | 31 57 49.99 | 77 6 47.63                | 4083                                | ...                        | 2      | ...                                                 | ...                          |
| *Sung Hill Staff                        | On spur between the Kunhard and Gunhard streams entering the Sutlej river, about 1 mile N. of Jáli village. ( <i>Bashahr</i> ).                                                                                                 | 31 32 25.4  | 77 43 53.5                | 10185                               | 3                          | 1      | 0.5                                                 | ...                          |
| *Taribdevi (Tara Devi) Pile             | On spur near road to Simla from Pinjor, about 3½ miles S. a little W. of the Simla Magnetic Observatory. ( <i>Patiála-Keonthal</i> ).                                                                                           | 31 3 15.5   | 77 8 25.7                 | ...                                 | 3                          | ...    | 1.2                                                 | ...                          |
| *Theni h.s.                             | In Kulu, on spur about 5 miles N.N.E. of Plich on road from Rámpur to Sultánpur, 1½ miles N.N.E. of Theni village, and 2 miles S.S.W. of Durwaul. ( <i>Kángra</i> ).                                                            | 31 43 26.66 | 77 21 55.14               | 11477                               | ...                        | 2      | ...                                                 | ...                          |
| *Theog Bungalow                         | On ridge between the Jumna and Sutlej rivers, E. of Simla and on road from that summit to Rámpur. The bungalow is about ½ mile N. of the pagoda, and the same distance W.S.W. of the h.s. ( <i>Theog</i> ).                     | 31 7 2.2    | 77 23 27.6                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Theog h.s.                             |                                                                                                                                                                                                                                 | 31 7 21.23  | 77 23 3.81                | 8291                                | ...                        | 1      | ...                                                 | ...                          |
| *Theog S.W. Pagoda                      |                                                                                                                                                                                                                                 | 31 6 25.13  | 77 22 22.58               | ...                                 | 3                          | ...    | 0                                                   | ...                          |
| *Thol Hill Pagoda                       | At end of spur between the Matreti and Andreti streams flowing into the Pabar, about 1 mile N.W. of Suda village on right bank of that river. ( <i>Hashahr</i> ).                                                               | 31 14 34.3  | 77 51 8.5                 | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| *Tiker Hill Fort                        | On spur, about ½ mile W. of Jaur and Rhausi hill forts, and 2½ miles W. a little N. of Pungua town. ( <i>Suket</i> ).                                                                                                           | 31 23 47    | 77 4 50                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalays Series.

## DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Distances in feet or miles in common with other triangulations | Number of Examples |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------------------|--------------------|
|                                         |                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                                |                    |
| *Tiker-ka-bral ...                      | On spur, about 1½ miles S.W. of Raiengarh fort. ( <i>Raiengarh-Kot Khái</i> ).                                                                                                                                                    | 31 6 24.5   | 77 44 22.8                | ...                                 | 2                          | ...    | Feet                                                           | ...                |
| *Tranda h.s.                            | On spur, about ½ mile N.E. of Nanaspar on road from Rampur and Sarhan up the left bank of the Sutlej, and ½ mile from that river. ( <i>Bashahr</i> ).                                                                             | 31 33 39.28 | 77 53 40.11               | 7349                                | ...                        | 2      | ...                                                            | ...                |
| *Tambar Hill Staff                      | On spur between the Andreti and Matreti streams which enter the Pabar towards its head, about 2½ miles N.E. of Debídhár village on the latter stream, and 2 miles N.W. of Muktet on the former. ( <i>Bashahr</i> ).               | 31 18 46.12 | 77 50 52.28               | 12228                               | 3                          | 3      | 0.1                                                            | ...                |
| *Tumru h.s.                             | On spur between the Parsar stream and the Giri river, about 1½ miles N.E. of Dargoti village, and surrounded by iron mines. ( <i>Dargoti-Kot Khái-Bashahr</i> ).                                                                  | 31 7 49.65  | 77 37 36.53               | 9896                                | ...                        | 2      | ...                                                            | ...                |
| *Tung Hill Temple                       | On spur running into great bend of the Beas river, about 3½ miles S.W. of bridge over that river near Badul, and 6½ miles E. of Sutla near road from Mundi to Sultánpur. ( <i>Mandi</i> ).                                        | 31 46 50.10 | 77 8 27.59                | 9810                                | 5                          | 1      | 0.2                                                            | ...                |
| *Urang Hill Staff                       | On spur from N. watershed of the Sutlej, about 2 miles N. of Chikka village on right bank of the Sutlej. ( <i>Bashahr</i> ).                                                                                                      | 31 36 2.39  | 77 54 11.58               | ...                                 | 3                          | ...    | 0.4                                                            | ...                |
| • Pk.1<br>53 E                          | On ridge separating the sources of the Párbati, Pin and Paráho rivers, on boundary between Kulu and Spiti. ( <i>Kángra</i> ). (Called Bens-Spiti Watershed No. 3 Peak in Synoptical Vol. VII).                                    | 31 51 30    | 77 42 55                  | 20500                               | 2                          | 2      | ...                                                            | ...                |
| • Pk.2<br>53 E                          | On spur running W. from ridge and N. of stream flowing by Plách, in Kulu, 5 miles N.E. of Kruncha village, and 4½ miles S. of Maraur village. ( <i>Kángra</i> ). (Called Bens-Spiti Watershed No. 2 Peak in Synoptical Vol. VII). | 31 43 41    | 77 31 44                  | 15590                               | 2                          | 2      | ...                                                            | ...                |
| • Pk.3<br>53 E                          | On ridge, 2 miles N. of point common to the watersheds of those two rivers and the Sutlej, on boundary between Kulu and Spiti. ( <i>Kángra</i> ). (Called Bens-Spiti Watershed No. 1 Peak in Synoptical Vol. VII).                | 31 43 0     | 77 39 43                  | ...                                 | ...                        | 2      | ...                                                            | ...                |
| • Pk.4<br>53 E                          | On ridge, the boundary between Spiti and Bashahr, at head of the Gunhard stream. ( <i>Kángra-Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 1 Peak in Synoptical Vol. VII).                                                    | 31 42 49    | 77 44 58                  | 18610                               | 2                          | 2      | ...                                                            | ...                |
| • Pk.5<br>53 E                          | On spur between the Shallu stream and the Pabar river, about 5½ miles N. of Taroch town, and 7½ miles S.W. of Raiengarh fort. ( <i>Taroch-Kot Khái</i> ). (Called Kanchúa Peak in Synoptical Vol. VII).                           | 31 2 47.6   | 77 40 11.3                | ...                                 | 3                          | ...    | 0.8                                                            | ...                |

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in compass-sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                    | Height |                                                      |                              |
| * Pk. 6<br>53 E                         | On spur between the Pabar river and the Shailu stream, about 4½ miles N.N.E. of Taroch town. ( <i>Taroch-Kot Khás-Kaen-garh</i> ). (Called Taroch Peak in Synoptical Vol. VII).                                                                                                                                         | 31 1 51     | 77 43 23                  | ...                                 | 2                           | ...    | ...                                                  | ...                          |
| * Pk. 7<br>53 E                         | On ridge, the boundary between Spiti and Bashahr, about 11 miles S.W. of the Buldur camping ground on the Pin river, and 8 miles N. of Shorang village above the Sutlej. ( <i>Kángra-Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 3 Peak in Synoptical Vol. VII).                                                  | 31 42 40    | 77 51 17                  | 17230                               | 2                           | 2      | ...                                                  | ...                          |
| * Pk. 8<br>53 E                         | On spur, about 1½ miles E.S.E. of Sutlej-Spiti Watershed No. 1 Peak. ( <i>Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 2 Peak in Synoptical Vol. VII).                                                                                                                                                             | 31 42 22    | 77 46 23                  | 17460                               | 2                           | 2      | ...                                                  | ...                          |
| * Pk. 9<br>53 E                         | On ridge, the boundary between Spiti and Bashahr, about 3½ miles E.S.E. of Sutlej-Spiti Watershed No. 3 Peak. ( <i>Kángra-Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 4 Peak in Synoptical Vol. VII).                                                                                                             | 31 41 20    | 77 54 28                  | 18430                               | 2                           | 2      | ...                                                  | ...                          |
| * Pk. 10<br>53 E                        | On spur leaving main ridge at Sutlej-Spiti Watershed No. 4 Peak, about 2½ miles E. of that point, and 3½ miles S.W. of the Bhábe pass. ( <i>Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 5 Peak in Synoptical Vol. VII).                                                                                           | 31 41 1     | 77 57 26                  | 17930                               | 2                           | 2      | ...                                                  | ...                          |
| * Pk. 11<br>53 E                        | On same spur as Sutlej-Tons Watershed No. 3 Peak and 1½ miles N.W. of it. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 4 Peak in Synoptical Vol. VII).                                                                                                                                                         | 31 26 16.2  | 77 54 39.5                | 16890                               | 4                           | 2      | †                                                    | ...                          |
| * Pk. 12<br>53 E                        | On spur between the Sutlej river and the Nogli stream, at head of the latter. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 3 Peak in Synoptical Vol. VII).                                                                                                                                                     | 31 25 22.7  | 77 55 45.8                | 17190                               | 4                           | 4      | †                                                    | ...                          |
| * Pk. 13<br>53 E                        | On ridge, at point where spur between the Sutlej river and the Nogli stream leaves it. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 2 Peak in Synoptical Vol. VII).                                                                                                                                            | 31 25 12.2  | 77 57 7.0                 | ...                                 | 3                           | ...    | 1.3                                                  | ...                          |
| * Pk. 14<br>53 E                        | On ridge about 1 mile E.S.E. of the Shátul pass at head of the Andreti a confluent of the Pabar, and at head of stream joining the Sutlej at the Wángtu bridge. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 1 Peak in Synoptical Vol. VII page 253—c.).                                                       | 31 24 12.3  | 77 59 31.6                | ...                                 | 3                           | ...    | 0.6                                                  | ...                          |
| * Pk. 15<br>53 E                        | On ridge between the Nogli stream and the Pabar river, about 3 miles N.W. of Rausi village on the Andreti stream which flows into the latter, and 4½ miles S.E. of Durkari on the former which falls into the Sutlej. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 1 Peak in Synoptical Vol. VII page 208—c.). | 31 20 34    | 77 50 30                  | ...                                 | 2                           | ...    | ...                                                  | ...                          |

\* These points appertain to the North-West Himalaya Series.

† Fixed by single triangles from two different quarters.

## DEGREE SHEET 53 E, between Lats. 31° - 32° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in comparison with other triangulations | Number of Triangles |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                                |                     |
| * Pk. 16<br>53 E                        | ... On spur, about 2½ miles N.E. of Chergau village at junction of the Andreti stream with the Pabar river, and 1 mile N.W. of Khobol. ( <i>Bashahr</i> ). (Called Khobol Peak in Synoptical Vol. VII).                                                                                 | 31 15 43    | 77 54 35                  | ...                                 | 3                          | ...    | Feet<br>6.2                                                    | ...                 |
| * Pk. 17<br>53 E                        | ... On spur between the Khumjádó stream and the Pabar river, about 4 miles N. of Cheo village on the former, and 3 miles S. of Dark on the Pej nadi a small stream flowing into the latter. ( <i>Bashahr-Raiengarh-Tehri-Garhwál</i> ). (Called Raiengarh Peak in Synoptical Vol. VII). | 31 9 1      | 77 54 4                   | ...                                 | 2                          | ...    | ...                                                            | ...                 |
| * Pk. 18<br>53 E                        | ... On spur, about 3½ miles W.S.W. of Shalna village near junction of the Khumjádó stream with the Pabar river, and 4½ miles N.E. of Kawa village near Taroch town. ( <i>Taroch-Raiengarh</i> ). (Called Chachpur Peak in Synoptical Vol. VII).                                         | 31 1 33.8   | 77 45 59.6                | ...                                 | 3                          | ...    | 1.0                                                            | ...                 |
| * Pk. 19<br>53 E                        | ... On spur to right of the Tons river, about 1½ miles N.E. of Dauti village on lower portion of that river, 1 mile N.W. of Thulle village, and 1½ miles S.W. of Kharmsu. ( <i>Tehri-Garhwál</i> ). (Called Thulle Peak in Synoptical Vol. VII).                                        | 31 0 7      | 77 57 37                  | ...                                 | 2                          | ...    | ...                                                            | ...                 |

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°.

|              |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |             |      |     |     |             |     |
|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|-----|-----|-------------|-----|
| † Abdullápur | s.       | ( <i>Ambáia</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 7 17.54  | 77 17 25.73 | ...  | ... | ... | Feet<br>... | ... |
| † Alhánpur   | "        | On platform 6 ft. high, to E. of villages of Pánjkua and Alhánpur. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 8 58.37  | 77 28 11.10 | ...  | ... | ... | ...         | ... |
| * Ambári     | Bungalow | Chimney, on left bank of the Jumna, in the Dehra Dún valley. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 29 31.1  | 77 48 45.6  | ...  | 2   | ... | ...         | ... |
| Ambári       | h. s.    | Is situated on the eastern main ridge of the hills within the boundary of the Ambári Government Forest. It is on the top of a small knoll projecting from the ridge. The village of Rudarpur lies about 1½ miles S.W. and that of Pasauli about ½ mile S.E.; a foot-path from Pasauli to Kata Pathar passes about ¼ mile E. of the station.<br>The station is denoted by a ⊙ mark cut on an embedded stone, but no information about the construction of any structure is forthcoming. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 27 54.75 | 77 52 26.71 | 2920 | ... | 2   | ...         | 137 |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| ‡Amsoṭ (XI) ...                         | Stands on the highest point of the Ghāti or Siwālik range of hills which bounds the Dūn to the south. The nearest village is Timli distant about 3 miles to the N.E. A stone 4 feet long, bearing a piece of brass with a dot on it marks the station. It is surrounded by a platform of brick and mortar. Observed in 1833-34. ( <i>Dehra Dūn</i> ). | 30 22 44.86 | 77 41 14.77               | 3140                                | ...                        | ...    | <i>Feet</i><br>...                                  | ...                          |
| Annfield Church                         | Steeple. Observed in 1873-74. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                   | 30 27 56.76 | 77 46 26.66               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Arcadia House s.                       | On E. chimney. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                  | 30 19 18.88 | 77 57 45.36               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Badrāj Hill Mark                       | ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                 | 30 28 45.7  | 77 57 29.1                | 7320                                | ...                        | ...    | ...                                                 | ...                          |
| *Badrāj Devi h.s.                       | Or Deo-ka-tibba or Besogtibba, on spur ending at junction of the Omlāu stream with the Jumna, about 2½ miles N.E. of Kālsi, ¼ mile N.N.W. of Thāna village, and ¼ mile E. of Kothar village. ( <i>Dehra Dūn</i> ).                                                                                                                                    | 30 33 46.66 | 77 52 57.50               | 5853                                | ...                        | 2      | ...                                                 | ...                          |
| Badrāj Devi Hill Temple                 | On hill. Observed in 1874-75. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                   | 30 33 46.57 | 77 52 57.37               | 5848                                | ...                        | 1      | ...                                                 | 219,<br>220                  |
| *Bagarwāla Hill Fort                    | On spur between the Mangrail nadi and the Kōal stream, and at head of the Ghaggar river. ( <i>Sirmūr</i> ).                                                                                                                                                                                                                                           | 30 47 50.4  | 77 6 30.4                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Baghora Hill Staff                     | On spur N. of the Kutno stream, about 1 mile E.N.E. of Thanau village, and 1½ miles N.E. a little N. of Karshi village in Jaunsār Bāwar. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                        | 30 45 30.5  | 77 59 12.4                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| †Bigwāla s.                             | S.W. of the village of same name, E. of Jalāna village and fort and N. of Dhāk-wāla; marked by a platform 5 feet high. ( <i>Ambāla</i> ).                                                                                                                                                                                                             | 30 0 31.56  | 77 15 29.31               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Bahensia Hill Mark                     | On summit of Siwālik range. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                     | 30 17 16.2  | 77 48 53.8                | 3041                                | ...                        | ...    | ...                                                 | ...                          |

‡ This station appertains to the Base-line figure of the Great Arc Meridional Series—Section 24° - 30°.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mille in common side-<br>of triangles | Reference Number of Station |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------------|-----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                         |                             |
| *Baibwála Khera                         | s. On bank in front of village on the Udmadi Rau ravine, in the Dehra Dún valley. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 26 56.1  | 77 47 41.8                | ...                                 | §                          | ...    | ...                                                     | ...                         |
| †Baigani                                | Building In village. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 5 21     | 77 25 23                  | ...                                 | ...                        | ...    | ...                                                     | ...                         |
| *Bairát Fort                            | h.s. On S. fort on spur near old road from Mussooree to Chakráta. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 35 5.58  | 77 56 16.11               | 7406                                | ...                        | 4      | ...                                                     | ...                         |
| Bajamara                                | " On the top of the peak locally known as Bajamara, on the watershed between the Tons and Jumna valleys. The station is not identical with Bájámára h.s. of the Synoptical Vol. VII, which is 170 feet lower and about a mile to the west. A cairn of stones and a pole, possibly triangulation signal, was found on the top, but no such mark was found on the top of the lower peak.<br>It is marked in the usual way by a $\odot$ on a large stone found about 1 foot below the surface of the ground. Over this is built a circular masonry pillar 1½ feet high and 3 feet in diameter, carrying at its centre on the upper surface, a second similar mark vertically over the lower. It lies in the lands of the village Khatt Kailana, District Dehra Dún and is about 100 yards from the Chakráta-Mandali road which runs round the southern and eastern faces of the hill. The station is 2 miles from Deoban Forest Bungalow and 3½ miles from Mandali Forest Bungalow. There is no good camping ground near the station, and good water is to be found only at a considerable distance. Observed in 1903. ( <i>Dehra Dún</i> ). | 30 45 56.07 | 77 54 0.73                | 9681                                | ...                        | 2      | ...                                                     | 276                         |
| *Bájámára                               | " On watershed of the Jumna and Tons rivers, N. of Chakráta, about 1 mile N., a little W. of Kundal at head of the Kutno stream which enters the former, and 2½ miles S. of Kunain in Jaunsár Bázwar. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 45 54.09 | 77 53 15.09               | 9536                                | ...                        | 3      | ...                                                     | ...                         |
| *Bajoli                                 | s. In village on right bank of the Súkar nadi, a head of the Márkanda river. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 25 21.4  | 77 17 50.5                | ...                                 | ...                        | ...    | ...                                                     | ...                         |
| *Banása                                 | Tower On spur near Major Mackeson's house, about 2 miles W.N.W. of Dudug on a branch of the Mangrail nadi, and 3½ miles E., a little N. of Navalta near the Bursula stream. ( <i>Patáda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 48 53.16 | 77 0 37.92                | 5459                                | 3                          | 1      | 0.7                                                     | ...                         |

\* These points appertain to the North-West Himalaya Series.

§ Interpolated point; i.e., at which observations have been taken to three or more known points.

† This point appertains to the Great Arc Meridional Series—Section 24° - 30°.



## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |             |             |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-------------|-------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |             |             |
| Banawa                                  | h.s. Is situated on the same spur as the Koti village about $\frac{1}{2}$ of a mile S.S.W. of it, about 1 mile west of the village of Tiuna and about $\frac{1}{2}$ a mile N. of Ranigara Forest Bungalow about 4 miles N.W. of Deoban h.s. There is a small hill temple and a large Deodar tree about a hundred yards N. of the station. The station consists of a $\odot$ mark engraved on an embedded stone, and a cairn of stones 5 feet high with a staff in the centre has been erected over the station. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>29</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.      | 29                        | 30 47 7.41                          | 77 49 59.05                | 7050   | ...                                                 | 2                            | Feet<br>... | 248,<br>249 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                     |                              |             |             |
| 29                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                     |                              |             |             |
| †Barkala                                | " On spur on S. face of Siwalik range between the Khairwála-ki and Sarwar-ki Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 17 46.64 | 77 42 4.77                | 2733                                | ...                        | ...    | ...                                                 | ...                          |             |             |
| *Báro                                   | " On spur, at source of the Súkar nadi, about $\frac{1}{2}$ mile W. of the Yar Budri nadi, $1\frac{1}{2}$ miles N. of Golumwála, and $1\frac{1}{2}$ miles S.E. of Báro village. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 27 46.15 | 77 19 57.33               | 2183                                | ...                        | 1      | ...                                                 | ...                          |             |             |
| *Barsingdevi                            | " On temple on spur, about $1\frac{1}{2}$ miles N.E. of Kunáli at head of the Ghaggar river, and $1\frac{1}{2}$ miles S. of Charáni on the Koal stream. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 45 41.34 | 77 8 42.06                | 6222                                | ...                        | 2      | ...                                                 | ...                          |             |             |
| †Bebat                                  | Building In village. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 10 22    | 77 36 52                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |             |
| *Bhagwánpur                             | s. On tower in village between Lohgarh Rau and the Somb nadi, E.N.E. of Sádhaurs, and N.W. of Khizrabad. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 25 24.7  | 77 23 15.7                | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |             |
| Bhandrauli                              | h.s. Is situated on the top of the knob alongside the village of that name and close to the small village temple. The village of Bána is about 2 miles N.E. of Bhandrauli village. The road from Chakráta <i>via</i> Kanit Bungalow on to Bástil passes about a hundred yards E. of the station. The station consists of a $\odot$ mark cut on an embedded stone. A good high cairn of stones has been erected over the station mark bearing a staff in the centre and a tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>30</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                          | G.T.S.      | 30                        | 30 49 39.41                         | 77 49 25.37                | 5455   | ...                                                 | 1                            | ...         | 246,<br>247 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                     |                              |             |             |
| 30                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                     |                              |             |             |
| †Bhagpur                                | s. S.W. of the village of same name, marked by a platform 6 feet high. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 7 58.96  | 77 23 23.39               | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |             |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* These stations appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |     |          |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|-------------------------------|-----|----------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                    | Height |                                                     |                               |     |          |
| Bhungani                                | s. (Sirmár).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 29 10.01 | 77 44 13.49               | ...                                 | ...                         | ...    | Feet                                                | 149                           |     |          |
| *Biláspur                               | " On Náunk Chaudri's house in bazar at bifurcation of road from Dehra Dún and Khizrabad to Sádhaura and Jagádúri. (Am-báta).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 18 17.6  | 77 18 18.8                | ...                                 | §                           | ...    | ...                                                 | ...                           |     |          |
| Bin Pohr                                | h.s. Is situated on the hill of that name about 2 miles S.E. of the village of Chausál, about 3 miles S.E. of the large village of Bústil and about 2 miles S.W. of the village of Bogour. Close to and below the station and to the north of it is a temple where an annual fair is held. The station consists of a $\odot$ cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>33</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. (Dehra Dún). | G.T.S.      | 33                        | 30 53 30.01                         | 77 53 39.77                 | 7965   | ...                                                 | 2                             | ... | 265, 266 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     |                             |        |                                                     |                               |     |          |
| 33                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     |                             |        |                                                     |                               |     |          |
| Birga                                   | " Is situated about $\frac{1}{2}$ of a mile N.W. of the temple of that name and about two and half miles N.W. of the Gusana village which latter lies about a couple of miles N.W. of the Tuní bridge over the Tons river. The station consists of a $\odot$ cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre is erected over the mark-stone. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>37</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. (Dehra Dún).                                                                         | G.T.S.      | 37                        | 30 57 49.73                         | 77 48 10.35                 | 8470   | ...                                                 | 2                             | ... | 269, 270 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     |                             |        |                                                     |                               |     |          |
| 37                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     |                             |        |                                                     |                               |     |          |
| *Birgátibba                             | Temple On spur, about 3 miles W. of junction of the Pabar and Tons rivers, and $2\frac{1}{2}$ miles W.N.W. of Baig village. (Taroch-Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 57 29.9  | 77 48 23.2                | ...                                 | 2                           | ...    | ...                                                 | ...                           |     |          |
| Birsini                                 | h.s. Is situated about a hundred yards S. of the village of that name on the boundary of two fields on a slightly elevated spot. A road from Bahaspur to Muesoreo <i>vid</i> Huráwála passes about $\frac{1}{4}$ a mile W. and a foot-path runs about 150 yards E. of the station. Kotra village lies about $\frac{1}{4}$ mile N.W. The station consists of a $\odot$ cut on a stone embedded at the ground level in a paka pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high. Observed in 1873-74. (Dehra Dún).                                                                                                                               | 30 26 7.63  | 77 56 1.12                | 3060                                | ...                         | 2      | ...                                                 | 162                           |     |          |

\* These points appertain to the North-West Himalaya Series.

§ Interpolated point. Vide foot-note to page 236—1.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                             | Latitude N.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |             | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |          |     |          |
|-----------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|--------------------------------|-------------|-----------------------------------------------------|------------------------------|----------|-----|----------|
|                                         |                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                                     | Position                       | Height      |                                                     |                              |          |     |          |
| *Bohowa                                 | Pir                                                                     | 30 40 17.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 77 43 1.1                 | ...                                 | 2                              | ...         | ...                                                 | ...                          |          |     |          |
| *Bonetidevi                             | h.s.                                                                    | 30 38 18.87                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 77 15 48.52               | 4929                                | ...                            | 1           | ...                                                 | ...                          |          |     |          |
| †Brahmpura                              | Bastion                                                                 | 30 7 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 77 20 45                  | ...                                 | ...                            | ...         | ...                                                 | ...                          |          |     |          |
| †Bulawála                               | h.s.                                                                    | 30 6 51.29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 77 59 11.27               | 2432                                | ...                            | ...         | ...                                                 | ...                          |          |     |          |
| †Búria, Goláb Singh's House             | Flag. (Ambála).                                                         | 30 9 31.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 77 21 22.4                | ...                                 | ...                            | ...         | ...                                                 | ...                          |          |     |          |
| †Búria, Megh Singh's House              | Flag. (Ambála).                                                         | 30 9 44.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 77 21 40.2                | ...                                 | ...                            | ...         | ...                                                 | ...                          |          |     |          |
| Chakráta Military Hospital              | Westernmost chimney of long building. Observed in 1874-75. (Dehra Dún). | 30 42 17.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 77 51 19.47               | ...                                 | ...                            | ...         | ...                                                 | 236, 237                     |          |     |          |
| Chakráta                                | Post Office                                                             | Chimney. Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 41 45.75               | 77 52 22.74                         | 6885                           | ...         | 2                                                   | ...                          | 234, 235 |     |          |
| *Chandásur                              | Pagoda                                                                  | On spur between the Tons river and the Om-lán stream, about ½ mile N.W. of Larli near head of the latter, and 2 miles E.N.E. of Gabala on a branch of the former. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 42 31.8                | 77 49 29.8                          | ...                            | 2           | ...                                                 | ...                          | ...      |     |          |
| Chandeshwar                             | h.s.                                                                    | Is situated on the hill of the same name alongside the temple on the top of the hill and a few feet to the south. The village of Larli is about half a mile S.E. of the station, that of Hája about a mile W., and that of Kitrolí about a mile to the north. A ⊙ on a stone embedded marks the station and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate bearing <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>11</td></tr></table> has been nailed on to the staff. Observed in 1874-75. (Dehra Dún). | G.T.S.                    | 11                                  | 30 42 31.65                    | 77 49 29.92 | 6911                                                | ...                          | 2        | ... | 230, 231 |
| G.T.S.                                  |                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                                     |                                |             |                                                     |                              |          |     |          |
| 11                                      |                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                                     |                                |             |                                                     |                              |          |     |          |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile of triangle | Reference Number of Triangles |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                    |                               |
| *Chandpur                               | h.s. On fort on spur between the Neweli stream and the Tons river, about 4 miles N.N.W. of Uthri on the Neweli, and 4½ miles W. of Shiásu on right bank of the Tons. (Sirmúr).                                                                                                                                                                                                                                                                                 | 30 42 24.01 | 77 39 34.06               | 8361                                | ...                        | 1      | Feet                               | ...                           |
| *Chaurádevi                             | „ On spur between the Batta stream and the Giri river, about 1 mile N. of Sultina at head of the former, ½ mile E. of Birla on ridge, and 1½ miles S. of Nirámala on the Giri. (Sirmúr).                                                                                                                                                                                                                                                                       | 30 33 38.35 | 77 26 28.65               | ...                                 | ...                        | ...    | ...                                | ...                           |
| †Chauri                                 | Bastion In village. (Saháranpur).                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 4 25     | 77 24 16                  | ...                                 | ...                        | ...    | ...                                | ...                           |
| *Chauri                                 | h.s. On spur, about 1½ miles N.W. a little N. of Chanal village in Taroch, 1¼ miles S.S.W. of Púnol village, ¼ mile S. of Ori h.s., and 1 mile W. a little N. of Kofar h.s. (Taroch-Dehra Dún).                                                                                                                                                                                                                                                                | 30 55 14.49 | 77 46 21.21               | 7834                                | ...                        | 2      | ...                                | ...                           |
| *Chelar                                 | Hill Staff On spur, about 1½ miles N. a little E. of Thukra near the Khundra nadi, a branch of the Nukti nadi. (Ambála-Sirmúr).                                                                                                                                                                                                                                                                                                                                | 30 28 36.25 | 77 15 35.28               | 2338                                | 3                          | 1      | 0.2                                | ...                           |
| *Chepál                                 | h.s. On road from Mussooree to Simla, about ¼ mile W. of Bodna village, and ¼ mile N.E. of Gadára village. (Jubbál).                                                                                                                                                                                                                                                                                                                                           | 30 57 0.16  | 77 35 18.90               | 7682                                | ...                        | 2      | ...                                | ...                           |
| *Chepál                                 | Temple E. gable end of east roof, about ¼ mile S. of Chepál h.s., and ¼ mile S.W. of Bodna village. (Jubbál).                                                                                                                                                                                                                                                                                                                                                  | 30 56 48.35 | 77 35 16.80               | 7462                                | 3                          | 2      | 10.0                               | ...                           |
| Chilár                                  | h.s. Is situated on a precipice about 200 yards N. of the village of that name and about 300 yards S. of Tipara Khera. The village of Silaura lies about 1 mile N. by W. and that of Bána about a mile S.E. of the station. The road from Mussooree to Simla is running about 100 yards below the station. There is a bridle path running about 400 yards E. of the station. A ⊙ cut on an embedded stone marks the station. Observed in 1874-75. (Dehra Dún). | 30 51 41.43 | 77 50 0.33                | ...                                 | ...                        | ...    | ...                                | 243                           |
| †Chilkána                               | Mosque In village. (Saháranpur).                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 4 48.1   | 77 28 8.6                 | ...                                 | ...                        | ...    | ...                                | ...                           |
| †Chilkána White Building                | In village. (Saháranpur).                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 4 44     | 77 28 15                  | ...                                 | ...                        | ...    | ...                                | ...                           |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |     |          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-----|----------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                           |                                     | Position                   | Height |                                                     |                              |     |          |
| †Chilláwála                             | h. s. On spur on S. face of Siwálik range between the Chilláwáli and Sukh Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 11 9' 24"  | 77 57 1' 28"              | 2872                                | ...                        | ...    | Feet                                                | ...                          |     |          |
| *Chilmeri                               | " On the Chakráta spur between the Kutno and Amláwa streams, about ½ mile N.N.W. of Thána village, ½ mile N.E. of Bilaug, and 1 mile S.W. of Páti village. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 40 10' 83" | 77 53 2' 86"              | 7158                                | ...                        | 3      | ...                                                 | ...                          |     |          |
| Chilmeri (new)                          | " Is situated on the hill of that name alongside the temple of Chilmeri on the Chakráta spur and about a mile N. of the village of Thána and about 2 miles S.E. of the Chakráta Post Office. The road from Chakráta to Kálsi passes about quarter of a mile W. of the station. The station is marked by a ○ cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>15</td></tr></table> on it has been nailed on to the staff. Observed in 1874-76. ( <i>Dehra Dún</i> ). | G.T.S.        | 15                        | 30 40 10' 56"                       | 77 53 2' 82"               | 7152   | ...                                                 | 2                            | ... | 212, 213 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                           |                                     |                            |        |                                                     |                              |     |          |
| 15                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                           |                                     |                            |        |                                                     |                              |     |          |
| *Chitán, IV                             | Is in a field on the south side of the road leading from Shozádpur towards Rúpar; pargana Shozádpur, taluk Nuraingarh, zilla Ambála. The small village from which the station takes its name is distant about ¼ of a mile. The pillar is 2 feet high, and has two mark-stones placed as usual, one at top, and another at bottom. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                       | 30 28 14' 55" | 77 1 31' 23"              | 1038                                | ...                        | ...    | ...                                                 | ...                          |     |          |
| Chárapur                                | No. 1 s. Is situated on the top of the paka kothi in the Annfield Estate about 4 feet from the S.W. chimney (a double one), and 28 feet 8 inches above the surface of the ground. The station is denoted by a ○ mark. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                           | 30 28 11' 89" | 77 46 55' 38"             | 1573                                | ...                        | 2      | ...                                                 | 142                          |     |          |
| Chárapur                                | No. 2 s. Is situated on the N. bank of a dry tank about ½ mile S.W. of the church at Annfield and about 200 yards W. of the road from Fatehpur to Chakráta. The station consists of a ○ cut on a stone embedded in a masonry pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                       | 30 27 43' 71" | 77 45 36' 59"             | 1505                                | ...                        | 2      | ...                                                 | 144                          |     |          |
| *Chár                                   | Hill Staff On spur, at head of the Sáinj stream, about 4 miles W.N.W. of Koli on that stream, 4½ miles N.N.E. of Chára village, and 3 miles S.W. of Barai. ( <i>Jubbai</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 52 14' 55" | 77 28 53' 74"             | 11966                               | 4                          | 2      | ...                                                 | ...                          |     |          |

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Number of Triangles |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                     |
| †Dabera Mosque                          | In village. ( <i>Sahāranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 8 45.6   | 77 28 49.6                | ...                                 | ...                        | ...    | ...                                                 | ...                 |
| *Dádu, III                              | Is situated in pargana Sirmúr, taluk Náhan, on the highest point of the ridge. The town of Náhan is 4 miles to the south. The high road from Náhan to Bagtiála passes $\frac{1}{2}$ a mile to the east of the station. The pillar is 2 feet high, and carries one mark-stone at top, another at bottom. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 38 58.20 | 77 13 57.62               | 5030                                | ...                        | ...    | ...                                                 | ...                 |
| †Dádúpur Canal House                    | ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 12 25.7  | 77 23 40.4                | ...                                 | ...                        | ...    | ...                                                 | ...                 |
| *Dagshai h.s.                           | Above cantonment of that name. ( <i>Simla</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 52 50.32 | 77 3 17.03                | 6087                                | ...                        | I      | ...                                                 | ...                 |
| *Dair s.                                | On watch tower to W. of the Rún nadi, about $1\frac{1}{2}$ miles N.W. of its junction with the Márkanda river. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 25 29.2  | 77 9 25.0                 | ...                                 | §                          | ...    | ...                                                 | ...                 |
| *Dánda h.s.                             | On spur between the Amláwa stream and the Tons river, about $1\frac{1}{2}$ miles N. of Kálsi, and $\frac{1}{2}$ mile N.W. of Bahila village. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 33 52.4  | 77 50 12.0                | ...                                 | ...                        | ...    | ...                                                 | ...                 |
| †Darwa s.                               | $\frac{1}{2}$ mile N.E. of Darwa village; marked by a platform 6 feet high. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 13 22.32 | 77 28 28.33               | ...                                 | ...                        | ...    | ...                                                 | ...                 |
| †Dehra Dún Base-line E. End, (IX)       | Is situated on the extremity of one of the spurs of the Gháti or Siwálik range of hills, in the District of Dehra Dún. The nearest village is Mohabawála, about a mile to the South-East. The Asan river winds round the foot of the spur, and one branch of it takes its rise in a ravine about 100 yards to the westward of the station. The following description of the station is taken from the original record by Colonel Everest:—<br>"A stone 5 feet in length and 1 foot square base was sunk to the surface of the ground and lodged in a pile of masonry 14 feet square with a circular pillar of masonry in the middle of 4 feet diameter, the pillar being built disjointed from the rest of the pile in order that the instrument might remain isolated. Into the exposed surface of the central stone | 30 17 7.35  | 77 58 30.74               | 1967.78                             | †                          | ...    | ...                                                 | ...                 |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* These stations appertain to the North-West Himalaya Series.

§ Interpolated point. *Vide* foot-note to page 236—*I*.

‡ This station appertains to the Base-line figure of the Great Arc Meridional Series—Section 24° - 30°.

¶ Determined by Spirit-Levelling.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                           |                                     | Position                   | Height |                                                     |                              |
| †Dehra Dún Base-line E. End, (IX)—(Contd.) | <p>"a piece of brass was soldered on which was inserted a fine silver wire to receive the small dot which marked the limit of the base-line. This was covered over by a circular brass plate 2 inches diameter fixed by 3 screws, the female screws of which were cut in pieces of brass soldered into the stone. The upper surface of the brass plate was left even with that of the stone, a circular space being hollowed out to admit it. A parapet wall of 12 inches high was erected round the platform and ultimately when the base was concluded the whole was built up to a level with this parapet, a supplemental stone of 1 foot square and 3 inches thick with a piece of brass and dot soldered into it being accurately placed over the dot in the lower stone by means of the centering telescopes of the large theodolite. For protection against cattle and other intruders a thick hedge of prickly pear was planted round the platform."</p> <p>In 1896 a tower 10 feet square and 87½ feet high, of first class brick masonry, with a central isolated and perforated pillar 4 feet in diameter, was built over the mark. An arched passage 4 feet 2 inches wide and 4½ feet high runs through the tower to allow of access to the mark-stones.</p> <p>A new upper mark-stone has been carefully fixed on the summit of the pillar, flush with its upper surface, 8 feet 8½ inches above and in the normal of Colonel Everest's upper mark. The pillar over the archway is isolated by an annulus 2 inches wide to within 6 inches of its summit; from this point the masonry of the platform was made to abut against the pillar, the concrete surface of the platform being continuous with the plaster on the pillar and level with the upper mark-stone; this closes the annulus to an extent sufficient to prevent any seed getting in and germinating again. Colonel Everest's upper mark has been carefully protected by a hemispherical mass of puka masonry which extends beyond the annulus, and both the entrances into the archway have been closed with brick masonry wall 1½ feet thick. To guard against the upper mark-stone being dug up again, it has been covered over by a conical pile of loose bricks about 2 feet high. The old staircase adjoins the new tower. (Dehra Dún).</p> | 30 17 7' 35"  | 77 58 30' 74"             | 1967.78                             | ...                        | ...    | Feet<br>...                                         | ...                          |
| †Dehra Dún Base-line W. End, (VIII)        | <p>Is situated in the District of Dehra Dún, about 2 miles to the E. of the small village of Sherpur, and about 1 mile S. from the Assn river.</p> <p>The following description of the station is taken from the original record by Colonel Everest :—</p> <p>"A stone 5 feet in length and 1 foot square base was sunk to the surface of the ground and lodged in a pile of masonry 14 feet square with a circular pillar of masonry in the middle of 4 feet</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 19 43' 25" | 77 51 41' 38"             | 1782                                | ...                        | ...    | ...                                                 | ...                          |

† These stations appertain to the Base-line figure of the Great Arc Meridional Series—Section 24° - 30°.  
 ‡ Determined by Spirit-Levelling.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N.       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference to Triangle |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|-----------------------|
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                           |                                     | Position                   | Height |                                                      |                       |
| ‡ Dehra Dún Base-line W. End, (VIII)—(Contd.) | <p>"diameter, the pillar being built disjointed from the rest of the pile in order that the instrument might remain isolated. Into the exposed surface of the central stone a piece of brass was soldered on which was inserted a fine silver wire to receive the small dot which marked the limit of the base-line. This was covered over by a circular brass plate 2 inches diameter fixed by 3 screws, the female screws of which were cut in pieces of brass soldered into the stone. The upper surface of the brass plate was left even with that of the stone, a circular space being hollowed out to admit it. A parapet wall of 12 inches high was erected round the platform and ultimately when the base was concluded the whole was built up to a level with this parapet, a supplemental stone of 1 foot square and 3 inches thick with a piece of brass and dot soldered into it being accurately placed over the dot in the lower stone by means of the centering telescope of the large theodolite. For protection against cattle and other intruders a thick hedge of prickly pear was planted round the platform."</p> <p>In 1867 a tower was built over the masonry platform above described, with sides parallel or perpendicular to the line of the base, and an arched passage 5 feet wide and 6 feet high, to allow of access to the mark-stones, should the base be re-measured at any future time. The tower is about 10 feet square and 8 feet high; it has an external masonry staircase leading to the summit, which is horizontal, to serve as a platform for future observations. A central pillar 4 feet in diameter rests on the vault, and rises to the level of the platform, but is separated therefrom by an annulus; it is perforated for reference to the marks below, the perforation being closed above by a mark-stone containing the usual circle, and a fine hole bored through the stone instead of the usual central dot; the mark on this stone is truly in the normal of those below, and is 10-23 feet above Colonel Everest's upper mark.</p> <p>As the mark on the top of the new tower will suffice for ordinary use, the entrances to the vault have been bricked up with masonry, for the better protection of the original marks. (Dehra Dún).</p> | 0 1 " 30 19 43 25 | 0 1 " 77 51 41 38         | 1782                                | ...                        | ...    | Feet                                                 | ...                   |
| † Dehra Dún Hope Town Bungalow                | E. Chimney. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 19 33          | 77 55 21                  | ...                                 | ...                        | ...    | ...                                                  | ...                   |

‡ This station appertains to the Base-line figure of the Great Arc Meridional Series—Section 24° - 30°.

† This point appertains to the Great Arc Meridional Series—Section 24° - 30°.



DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |             |     |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-------------|-----|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |             |     |
| *Deoban                                 | h.s. Is situated on a spur at the head of the Amláwa stream, on road from Mussooree and Chakráta to Simla about 1½ miles N.N.W. of Mohna village and about a mile E.S.E. of Mangar.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>52</td></tr></table> on it has been nailed on to the staff. Observed in 1851-53. The station was revisited in 1874-75 and was found in good order. ( <i>Dehra Dún</i> ). | G.T.S.      | 52                        | 30 44 32.07                         | 77 52 13.1                 | 9331   | ...                                                 | 1                            | Feet<br>... | ... |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     |                            |        |                                                     |                              |             |     |
| 52                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     |                            |        |                                                     |                              |             |     |
| Dhakráni                                | s. Is situated in the village of that name, a mile N.E. of the small kothi. About a quarter of a mile N.E. of the station is a Muhammadan tomb and a small house inhabited by a Syed. The road (cart-track) from Dhakráni village to Ambáti passes about 175 yards S. to E. of the station. Sindonwála village is less than a mile E. by S. and Jagdispur about 1½ miles E. by N. The station consists of a ⊙ cut on a stone embedded in a masonry pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                   | 30 27 18.69 | 77 43 57.48               | 1451                                | ...                        | 1      | ...                                                 | 145                          |             |     |
| Dhálipur                                | " Is situated in the lands and about ¼ a mile N.E. of the village of that name and about 35 yards N. of the Dehra Dún-Rámpur Mandi road. A hundred yards west of the station, the road dips down the high bank of the Jumna to the Mandi village which is about ½ mile west of the station.<br>The station consists of a ⊙ mark cut on an embedded stone; and a masonry pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high has been erected over the mark-stone. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                         | 30 26 29.59 | 77 41 21.02               | 1396                                | ...                        | 2      | ...                                                 | 157,<br>158                  |             |     |
| †Dhárakot                               | " ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 20 45    | 77 53 35                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |     |
| *Dhobúwála                              | h.s. On spur between the Amláwa stream and the Tons river, about ¼ mile S.W. of Káisi, ½ mile W. of Híás village, and ¼ mile N. of Haripur. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 31 53    | 77 50 24                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |     |

\* These stations appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile or triangles | Miscellaneous Number of Triangles |     |     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-------------------------------------|-----------------------------------|-----|-----|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                     |                                   |     |     |
| *Dhoría                                 | h.s. On spur, about 1½ miles N.N.W. of Káisi. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 33 3     | 77 50 2                   | ...                                 | ...                        | ...    | Feet                                | ...                               |     |     |
| Dobri                                   | House S. chimney of bungalow. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 26 17.88 | 77 53 13.80               | ...                                 | ...                        | ...    | ...                                 | ...                               |     |     |
| †Dúdgárh                                | Mosque In village. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 6 53.1   | 77 27 26.6                | ...                                 | ...                        | ...    | ...                                 | ...                               |     |     |
| †Dúmjhara                               | s. E. of village so called; the high road from Búria to Saháranpur via Rájghat, runs close north of it; marked by a platform 6 feet high. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                              | 30 5 24.52  | 77 26 33.98               | ...                                 | ...                        | ...    | ...                                 | ...                               |     |     |
| Dungri                                  | h.s. Is situated about ¼ a mile N. of the village of that name and about 2½ miles S.E. of the large village of Bána on the road from Mussooree to Simla. The station consists of a ⊙ mark cut on a well embedded stone, and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>31</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.      | 31                        | 30 50 15.82                         | 77 51 30.70                | 8020   | ...                                 | 2                                 | ... | 212 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     |                            |        |                                     |                                   |     |     |
| 31                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     |                            |        |                                     |                                   |     |     |
| *Duría                                  | " On spur, about 1 mile N. of Gadh at head of the Begana nadi, 1½ miles N.E. of Mujauli, and ¼ mile S.E. of Saru village at head of the Ghaggar river. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                     | 30 40 39.12 | 77 7 48.50                | 4281                                | ...                        | 1      | ...                                 | ...                               |     |     |
| †Fathigarh                              | Bastion In village. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 10 28    | 77 23 26                  | ...                                 | ...                        | ...    | ...                                 | ...                               |     |     |
| *Gadára                                 | Temple N.E. gable end, near Chépál temple to N.W. ( <i>Jubbál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 56 47.3  | 77 35 10.1                | 8253                                | 2                          | 1      | ...                                 | ...                               |     |     |
| †Gadauli                                | s. Between Darwa and Gadauli, on the sand heights W. of Canal; marked by a platform 6 feet high. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 7 48.05  | 77 19 10.41               | ...                                 | ...                        | ...    | ...                                 | ...                               |     |     |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per million common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Gadauri                                | s. In village on spur in the Palor valley. (Sirmúr).                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 47 10.9  | 77 27 22.4                | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| †Gázdipur                               | " On bank of Jumna river. (Ambála).                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 8 29.89  | 77 25 53.52               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Godal                                  | h.s. On spur, about 2 miles N. of junction of the Lojla stream with the Giri river. (Sirmúr).                                                                                                                                                                                                                                                                                                                                                                                                | 30 46 9.47  | 77 18 45.86               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Gálarghat                               | s. Is situated on the road side and on the left bank of the Jumna river about 120 yards S.W. of the pier of the iron suspension bridge; the village of Dumet is about 2 mile S.E. of the station.<br>The station consists of a $\odot$ mark cut on a stone embedded flush with the ground level and a paku pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high has been built over the mark-stone. Observed in 1873-74. (Dehra Dún).                       | 30 30 45.99 | 77 50 24.19               | 1555                                | ...                        | 2      | ...                                                 | 206                          |
| *Gúma                                   | h.s. On spur, about 2½ miles W. a little N. of Gandahn near head of the Neweki stream, 1¼ miles N. of Gúma village, and ½ mile E. of Kail. (Sirmúr).                                                                                                                                                                                                                                                                                                                                         | 30 40 51.74 | 77 32 19.59               | 8098                                | ...                        | 1      | ...                                                 | ...                          |
| *Gurwáni                                | " On spur, about 1½ miles W.S.W. of Bolone on the Bangal stream, a branch of the Tona river, 1¼ miles N.W. of Pachwa, and 1½ miles N.E. of Gauna. (Sirmúr).                                                                                                                                                                                                                                                                                                                                  | 30 43 10.50 | 77 31 45.56               | 8218                                | ...                        | 1      | ...                                                 | ...                          |
| Gusana                                  | " Is situated close to a temple and about a hundred yards S. of the village of that name, which village lies about a couple of miles N.W. of the Tuni bridge over the Tona river.<br>The station consists of a $\odot$ cut on an embedded stone, and a cairn of stones has been placed over the mark-stone. A tin plate with $\begin{matrix} \text{G.T.S.} \\ 39 \end{matrix}$ on it has been nailed on to the staff in the centre of the cairn. Observed in 1874-75. (Dehra Dún).           | 30 56 49.66 | 77 49 43.08               | 6115                                | ...                        | 2      | ...                                                 | 267.<br>268                  |
| Hain.                                   | " Is situated on the hill of that name about a mile E. of the village of Kunáva, about ½ of a mile N.W. of the Hain Hill Temple and about 5 or 6 miles S.E. of Chakráta.<br>The station consists of a $\odot$ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with $\begin{matrix} \text{G.T.S.} \\ 16 \end{matrix}$ on it has been nailed on to the staff. Observed in 1874-75. (Dehra Dún). | 30 39 53.46 | 77 56 2.62                | 7239                                | ...                        | 1      | ...                                                 | 210                          |

\* These stations appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per cent of triangulation | Reference Number of Triangles |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                        |             |                           |                                     | Position                       | Height |                                         |                               |
| *Hain Temple                            | On spur S. of the Kutno stream, 1½ miles N.N.W. of Shibo village, and 1½ miles W. a little S. of Bisau village, in Jaunsár Bawar. ( <i>Dehra Dún</i> ).                                                | 30 39 34.1  | 77 56 34.3                | ...                                 | 2                              | ...    | ...                                     | Feet                          |
| †Halár Building                         | Highest, in village, owned by Fathi Singh. ( <i>Ambáls</i> ).                                                                                                                                          | 30 5 7      | 77 6 39                   | ...                                 | ...                            | ...    | ...                                     | ...                           |
| *Haripur Hill Fort                      | On spur, about ½ mile S.S.E. of Kolan at head of S.W. branch of the Súinj stream, 1½ miles N.E. of Pab on the Palow stream, and 1 mile N.N.W. of Rauwa on the Bangal stream. ( <i>Sirmúr-Jubbál</i> ). | 30 46 35.4  | 77 32 19.7                | 8787                                | 2                              | 1      | ...                                     | ...                           |
| Hartar Hill Temple                      | Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                             | 30 47 51.56 | 77 48 45.23               | ...                                 | ...                            | ...    | ...                                     | 254, 255                      |
| †Hatni h.s.                             | On spur on S. face of the Siwálik range, between the Klujnaur and Bangori Raas. ( <i>Dehra Dún</i> ).                                                                                                  | 30 13 0.44  | 77 52 19.58               | 3069                                | ...                            | ...    | ...                                     | ...                           |
| †Hill A.                                | On spur on S. face of Siwálik range between the Mohan and Klujnaur Raas. ( <i>Dehra Dún</i> ).                                                                                                         | 30 12 24.6  | 77 54 16.7                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill D.                                | ( <i>Dehra Dún</i> ).                                                                                                                                                                                  | 30 19 5.5   | 77 45 24.9                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill E.                                | ( <i>Dehra Dún</i> ).                                                                                                                                                                                  | 30 15 9.5   | 77 47 18.2                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill F.                                | ( <i>Dehra Dún</i> ).                                                                                                                                                                                  | 30 18 20.4  | 77 40 20.7                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill H.                                | ( <i>Dehra Dún</i> ).                                                                                                                                                                                  | 30 19 53.5  | 77 40 20.4                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill K.                                | On summit of Siwálik range, nearly 2 miles S.E. of Amsot H.S. ( <i>Dehra Dún</i> ).                                                                                                                    | 30 21 20.5  | 77 42 13.4                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill M.                                | On spur on S.W. face of Siwálik range, nearly 2 miles S.W. of Amsot H.S. ( <i>Dehra Dún</i> ).                                                                                                         | 30 21 48.7  | 77 39 55.5                | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill N.                                | On spur on S.W. face of Siwálik range, nearly 2.5 miles W.S.W. of Amsot H.S. ( <i>Dehra Dún</i> ).                                                                                                     | 30 22 6.6   | 77 39 1.4                 | ...                                 | ...                            | ...    | ...                                     | ...                           |
| †Hill a                                 | Near end of spur on S. face of Siwálik range, between the Malúwáli and Sukroda Raas. ( <i>Dehra Dún</i> ).                                                                                             | 30 5 23.4   | 77 59 37.7                | ...                                 | ...                            | ...    | ...                                     | ...                           |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |     |             |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-----|-------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |     |             |
| †Hill                                   | b On spur on S. face of Siwálik range, nearly 800 feet west of Buláwála h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 6 53.9   | 77 59 2.1                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |             |
| †Hill                                   | λ Near termination of spur on S. face of Siwálik range, between the Andheri and Gaj Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 8 34.9   | 77 58 16.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |             |
| †Hill                                   | π On summit of Siwálik range, 1.8 miles S.E. of the Sukh Rau. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 11 58.8  | 77 59 18.9                | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |             |
| †Hill                                   | φ Near termination of spur on S. face of Siwálik range, between the Binj and Gaj Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 7 38.7   | 77 58 13.8                | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |             |
| *Isámpur                                | a In village on left bank of the Fandi nadi, a head of the Nukti nadi, and 3¼ miles N.E. of Sádhaura town. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 25 14.0  | 77 16 12.0                | ...                                 | §                          | ...    | ...                                                 | ...                          |     |             |
| Jaindau                                 | h.s. On a bare knob about ¼ a mile N.E. of the village of that name, about 3 miles N.E. of the well known fort of Bairát and about 3 miles due north of the Nághát Staging Bungalow on the Mussooree and Chakráta road.<br>The station consists of a ○ mark cut on an embedded stone and a cairn of stones 5 feet high with a pole in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>17</td></tr></table> on it has been nailed on to the pole. Observed in 1874-75. ( <i>Dehra Dún</i> ).            | G.T.S.      | 17                        | 30 36 39.21                         | 77 58 21.83                | 6619   | ...                                                 | 2                            | ... | 217.<br>218 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     |                            |        |                                                     |                              |     |             |
| 17                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     |                            |        |                                                     |                              |     |             |
| *Jaitok                                 | h.s. On watershed of the Márkanda and Giri rivers, about 3 miles N.E. of Náhan town, and ½ mile W. of Kudli village. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 35 38.93 | 77 20 0.63                | 4645                                | ...                        | 1      | ...                                                 | ...                          |     |             |
| Jám                                     | h.s. Is situated about ¼ of a mile S. of the village of Dhaira and about a mile and a half N.W. of Kálsi, between the Tons and the Amláwa rivers.<br>The station consists of a ○ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the mark-stone. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>61</td></tr></table> on it has been nailed on to the staff. Observed in 1851-53. This station is probably identical with Dhorin h.s. of the N.W. Himalaya Series. ( <i>Dehra Dún</i> ). | G.T.S.      | 61                        | 30 33 3.45                          | 77 50 1.90                 | 3993   | ...                                                 | 1                            | ... | 207         |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     |                            |        |                                                     |                              |     |             |
| 61                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     |                            |        |                                                     |                              |     |             |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* These stations appertain to the North-West Himalaya Series.

§ Interpolated point. Vide foot-note to page 236—1.

## DEGREE SHEET 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common side of triangles | Number of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                    |                     |
| *Jamina Hill Temple                     | On spur, about $\frac{3}{4}$ mile N. of Sunoge on left bank of the Tons river, $1\frac{1}{2}$ miles W. of Tána, and $1\frac{1}{2}$ miles E. of Dudina village. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                              | 30 37 23.6  | 77 45 14.5                | ...                                 | 3                          | ...    | Feet<br>2.9                                        | ...                 |
| *Jamu Hill Staff                        | On spur, about 1 mile N. of Yána village above and left of the Giri river, $1\frac{1}{2}$ miles E.N.E. of Karth, and $\frac{3}{4}$ mile W.N.W. of Bandil. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                   | 30 37 1.30  | 77 30 43.96               | 6650                                | 3                          | 3      | 0.1                                                | ...                 |
| †Jatlána Bastion                        | Highest bastion in village. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                 | 30 2 34     | 77 14 7                   | ...                                 | ...                        | ...    | ...                                                | ...                 |
| †Játowála s.                            | ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 13 1.91  | 77 36 35.04               | ...                                 | ...                        | ...    | ...                                                | ...                 |
| Jhájra s.                               | Is a little more than $\frac{1}{4}$ a mile south-east of the village of that name and 15 feet from the right bank of the Tons river. A foot-path from Jhájra village over the river to Sámipur village passes about a hundred yards N. of the station.<br>The station consists of a $\odot$ mark cut on an embedded stone and a cairn of stones 5 feet high has been erected over the station mark. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 20 17.26 | 77 55 34.18               | 1780                                | ...                        | 2      | ...                                                | 170                 |
| *Júin, II                               | Is situated in pargana Kongra, zilla Sirmúr, on the highest peak of a ridge from which it derives its name. The road to the station is from Shiam, at the junction of the Palar and Giri rivers, and passes by Shinga and Andari. The pillar is 2 feet high. It has one mark-stone at top, and another at bottom.                                                                                                                              | 30 41 44.31 | 77 35 42.35               | 8493                                | ...                        | ...    | ...                                                | ...                 |
| *Junna Bridge s.                        | Over that river, on road from Mussooree to Chakráta and above Alhar village. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                             | 30 32 7.43  | 77 53 54.42               | 1808                                | ...                        | 2      | ...                                                | ...                 |
| Kailu Deota Hill Temple                 | Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                     | 30 35 58.89 | 77 54 1.80                | ...                                 | ...                        | ...    | ...                                                | 223,<br>224         |
| *Kakarmájra s.                          | On masjid in village, on road from Sádhaura to Bhárwála. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                    | 30 28 48.8  | 77 0 57.2                 | ...                                 | §                          | ...    | ...                                                | ...                 |
| †Kálághát h.s.                          | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 14 50    | 77 57 2                   | ...                                 | ...                        | ...    | ...                                                | ...                 |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

§ Interpolated point. Vide foot-note to page 236—*I*.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangle* | Reference Number of Triangle |     |          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|-----|----------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                      |                              |     |          |
| *Kaliūpur                               | s. In village, about 3 miles N.E. of Sādhaura. ( <i>Ambāla</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 25 9.5   | 77 15 23.1                | ...                                 | §                          | ...    | Feet                                                 | ...                          |     |          |
| *Kāli                                   | Temple Adjoining Kāli village to N., on right bank of the Amlāwastream, about 1½ miles above its junction with the Jumna. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 32 23    | 77 50 54                  | ...                                 | 2                          | ...    | ...                                                  | ...                          |     |          |
| Kanbhua                                 | h.s. Is situated on knob about 200 yards west of the village of that name, which village is about a mile and a half S.W. of the well known village of Saiah. The village of Kakari is about ½ of a mile N.W. of the station.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones 5 feet high has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>3</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dūn</i> ).                                                                                                                                                                              | G.T.S.      | 3                         | 30 36 13.08                         | 77 51 51.85                | 5450   | ...                                                  | 1                            | ... | 216      |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |
| 3                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |
| Kandoi                                  | h.s. Is situated right above and W. of the large village of that name.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>46</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                        | G.T.S.      | 46                        | 30 48 32.45                         | 77 45 42.00                | 5607   | ...                                                  | 1                            | ... | 256, 257 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |
| 46                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |
| Kandul                                  | Hill Temple Observed in 1874-75. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 52 6.28  | 77 44 39.68               | ...                                 | ...                        | ...    | ...                                                  | 259, 260                     |     |          |
| *Kandū                                  | h.s. On the well known hill of that name about 3 miles north of the village of Sainj on the right bank of the Tone river. It is situated on a spur between the Shallu stream and the Pābar river about 1 mile E. of Kuntil, ½ mile S.E. of Arch and 1 mile W. of Garar.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>41</td></tr></table> on it has been nailed on to the staff. Observed in 1852-53. This is a secondary station of the N.W. Himalaya Series; it was revisited in 1874-75 and was found in good order. ( <i>Dehra Dūn</i> ). | G.T.S.      | 41                        | 30 53 2.40                          | 77 45 50.26                | 9050   | ...                                                  | 1                            | ... | ...      |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |
| 41                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                      |                              |     |          |

\* These points appertain to the North-West Himalaya Series.

§ Interpolated point. Vide foot-note to page 286—*I*.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N.            | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies in feet per unit of triangles | Reference Number of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |                           |                                     | Position                   | Height |                                             |                               |
| †Karaunda                               | Mark (Saharānpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 6 9 <sup>o</sup>    | 77 39 16 <sup>3</sup>     | 973                                 | ...                        | ...    | ...                                         | ...                           |
| *Katgarh                                | s. In village on a head of the Surasti river. (Ambāla).                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 26 9 <sup>87</sup>  | 77 20 32 <sup>52</sup>    | ...                                 | ...                        | ...    | ...                                         | ...                           |
| *Katbla                                 | h.s. On spur between the Mārkaṇḍa river and the Jalar stream, about ¼ mile E. of village of same name, and 5 miles E.N.E. of Nāhan town. (Sirmūr).                                                                                                                                                                                                                                                                                                                                 | 30 35 4 <sup>54</sup>  | 77 22 31 <sup>41</sup>    | ...                                 | ...                        | ...    | ...                                         | ...                           |
| *Kauchunj                               | Hill Staff On spur between the Lojla and Palor streams, about 1¼ miles N. of Nāra on the latter, and 1½ miles E. of Talichong on the former stream. (Sirmūr).                                                                                                                                                                                                                                                                                                                      | 30 49 43 <sup>9</sup>  | 77 25 34 <sup>0</sup>     | 8724                                | 2                          | 1      | ...                                         | ...                           |
| †Khādri                                 | s. N.W. of the village of Khādri; marked by a platform 6 feet high. (Ambāla).                                                                                                                                                                                                                                                                                                                                                                                                      | 30 12 22 <sup>41</sup> | 77 24 8 <sup>34</sup>     | ...                                 | ...                        | ...    | ...                                         | ...                           |
| *Khandi                                 | h.s. On spur from Badrāj ending at the Jumna bridge, about 1¼ miles N.N.W. of Mandarsu village, ¼ mile S.S.W. of Khundi village, and ¼ mile S.S.E. of Bulair. (Dehra Dūn).                                                                                                                                                                                                                                                                                                         | 30 30 42 <sup>30</sup> | 77 54 23 <sup>23</sup>    | 4226                                | ...                        | 2      | ...                                         | ...                           |
| *Khizrabad                              | s. On slight eminence, at 296 feet N.E. of tower. (Ambāla).                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 17 47 <sup>0</sup>  | 77 29 58 <sup>4</sup>     | ...                                 | §                          | ...    | ...                                         | ...                           |
| †Khujuaur                               | h.s. On spur on N. face of the Siwālik range, about 1 mile N.W. of the Khujuaur pass. (Dehra Dūn).                                                                                                                                                                                                                                                                                                                                                                                 | 30 16 23 <sup>63</sup> | 77 52 58 <sup>67</sup>    | 2576                                | ...                        | ...    | ...                                         | ...                           |
| *Kirtah                                 | s. On pagoda on spur, about 2 miles N.E. of Koto on left bank of the Tons, and ¼ mile N.W. of Gabala village. (Dehra Dūn).                                                                                                                                                                                                                                                                                                                                                         | 30 42 17 <sup>32</sup> | 77 46 53 <sup>33</sup>    | ...                                 | ...                        | ...    | ...                                         | ...                           |
| Kishanpur                               | s. Is situated about 250 yards S.E. of the village of that name on the east bank of a canal (dry) which comes from the Jumna. The village of Baroliwāla is about a mile N. of the station and the road from Sahāpur to Ambāri runs about 50 yards E. of the station.<br>The station consists of a ⊙ cut on a stone embedded at the ground level in a paka pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high. Observed in 1873-74. (Dehra Dūn). | 30 25 43 <sup>97</sup> | 77 47 31 <sup>02</sup>    | 1582                                | ...                        | ...    | ...                                         | ...                           |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

§ Interpolated point. Vide foot-note to page 236—*I*.




## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |     |          |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-----|----------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                     |                              |     |          |
| *Kodain Hill Staff                      | On spur between the Lojla and Palor streams, about 2 miles W. a little N. of Mandul on the latter, 2½ miles E. of Chaita on the former, and 1½ miles S.E. of Bandul. (Sirmür).                                                                                                                                                                                                                                                                                                                          | 30 48 2'4   | 77 24 21'7                | 8055                                | 2                          | 1      | Feet                                                | ...                          |     |          |
| *Kolar h.s.                             | On spur, about ¼ mile N. a little W. of Thangar village in Taroch, ½ mile W. of Trihaur village, and 1 mile E. a little S. of Chauri h.s. (Taroch-Dehra Dún).                                                                                                                                                                                                                                                                                                                                           | 30 55 10'41 | 77 47 27'04               | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |          |
| *Kolar h.s.                             | On watershed of the Somb nadi and the Batta stream, about 1 mile N.W. of the Baila pass, ½ mile S.W. of Kolar village, and 1 mile N. a little E. of Dakronwala village. (Sirmür).                                                                                                                                                                                                                                                                                                                       | 30 29 56'72 | 77 24 42'61               | ...                                 | ...                        | ...    | ...                                                 | ...                          |     |          |
| Konain Hill Temple                      | Large temple in the village of Konain. Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 47 33'98 | 77 53 2'52                | ...                                 | ...                        | ...    | ...                                                 | 253                          |     |          |
| *Kora s.                                | In village, about ¼ mile N. of road from Sádhaura to Naraingarh. (Ambála).                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 31 55'9  | 77 6 2'6                  | ...                                 | §                          | ...    | ...                                                 | ...                          |     |          |
| Koruwa Bungulow                         | Top chimney of Military Works Bungulow. Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 39 41'60 | 77 51 9'32                | 5118                                | ...                        | 2      | ...                                                 | 227                          |     |          |
| *Kotála Fort                            | N.W. bastion, on road from Naraingarh to Bángarh. (Ambála).                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 34 21'1  | 77 2 33'8                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |     |          |
| Koti h.s.                               | On spur about 50 yards north of the village of that name. The village is about ¼ miles N.W. of the well known peak Dooban. The station consists of a ⊙ mark cut on an embedded stone, and a cairn of stones with a staff in the centre has been erected over the station mark. A tin plate marked with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>28</td></tr></table> has been nailed on to the staff. Observed in 1874-75. (Dehra Dún). | G.T.S.      | 28                        | 30 47 32'29                         | 77 50 9'80                 | 6447   | ...                                                 | 2                            | ... | 250, 251 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     |                            |        |                                                     |                              |     |          |
| 28                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     |                            |        |                                                     |                              |     |          |
| Kotra h.s.                              | Is situated on a conspicuous knob about ¼ mile W. of the village of that name, the stream of Kotra of which the precipitous bank reaches right up to the station, lies W. and the Barwa village about a mile N. of the station. The station is easy of access from the Kotra village past which passes the road from Huráwala to Dúdhli khad in Mussooree. The station is marked by a ⊙ cut on an embedded stone. Observed in 1873-74. (Dehra Dún).                                                     | 30 26 28'09 | 77 54 59'45               | 2949                                | ...                        | 2      | ...                                                 | 136                          |     |          |

\* These points appertain to the North-West Himalaya Series.

§ Interpolated point. Vide foot-note to page 236—1.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Number of Triangles |     |             |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|---------------------|-----|-------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                     |                     |     |             |
| †Kotra                                  | s. 200 yards E. of Kotra Tejuwála village in the tnsái of the Siwálik hills; marked by a platform 12 feet high. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 15 0'95  | 77 32 16'06               | ...                                 | ...                        | ...    | ...                                                 | ...                 |     |             |
| †Kotri                                  | h.s. On spur on S. face of the Siwálik range, between the Kálúwála and Kotri Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 15 7'13  | 77 48 28'47               | 2860                                | ...                        | ...    | ...                                                 | ...                 |     |             |
| *Kro                                    | h.s. On spur between the Ghaggar river and the Mangrail nadi, about 1 mile N.W. of Bugwag, 1½ miles N.E. of Dhámar, and 1½ miles E.S.E. of Kharaiti. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 44 38'21 | 77 4 43'43                | ...                                 | ...                        | ...    | ...                                                 | ...                 |     |             |
| *Krol                                   | Hill Staff On watershed of the Sutlej and Jumna, about 2½ miles W. of Sangar on the Usau stream, 1½ miles N.W. of Kote, and 1½ miles E. of Koris village in Baghat. ( <i>Simla</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 56 35'72 | 77 6 2'73                 | 7393                                | 6                          | 2      | 0'1                                                 | ...                 |     |             |
| *Kularmáira                             | s. On masjid in village on right bank of the Umar nadi, near road from Sádhaura to Bhúrúwála. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 28 44'1  | 77 2 29'8                 | ...                                 | §                          | ...    | ...                                                 | ...                 |     |             |
| *Kumigarh                               | h.s. On spur between the Batta stream and the Giri river, about 3½ miles N. a little E. of Futehpur village on the former, 1½ miles E. a little S. of Gatha, and 1½ miles S.W. of Chuchau. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                           | 30 32 40'11 | 77 34 14'08               | ...                                 | ...                        | ...    | ...                                                 | ...                 |     |             |
| Kuna                                    | h.s. Is situated about ¼ a mile N. of the village of that name and about 1½ miles N.E. of Hástit. Bági humlet is about ¼ a mile E. of the station.<br>The station consists of a  cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the mark-stone. A tin plate with <table border="1" data-bbox="480 1261 548 1305"><tr><td>G.T.S.</td></tr><tr><td>36</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.      | 36                        | 30 55 53'38                         | 77 51 50'07                | 5188   | ...                                                 | 2                   | ... | 271,<br>272 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     |                            |        |                                                     |                     |     |             |
| 36                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     |                            |        |                                                     |                     |     |             |
| *Kupar                                  | h.s. On spur between the Tons and Giri rivers, about 3½ miles W. a little N. of Bom on the Jungal stream, 1 mile N.E. of Art on a branch of the Palor, and ½ mile S.E. of Kupar village. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                             | 30 44 44'16 | 77 31 7'70                | 8332                                | ...                        | ...    | ...                                                 | ...                 |     |             |
| *Láha                                   | s. On paka tower on road from Sádhaura and Naraingarh to Bámgarh. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 31 1'4   | 77 6 38'9                 | ...                                 | §                          | ...    | ...                                                 | ...                 |     |             |

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* These points appertain to the North-West Himalaya Series.

§ Interpolated points. *Vide* foot-note to page 226—*I*.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |             |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|-------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                           |                                     | Position                   | Height |                                                     |                              |             |
| *Laharpur                               | s. On puka tower in village on right bank of the Jojur nadi, about 1½ miles N. of road from Sádhaura to Naruingarh. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 26 23.5   | 77 11 29.7                | ...                                 | §                          | ...    | ...                                                 | ...                          |             |
| *Láika                                  | h.s. On spur between the Rún and Jojur nadis, about 1½ miles N. of Mantapal on the latter, 1 mile S.W. of Silauti, and 1½ miles N.E. of Kairi village. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 32 6.40   | 77 13 19.79               | 2437                                | ...                        | 1      | ...                                                 | ...                          |             |
| *Lakondi                                | Pagoda On spur, about 1½ miles N.W. of Sigli village, 1½ miles E. of Uthon, and 1½ miles S.S.E. of Mushak village, in Jaunsár Báwar. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 45 23.5   | 77 48 11.9                | 9188                                | 2                          | 1      | ...                                                 | ...                          |             |
| Lakonwála                               | Bungalow Centre of top chimney of the house. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 25 34.08  | 77 45 47.98               | ...                                 | ...                        | ...    | ...                                                 | ...                          |             |
| *Langra                                 | h.s. On spur between the Bangal and Súinj streams, about 1½ miles S.E. of Thamma village, 1 mile N.W. of Paub, and 1½ miles N. of Kulwi. ( <i>Sirmúr-Jubbál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 46 42.32  | 77 35 32.02               | 8600                                | ...                        | 1      | ...                                                 | ...                          |             |
| Lisani                                  | h.s. Is situated on the hill of that name, about ½ of a mile S.W. of the village of Koti and about 1½ miles S.W. of the village of Dukerna. Chakráta Post Office lies about 3 miles N.E. of the station.<br>The station consists of a $\odot$ mark cut on an embedded stone and a cairn of stones 5 feet high has been erected over the station mark. A tin plate with the inscription<br><table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.<br/>10</td></tr></table> on it has been nailed on to the staff erected in the centre of the cairn. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.<br>10 | 30 40 35.76               | 77 49 37.56                         | 6314                       | ...    | 1                                                   | ...                          | 228,<br>229 |
| G.T.S.<br>10                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                           |                                     |                            |        |                                                     |                              |             |
| Lokár                                   | Bungalow N. gable end. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 51 12.33  | 77 58 12.00               | 6958                                | ...                        | 2      | ...                                                 | 263,<br>264                  |             |
| Maidraih                                | Bungalow Front W. porch. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 56 48.65  | 77 53 8.95                | 3174                                | ...                        | 2      | ...                                                 | 273,<br>274                  |             |
| Mákháta                                 | Bungalow N.W. corner. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 37 44.62  | 77 55 9.92                | ...                                 | ...                        | ...    | ...                                                 | 225,<br>226                  |             |

\* These points appertain to the North-West Himalaya Series.

‡ Interpolated point. *Vide* foot-note to page 238—1.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF MARKS DETERMINING |        | Discrepancies per cent. in common side of triangles | Number of Triangles | Feet |     |          |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|---------------------|------|-----|----------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                    | Height |                                                     |                     |      |     |          |
| *Makti Hill Staff                       | On the Chakráta spur, about 3½ miles N N.W. of Bairát fort, ½ mile N.E. of Bakra village, 1 mile N.W. of Kathul village, and ½ mile S.E. of Tharona, in Jaunsár Báwar. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                            | 30 37 57.20 | 77 55 2.19                | ...                                 | 4                           | ...    | ...                                                 | ...                 | 0.4  |     |          |
| †Mandi s.                               | 215 paces from the right bank of Jumna River. (Ambála).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 5 30.31  | 77 21 29.63               | ...                                 | ...                         | ...    | ...                                                 | ...                 | ...  |     |          |
| Mashak Hill Temple                      | Small temple in the village of Mashak. Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 46 25.14 | 77 48 6.04                | 7106                                | ...                         | 2      | ...                                                 | ...                 | 232  |     |          |
| Mihúnwála s.                            | Is situated about ½ mile S.W. of the village of that name, about 1½ miles N.E. of the church at Annfield and about 1 mile S.E. of the thána of Jiwangarh on the high bank which comes from Chúnarpur and goes towards the thána.<br>The station consists of a ⊙ mark cut on an embedded stone, and a paku pyramidal pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high has been built over the station mark. Observed in 1873-74. (Dehra Dún).                                                                        | 30 28 46.14 | 77 48 6.78                | 1589                                | ...                         | 2      | ...                                                 | ...                 | 141  |     |          |
| *Mirútani h.s.                          | On spur between the Bangal and Neweli streams, about ¼ mile S.E. of Chandpur fort on same spur, 2 miles W. a little S. of Palúla village, and 1½ miles N. of Kuni. (Sirmúr).                                                                                                                                                                                                                                                                                                                                                                   | 30 42 7.75  | 77 39 41.15               | 8247                                | ...                         | 1      | ...                                                 | ...                 | ...  |     |          |
| *Mirzapur s.                            | In village about 3½ miles E.N.E. of Sádhará. (Ambála).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 25 4.7   | 77 16 39.8                | ...                                 | ...                         | ...    | ...                                                 | ...                 | ...  |     |          |
| †Mohán Hill Mark                        | On Siwálik Range. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 13 0     | 77 52 20                  | 3065                                | ...                         | ...    | ...                                                 | ...                 | ...  |     |          |
| Moila h.s.                              | Is situated on the top of the well known hill of the same name about a mile west of the village of Mashak and about a mile N.W. of the Kinani Forest Bungalow.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>49</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. (Dehra Dún). | G.T.S.      | 49                        | 30 46 35.75                         | 77 47 2.00                  | 9058   | ...                                                 | 2                   | ...  | ... | 240, 241 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     |                             |        |                                                     |                     |      |     |          |
| 49                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     |                             |        |                                                     |                     |      |     |          |

\* These points appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Morni Hill Fort                        | E. tower, on watershed of the Tangra and Bulleáli nadis and the Ghaggar river, about 2½ miles E. of Pullásura town. ( <i>Ambála</i> ).                                                                                                        | 30 41 17.90 | 77 5 2.05                 | ...                                 | 3                          | ...    | Feet 0.6                                            | ...                          |
| Mulakawála Bungalow                     | Top of N. Chimney. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                 | 30 27 1.44  | 77 46 27.24               | 1527                                | ...                        | ...    | ...                                                 | ...                          |
| *Nága h.s.                              | On spur between the Tone river and the Amláwa stream about ½ mile N.E. of Pinejra stream ½ mile S.E. of Surian and ½ mile W.S.W. of Koháli in Jaunsár Bāwar. Observed in 1851-53. The station was revisited in 1874-75. ( <i>Dehra Dún</i> ). | 30 36 16.52 | 77 50 37.61               | 6731                                | ...                        | 3      | ...                                                 | ...                          |
| *Nága Hill Temple                       |                                                                                                                                                                                                                                               | 30 36 16.3  | 77 50 38.2                | ...                                 | 5                          | ...    | 1.7                                                 | ...                          |
| Nagthat Bungalow                        | Chimney. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                           | 30 34 20.25 | 77 58 28.05               | 6072                                | ...                        | 2      | ...                                                 | 221                          |
| *Nágtát (Nagthat) h.s.                  | On spur, about 2 miles S.E. of Bairát Fort, 1 mile N. of Lauári village and ½ mile S. W. of Shila, in Jaunsár Bāwar. ( <i>Dehra Dún</i> ).                                                                                                    | 30 34 10.22 | 77 57 54.05               | 6946                                | ...                        | 1      | ...                                                 | ...                          |
| *Náhan h.s.                             | On rock above Rája's house in town. ( <i>Sirmúr</i> ).                                                                                                                                                                                        | 30 33 48.57 | 77 17 48.19               | 3043                                | ...                        | 1      | ...                                                 | ...                          |
| *Náhan Sati Temple                      | S. of town. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                | 30 33 35.4  | 77 17 30.0                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Nakeora h.s.                           | About ½ mile E. of Kádi village at bend of road from Mussoree to Simia, ¼ mile N. W. of Bulait, and 1 mile S.S.W. of Mauna. ( <i>Jubbál</i> ).                                                                                                | 30 54 0.29  | 77 40 34.52               | 4674                                | ...                        | 1      | ...                                                 | ...                          |
| *Naraingarh s.                          | On staircase in fort, on road from Sádhaura to Rámgarh. ( <i>Ambála</i> ).                                                                                                                                                                    | 30 28 51.0  | 77 7 49.5                 | ...                                 | §                          | ...    | ...                                                 | ...                          |
| *Nigáli s.                              | On spur between the Giri and the Tone rivers, about 2 mile W. of Shiwa village above the latter, 1½ miles N.N.E. of Kolekhina, ¼ mile S.S.W. of Nigáli village, and 2½ miles E.N.E. of Kotgarh. ( <i>Sirmúr</i> ).                            | 30 34 10.15 | 77 43 16.11               | 6459                                | ...                        | 1      | ...                                                 | ...                          |
| †No. 15 s.                              | On right bank of Jamna river. ( <i>Ambála</i> ).                                                                                                                                                                                              | 30 2 9.51   | 77 16 56.01               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †No. 16 s.                              | In Kamálpur village, on left bank of Jamna river. ( <i>Sakáranpur</i> ).                                                                                                                                                                      | 30 3 2.58   | 77 18 55.83               | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

§ Interpolated station. Vide foot-note to page 236—1.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                       |
| †No. 20                                 | s. On right bank of Jumna river. ( <i>Ambála</i> ).                                                                                                                                           | 30 11 7.54  | 77 28 19.38               | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| †No. 21                                 | s. On left bank of Jumna river. ( <i>Saháranpur</i> ).                                                                                                                                        | 30 12 10.29 | 77 30 8.57                | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| †No. 22                                 | s. On right bank of Jumna river. ( <i>Ambála</i> ).                                                                                                                                           | 30 14 19    | 77 30 41                  | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| *Olong Hill Temple                      | On spur S.E. of the Palor stream, about 1 mile S.E. of Pab, 1½ miles E. of Ladlána, and ½ mile N. of Ranupwa village. ( <i>Sirmúr</i> ).                                                      | 30 43 6.8   | 77 28 12.6                | ...                                 | 3                          | ...    | 7.1                                                 | ...                   |
| *Ori h.s.                               | On spur, about ½ mile N. of Chauri h.s., and ½ mile S.W. of Púnol village in Jaunsár Báwar. ( <i>Dehra Dún</i> ).                                                                             | 30 55 41.44 | 77 46 20.13               | 8187                                | ...                        | 3      | ...                                                 | ...                   |
| *Pakúa h.s.                             | On spur between the Tons and Giri rivers, about 1 mile W.N.W. of Nigáli village, 1½ miles N.W. of Nigáli h.s., and 2½ miles N.E. of Kotgarh. ( <i>Sirmúr</i> ).                               | 30 34 57.39 | 77 42 33.09               | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| †Palána s.                              | 100 yards W. of Buri nadi and 0.25 of a mile E. of Palána village; marked by a platform 7 feet high. ( <i>Saháranpur</i> ).                                                                   | 30 0 48.82  | 77 19 49.46               | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| †Pánjúpúr s.                            | E. of the village of Pánjúpúr; marked by a platform 6 feet high. ( <i>Ambála</i> ).                                                                                                           | 30 5 25.16  | 77 16 17.36               | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| *Patarnála h.s.                         | On spur, about 2½ miles W. of Tipri on a branch of the Shalu stream, ½ mile N. of Jabun, and 1½ miles S.E. of Khaina on the Choti nála, a branch of the Giri river. ( <i>Balzan-Jubbál</i> ). | 30 59 59.17 | 77 31 11.11               | 9353                                | ...                        | 2      | ...                                                 | ...                   |
| *Pauta Temple                           | On right bank of the Jumna, about 3½ miles below its junction with the Giri river. ( <i>Sirmúr</i> ).                                                                                         | 30 26 6.8   | 77 37 23.6                | ...                                 | 3                          | ...    | 1.1                                                 | ...                   |
| *Philor Hill Staff                      | On spur between the Roti Rau and the Rau Pulhauri stream, about 1 mile N.N.W. of Philor village on the latter, and 2 miles N.E. of the Nagli on the former. ( <i>Ambála-Sirmúr</i> ).         | 30 25 13.61 | 77 26 50.40               | ...                                 | 4                          | ...    | 0.3                                                 | ...                   |
| Pir Deota Hill Temple                   | Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                    | 30 35 59.56 | 77 54 42.08               | ...                                 | ...                        | ...    | ...                                                 | 322                   |

† These stations appertain to the Great Arc Meridional Series—Section 24° - 80°.

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Punāba                                 | h.s. About ½ mile N.N.E. of the Jumna bridge, and 1 mile E. a little S. of Bagna village, in Jaunsār Bāwar. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                      | 30 32 41.75 | 77 53 49.70               | 3693                                | ...                        | 2      | Feet<br>...                                         | ...                          |
| *Raepur                                 | White Temple S. of fort, on road between Narsingarh and Rāngarh. ( <i>Ambāla</i> ).                                                                                                                                                                                                                                                                                                                                                                                                    | 30 35 9.87  | 77 1 14.43                | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| Rājawāla                                | Bungalow Chimney. Observed in 1873-74. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 23 24.60 | 77 53 16.55               | 1993                                | ...                        | 1      | ...                                                 | 161                          |
| *Rājgarh                                | Hill Fort On spur between the Usan and the Koal streams, about 2½ miles W. of Sar village at junction of the former with the Giri river, 1 mile W.N.W. of Dhār, and ½ mile E. of Dowan. ( <i>Patiāla</i> ).                                                                                                                                                                                                                                                                            | 30 53 13    | 77 9 41                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| †Rājghāt                                | s. ( <i>Ambāla</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 6 11.21  | 77 24 33.32               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Rājghāt                                | s. Large stone on left of the Jumna above its junction with the Asan river. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                      | 30 26 39.3  | 77 40 26.7                | ...                                 | §                          | ...    | ...                                                 | ...                          |
| *Rāma                                   | Hill Staff On spur between the Mārkaṇḍa river and the Jalur stream, about 1½ miles N. of Barābona village near head of the former, and ½ mile S.E. of Rāma village. ( <i>Sirmūr</i> ).                                                                                                                                                                                                                                                                                                 | 30 32 38.15 | 77 23 29.36               | ...                                 | 3                          | ...    | 0.7                                                 | ...                          |
| *Rāmpur, I                              | Is situated in pargana Chichirnoli, zilla Ambāla, on the lower range of hills to the north of a small village, after which it is called. The pillar is 2 feet high, and has two mark-stones, one at surface, and the other at bottom. ( <i>Ambāla</i> ).                                                                                                                                                                                                                               | 30 27 33.57 | 77 21 21.20               | 2171                                | ...                        | ...    | ...                                                 | ...                          |
| *Rāmpur                                 | s. In village about ½ mile N. of junction of the Somb and Yar Budri nadis, on left bank of the latter. ( <i>Ambāla</i> ).                                                                                                                                                                                                                                                                                                                                                              | 30 26 27.11 | 77 21 25.88               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Rāmpur                                  | s. Is situated on the S. bank of a dry pond about midway between the two villages of Rāmpur which lie off the right bank of the Asan river. It is about 3 miles N.W. of the Dohra Dūn Base-line W. End Tower Station. The station consists of a ⊙ mark cut on a stone embedded in the ground level and a paka pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high has been erected over the station mark. Observed in 1873-74. ( <i>Dehra Dūn</i> ). | 30 27 15.64 | 77 40 13.89               | 1411                                | ...                        | 1      | ...                                                 | 146                          |

\* These points appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 20°.

‡ Interpolated station. Vide foot-note to page 236—L

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile of common side of triangles | Height of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|--------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                    |                    |
| Rámpur Mandi                            | s. Also known as Rájghát Mandi. Is situated on the top of the flat roofed Police station at Rájghát Mandi. A $\odot$ on the roof, 11 feet 6 inches above the surface of the ground marks the station. It was discovered on completion of the work at this station that the roof of the building was to be repaired. To preserve the station dot therefore, four $\odot$ s were inscribed on the parapet, as in the diagram; a and b are on the N.E. parapet, d is 13 feet 5 inches from the N.E. corner of the top of the house and c is 10 feet from the N. corner of the house. Observed in 1873-74. ( <i>Dehra Dún</i> ).<br> | 30 26 38·84 | 77 40 30·67               | 1325                                | ...                        | 2      | Feet<br>...                                        | 159,<br>160        |
| Rámpur Mandi Workshop                   | Chimney. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 26 34·26 | 77 40 19·80               | ...                                 | ...                        | ...    | ...                                                | ...                |
| *Ránipur                                | Dargáh 10 feet from N.E. pillar on the Suresti river. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 25 6·3   | 77 19 48·4                | ...                                 | §                          | ...    | ...                                                | ...                |
| *Rantam (Rantumma)                      | h.s. About $\frac{1}{4}$ mile E.S.E. of Rantam temple, $\frac{1}{4}$ miles W. a little N. of the Jumna bridge, and $\frac{1}{2}$ mile S.S.W. of Bagna village. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 32 12·53 | 77 52 42·02               | 4898                                | ...                        | 3      | ...                                                | ...                |
| *Rantam (Rantumma)                      | Temple On spur, about $\frac{1}{4}$ miles E. of Kálsi, and $\frac{1}{4}$ miles N.E. of junction of the Amláwa stream and the Jumna river. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 32 17·7  | 77 52 25·2                | ...                                 | 2                          | ...    | ...                                                | ...                |
| Rantumma                                | h.s. Is situated on a hill in the lands of Panjgaon between the Jumna river and the Amláwa Rau. The village of Bhaundi is about 330 yards South-West of the station and the well known Kálsi village is about $\frac{1}{2}$ miles W. A bridle path passes about 600 yards below and S. to S.W. of the station. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                        | 30 32 13·21 | 77 52 23·32               | 5146                                | ...                        | 2      | ...                                                | 205                |
| †Basálpur                               | s. $\frac{1}{5}$ of a mile N.W. of Basálpur and the same distance W. of Lodipur; marked by a platform 6 feet high. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 10 28·84 | 77 32 29·89               | ...                                 | ...                        | ...    | ...                                                | ...                |
| *Ratawála                               | s. On temple in village between the Súkar and the Chittung nadis. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 23 31·3  | 77 16 17·3                | ...                                 | §                          | ...    | ...                                                | ...                |
| *Resaur                                 | s. On N.E. bastion of old fort on right bank of the Rún nadi, on road between Sádhaura and Narsingarh. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 27 3·9   | 77 9 29·9                 | ...                                 | §                          | ...    | ...                                                | ...                |

\* These points appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

§ Interpolated points. Vide foot-note to page 236—*I*.



DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in computations of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                           |                                     | Position                   | Height |                                                     |                              |
| *Rogi                                   | h.s. On spur, about 1½ miles N. of Jokeia at junction of the Amlāwa stream with the Jumna river, about 1 mile N.W. of Rantam temple, and ½ mile S. of Dongri on the Amlāwa stream ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 32 45' 9"  | 77 51 45' 3"              | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| Rádarpur                                | s. Is situated on the right bank of the Gáhana nadi close to the edge of the steep bank and to the S. of the village. The station is identical with that of the Forest Survey. The station consists of a ⊙ mark cut on an embedded stone, and a paka pyramidal pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high has been built over station mark. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                            | 30 26 47' 19" | 77 51 43' 18"             | 2033                                | ...                        | I      | ...                                                 | 130                          |
| *Sádákpur                               | s. In village on right bank of the Khundra nadi, about 1½ miles N. of its junction with the Nukti nadi, and 2 miles N.N.E. of Sádhaura. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 25 7' 1"   | 77 13 53' 7"              | ...                                 | §                          | ...    | ...                                                 | ...                          |
| *Sádhaura                               | s. On N.E. face of western fort in town of that name on left bank of the Nukti nadi. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 20 20' 1"  | 77 13 11' 7"              | ...                                 | §                          | ...    | ...                                                 | ...                          |
| *Sádúwála                               | Hill Staff On spur, at head of the Lohgarh Rau and the Roti Rau, about 1½ miles N. of Khruk on the latter, 2½ miles S.E. of the Baila pass, 2½ miles S.S.E. of Kolar and 2½ miles S.W. of the Sádúwála camping ground. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                          | 30 27 32' 79" | 77 27 22' 76"             | ...                                 | 4                          | ...    | 0' 7"                                               | ...                          |
| †Sabanera                               | h.s. On summit of Siwálik range, at head of Gir-ki-Rau. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 18 54' 37" | 77 46 2' 43"              | 3011                                | ...                        | ...    | ...                                                 | ...                          |
| Sabaapur                                | s. Is about a hundred yards E. of a dry tank on an elevated spot surrounded by cultivation. The station takes its name from the well-known village of that name. The <i>Dehra Dún</i> and Rájghát road runs about a hundred yards S. of the station. The thuna at Sabaapur is ½ mile N.W. and the place where the road crosses the Chor Khála stream is about 2 yards S.E. of the station.<br>The station consists of a ⊙ cut on a stone embedded in the ground level and a paka pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high has been built over the station. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 23 13' 65" | 77 48 57' 24"             | 1609                                | ...                        | I      | ...                                                 | 163, 164                     |
| Sabaapur                                | Temple Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 23 37' 04" | 77 48 29' 29"             | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

§ Interpolated stations. *Fide* foot-note to page 236—I.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per million compared with height by aneroid | Number of Observations |             |             |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------------|------------------------|-------------|-------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                           |                        |             |             |
| Sainj                                   | h.s. Is situated on a knoll about 300 yards west of the village of that name. Pheraj khara and Kopsar lie about 1½ and 1 mile W. of the station respectively.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been erected over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>45</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.      | 45                        | 30 50 52.69                         | 77 46 8.76                 | 6210   | ...                                                       | 2                      | Feet<br>... | 244,<br>245 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                           |                        |             |             |
| 45                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                           |                        |             |             |
| Samogi                                  | h.s. Is situated on a knoll about 200 yards S.W. of the village of that name.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in the centre has been placed over the station mark. A tin plate with <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>53</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                  | G.T.S.      | 53                        | 30 43 3.33                          | 77 56 10.63                | 6050   | ...                                                       | 2                      | ...         | 232,<br>233 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                           |                        |             |             |
| 53                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     |                            |        |                                                           |                        |             |             |
| *Samota                                 | Hill Temple White temple on spur, about ½ mile N.E. of Bubal village, ½ mile W.N.W. of Mau, and 6½ miles N.E. of Kotáha fort. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 38 0.6   | 77 7 35.7                 | ...                                 | 2                          | ...    | ...                                                       | ...                    |             |             |
| *Sáo                                    | Hill Staff On spur, about 1½ miles E., a little S. of Kandal at head of the Kutno stream, 1½ miles N. of Mandauri, and 1½ miles W. of Káto village. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                        | 30 44 54.87 | 77 54 42.47               | ...                                 | 3                          | ...    | 0.1                                                       | ...                    |             |             |
| *Sarai                                  | Bungalow Chimney. On ridge, on road from Náhan to Dagshai. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 43 4.20  | 77 11 36.13               | ...                                 | 3                          | ...    | 0.1                                                       | ...                    |             |             |
| *Sarai                                  | Hill Staff On ridge, E. of road from Náhan to Dagshai, about ½ mile S. of Sarai Bungalow. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 42 48.27 | 77 11 39.50               | 5460                                | 3                          | 1      | 0.8                                                       | ...                    |             |             |
| *Sarai                                  | h.s. About 3 miles N.E. a little N. of the Chúr peak, on stream which flows S. of Chepál and enters the Shalu. The station is a little N.E. of the temple. ( <i>Jubbál</i> ).                                                                                                                                                                                                                                                                                                                                                                                    | 30 54 16.48 | 77 30 55.86               | 7246                                | ...                        | 1      | ...                                                       | ...                    |             |             |
| *Sarai                                  | Temple About 3 miles N.E. a little N. of the Chúr peak, on stream which flows S. of Chepál and enters the Shalu. ( <i>Jubbál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 54 14.99 | 77 30 54.81               | 7243                                | 3                          | 3      | 0.7                                                       | ...                    |             |             |
| †Sháhpur                                | s. 0.5 of a mile N. of Sháhpur in the Tarái of the Siwálik hills; marked by a platform 6 feet high. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 12 14.15 | 77 38 19.13               | ...                                 | ...                        | ...    | ...                                                       | ...                    |             |             |

\* These points appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF TAXA DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Shábpur                                 | s. Is situated 8 feet on the right hand side of the road from Dehra Dún to Rájghát and 100 yards west of the village of that name. Rangarwála village is less than $\frac{1}{4}$ mile S. and Panditwári village about $\frac{1}{4}$ mile E. of the station.<br>The station consists of a $\odot$ mark cut on a stone embedded in the ground level and a paka pyramidal pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high has been built over the station. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 20 2'80  | 77 58 44'76               | 2057                                | ...                        | 2      | Feet<br>...                                         | 171                          |
| *Shahzádpur                             | Temple Spire of temple in fort, about $\frac{1}{4}$ mile W. of Májra on road from Sádhaura to Bhúrwalá where it crosses the Umar nadi. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                                                                                                                      | 38 26 45'6  | 77 1 58'9                 | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Sherpur                                 | h.s. Is situated on the knoll about 200 yards immediately above and east of the village of that name on the top of the spur. The village of Chilian is about $\frac{1}{4}$ of a mile S.W. of the station across the Naron stream. A $\odot$ cut on an embedded stone marks the station. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                             | 30 30 21'84 | 77 52 24'60               | 2376                                | ...                        | 1      | ...                                                 | 204                          |
| *Sbi, V                                 | Is situated in pargana Karli, taluk Sirmúr, on a low spur running westerly from the Chúr mountain. The station is distant about 12 miles from the junction of the Giri and Jalar rivers; the road from the latter to the former passes through the villages of Katra and Manjon.<br>The pillar is 2 feet high, and has two mark-stones, one at top, and the other at bottom. ( <i>Sirmúr</i> ).                                                                                                                                | 30 51 56'51 | 77 24 6'82                | 9717                                | ...                        | ...    | ...                                                 | ...                          |
| †Shorpur                                | h.s. On peak of Siwálík range about 1 mile S. of the Tunnel. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 13 45'59 | 77 57 30'61               | 2916                                | ...                        | ...    | ...                                                 | ...                          |
| †Shujápur                               | s. In the old bed of the Jumna, 0.75 of a mile N. of Shujápur village and 0.75 of a mile W. of Haidarpur; the Jumna flows 1 mile to W., marked by a platform 6 feet high. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                               | 30 4 23'23  | 77 22 21'14               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Sidhowála                               | s. Is situated in the lands of Manduwála village 150 yards S.W. of the hamlet of Udampur close to the old road which skirts the Government Forest of Dholkot on the east and south and separates it from Bishanpur and Manduwála.<br>The station consists of a $\odot$ mark cut on an embedded stone and a paka pyramidal pillar 3 feet square at base, 2 feet square at top and 3 feet 6 inches high has been built over the station. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                              | 30 22 19'54 | 77 56 12'47               | 2106                                | ...                        | 2      | ...                                                 | 169                          |

\* These points appertain to the North-West Himalaya Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common side of triangles | Reference Triangle |     |     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|--------------------|-----|-----|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                           |                                     | Position                   | Height |                                                    |                    |     |     |
| Sidh Tibā                               | h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 31 2'59"  | 77 48 8'06"               | 2794                                | ...                        | 2      | Feet ...                                           | 140                |     |     |
| *Silāi                                  | House S. end of the house. On spur between the Neweli stream and the Tons river, about ½ mile W. of Bohawa Pīr, ½ mile N.E. of Jajerna village, and 1½ miles S.W. of Bela. ( <i>Sirmūr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 40 24'5"  | 77 42 26'0"               | ...                                 | 2                          | ...    | ...                                                | ...                |     |     |
| Silgur                                  | h.s. Is situated about 60 yards S. of the well-known pagoda of the same name on the Chakrāta spur. The station is about 3 miles E. of the Sainā encampment on Kālsī and Chakrāta road and about a mile and a half E. of the large village of Semalta and about 1½ miles N.W. of the Bairāt Fort. The road from Mussooree to Chakrāta runs about half a mile below and E. of the station.<br>The station consists of a ⊙ mark cut on an embedded stone and a cairn of stones 5 feet high with a staff in centre has been erected over the station mark.<br>A tin plate with the inscription <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>G.T.S.</td></tr><tr><td>8</td></tr></table> on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | G.T.S.       | 8                         | 30 36 19'83"                        | 77 55 17'20"               | ...    | ...                                                | ...                | ... | 208 |
| G.T.S.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                           |                                     |                            |        |                                                    |                    |     |     |
| 8                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                           |                                     |                            |        |                                                    |                    |     |     |
| *Silgur                                 | Pagoda On the Chakrāta spur, about 1½ miles N.W. of Bairāt, and ½ mile W. of road from Mussooree to Simla. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 36 22'2"  | 77 55 17'0"               | ...                                 | 3                          | ...    | 0'8"                                               | ...                |     |     |
| *Simla                                  | Hill Staff On spur between the Neweli stream and the Giri river, about 1½ miles N. a little E. of Pipulath village above the Giri, 1 mile W. of Majoli, and 1 mile E. of Kotar. ( <i>Sirmūr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 36 42'11" | 77 33 57'64"              | 6676                                | 4                          | 1      | 0'2"                                               | ...                |     |     |
| *Sirgul                                 | h.s. On temple on spur between the Neweli stream and the Tons river, about 1½ miles N.W. of Kallak on the former, and 1½ miles W. of Chamba on the latter. ( <i>Sirmūr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 39 35'35" | 77 45 1'63"               | 7628                                | ...                        | 2      | ...                                                | ...                |     |     |
| *Sirgul                                 | Pagoda See Silgur Pagoda.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ...          | ...                       | ...                                 | ...                        | ...    | ...                                                | ...                |     |     |
| †Sirsāwa                                | Tehsildar's Kachahri ( <i>Sahāranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 0 59"     | 77 23 53"                 | ...                                 | ...                        | ...    | ...                                                | ...                |     |     |
| Smithnagar                              | s. Is situated in the lands of the Dehra Dún Tea Company 200 yards N. of the village of that name. The high road from Dehra Dún to Rājghāt Mandi runs about 100 yards N. of the station.<br>The station consists of a ⊙ mark cut on a stone embedded on the boundary of two fields and a paka pyramidal pillar 3 feet square at bottom, 2 feet square at top and 3 feet 6 inches high has been built over the station mark. Observed in 1878-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                    | 30 20 8'36"  | 77 57 33'43"              | 1992                                | ...                        | ...    | ...                                                | ...                |     |     |

\* These points appertain to the North-West Himalaya Series.

† This point appertains to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Soán Hill Staff                        | On spur between the Jalar stream and the Giri river, about 1½ miles N.W. of Baichibág, ¼ mile N.E. of Nir, and 1½ miles W. of Binu. (Sirmúr).                                                                                                                                                                                                                                                                                                                                 | 30 40 42.65 | 77 20 27.32               | ...                                 | 3                          | ...    | Feet<br>0                                           | ...                          |
| *Sohet h.s.                             | On spur, about 1½ miles N. of Samota temple, ½ mile S. of Soha village, ¼ mile N.W. of Dobika, and 7 miles N.E. of Kotáha on road from Naraingarh to Rámgarh. (Ambála).                                                                                                                                                                                                                                                                                                       | 30 39 9.77  | 77 7 30.72                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Sot Hill Staff                         | On spur, about 1½ miles N. of Lohára above the Giri river, and 1½ miles E. of Raila. (Sirmúr).                                                                                                                                                                                                                                                                                                                                                                                | 30 40 46.53 | 77 26 26.28               | ...                                 | 3                          | ...    | 0                                                   | ...                          |
| Suban Hill Temple                       | Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 49 1.29  | 77 43 38.76               | ...                                 | ...                        | ...    | ...                                                 | 258                          |
| *Suki Sultán Square Temple              | On spur, about 2½ miles N. of Khizrabad, and 1 mile N. a little E. of Khizri village. (Ambála).                                                                                                                                                                                                                                                                                                                                                                               | 30 20 4.27  | 77 30 31.66               | ...                                 | 3                          | ...    | 0.1                                                 | ...                          |
| †Sultánpur Temple                       | In village. (Saháranpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 5 2.8    | 77 28 30.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Súrna h.s.                              | Is situated on a conspicuous knoll about ½ a mile N. W. of the village of Malla Súrna and about half a mile east of the junction of the Súrna stream with the Gáhana nadi. The village of Rádurpur is about 1½ miles W. of the station.<br>The station consists of a ⊙ mark cut on an embedded stone and a puka pyramidal pillar 3 feet square at base, 2 feet square on top and 3 feet 6 inches high has been erected over the mark-stone. Observed in 1873-74. (Dehra Dún). | 30 26 58.94 | 77 53 14.12               | 2496                                | ...                        | 1      | ...                                                 | 138                          |
| *Sursu White Pagoda                     | On spur between the Koal stream and the Giri river, about 1½ miles S. of their junction, 1½ miles W. of Shekerára on the latter, and ¼ mile N.W. of Sursu village on the same spur. (Sirmúr).                                                                                                                                                                                                                                                                                 | 30 51 9.9   | 77 12 22.7                | 5644                                | 2                          | 1      | ...                                                 | ...                          |
| *Táru h.s.                              | On spur between the Giri and Tons rivers, about 2½ miles W. of Badána on right bank of the latter, ½ mile E.S.E. of Nagaitha, and 1½ miles W.N.W. of Mauna. (Sirmúr).                                                                                                                                                                                                                                                                                                         | 30 32 17.61 | 77 46 48.04               | 4316                                | ...                        | 1      | ...                                                 | ...                          |
| *Tendwar s.                             | Or Nandwál, on N.W. bastion of fort to the left of the Umar nadi, about ¼ mile E. of Májra villoge, and ¼ mile S. of Bharápur. (Ambála).                                                                                                                                                                                                                                                                                                                                      | 30 26 47.72 | 77 3 3.29                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

† This point appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                           |                                     | Position                   | Height |                                                     |                       |
| Tharona                                 | h.s. Is situated on a clear knoll on the Chakráta-Pokhri spur about a mile and a half N.E. of the large village of Udpalra and about a mile and a quarter N.W. of the Pokhri bungalow on the same spur.<br>A $\odot$ on a stone embedded, marks the station and a staff with a cairn of stones 5 feet high has been erected over the station mark. A tin plate with $\boxed{\text{G.T.S.}}_4$ on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | 30 38 23' 59" | 77 54 23' 04"             | 6558                                | ...                        | 2      | Feet ...                                            | 214, 215              |
| *Tharona                                | h.s. On the Chakráta spur, about 4 miles N.N.W. of Bairát Fort, $1\frac{1}{4}$ miles E.N.E. of Uproli village, $\frac{3}{4}$ mile N.W. of Makti Hill Staff, and $\frac{1}{2}$ mile W. of Nagahu village, in Jaunsár Báwar. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                | 30 38 27' 97" | 77 54 29' 53"             | 6571                                | ...                        | 3      | ...                                                 | ...                   |
| Tikeri                                  | Hill Temple Or Telri Hill Temple. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                    | 30 51 20' 76" | 77 47 48' 44"             | ...                                 | ...                        | ...    | ...                                                 | 261, 262              |
| *Tikeri                                 | Temple On road from Mussooree to Simla, about $1\frac{1}{4}$ miles N. of Kabala village, and $\frac{3}{4}$ mile E. a little N. of Dukra village. ( <i>Jubbai</i> ).                                                                                                                                                                                                                                                                                                             | 30 54 42' 3"  | 77 44 54' 2"              | 6432                                | 2                          | 2      | ...                                                 | ...                   |
| *Tikri                                  | h.s. On watershed of the Ghaggar river and the Tangra nadi, about $1\frac{1}{4}$ miles N.E. of Pullásura town $1\frac{1}{2}$ miles N.W. of Morni tower, and $\frac{3}{4}$ mile N.W. of Oran. ( <i>Ambála</i> ).                                                                                                                                                                                                                                                                 | 30 42 9' 27"  | 77 3 50' 90"              | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| *Tilokpur                               | Tower On spur, about 2 miles E.N.E. of Girdwára on the Rán nadi, 1 mile N. of Kairi, and 5 miles W.S.W. of Náhan. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                                                                                                            | 30 32 23' 0"  | 77 12 30' 9"              | 1399                                | 4                          | 1      | 1' 3"                                               | ...                   |
| †Timli Temple                           | s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 22 26' 15" | 77 43 23' 40"             | ...                                 | ...                        | ...    | ...                                                 | ...                   |
| *Tundála                                | Hill Staff On spur between the Palor and Lojla streams, about 3 miles N. of Shiém village near junction of the former stream with the Giri river, 1 mile N.W. of Gidija, and 1 mile E. of Loj. ( <i>Sirmúr</i> ).                                                                                                                                                                                                                                                               | 30 43 58' 3"  | 77 21 57' 4"              | 6447                                | 2                          | 1      | ...                                                 | ...                   |
| * Pk.1<br>53 F                          | ... On spur between the Giri and Tons rivers, about $1\frac{1}{4}$ miles N.W. of Shiwa village, $\frac{3}{4}$ mile E. of Nigáli village, and $1\frac{1}{4}$ miles S.W. of Domtval. ( <i>Sirmúr</i> ).<br>(Called Nigáli Needle Rock in Synoptical Vol. VII).                                                                                                                                                                                                                    | 30 34 29' 8"  | 77 43 59' 9"              | ...                                 | 2                          | ...    | ...                                                 | ...                   |

\* These points appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 F, between Lats. 30° - 31° and Longs. 77° - 78°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                     |                              |
| * Pk.2<br>53 F <sup>1</sup>             | On spur between the Kamaláda stream and the Tons river, about 4 miles S.S.E. of Onot village on the latter, and 3½ miles N. a little W. of the Jáko pass leading from Dhárágad to the Kamaláda stream. ( <i>Tehri-Garhwál</i> ). (Called Onot Peak in Synoptical Vol. VII). | 30 55 19    | 77 58 7                   | ...                                 | 2                          | ...    | Feet<br>...                                         | ...                          |
| * Pk.3<br>53 F <sup>1</sup>             | On watershed of the Tons and Jumna rivers, at S.E. head of the Dhárágad, a stream entering the former, in Jaunsár Bāwar. ( <i>Dehra Dún</i> ). (Called Kalamu Peak in Synoptical Vol. VII).                                                                                 | 30 48 39.3  | 77 56 24.3                | ...                                 | 3                          | ...    | 1.5<br>...                                          | ...                          |

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°.

|          |            |                                                                                                                                                                                                                |             |             |       |     |     |             |     |
|----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------|-----|-----|-------------|-----|
| *Baitárt | h.s.       | On spur, about 3½ miles S.E. of junction of the Baspa and Sutlej rivers, 1½ miles S.S.E. of Rola village on the latter, and above the road from Kamru on the Baspa to Maibu on the Sutlej. ( <i>Bashahr</i> ). | 31 27 58.17 | 78 13 45.62 | 13696 | ... | 2   | Feet<br>... | ... |
| *Bharti  | h.s.       | On spur to left of the Rupin, about 1½ miles from that stream, ¼ mile N. of Khanúáni village, and ¼ mile S.S.E. of Bitri village. ( <i>Tehri-Garhwál</i> ).                                                    | 31 6 53.86  | 78 6 22.46  | ...   | ... | ... | ...         | ... |
| *Chango  | h.s.       | On spur to left of the Spiti river, about 9 miles S.E. of Shalkar fort and bridge on that river, and ½ mile E.S.E. of Chango village. ( <i>Bashahr</i> ).                                                      | 31 58 25.78 | 78 36 11.69 | 10252 | ... | 1   | ...         | ... |
| *Choladt | Hill Staff | On spur between the Thánam stream and the Sutlej river, about 3½ miles W. of their junction, 1½ miles W. of the Benang pass crossing that spur, and 2½ miles N.N.E. of Kanam village. ( <i>Bashahr</i> ).      | 31 42 32.89 | 78 28 36.63 | ...   | 3   | ... | 0.2<br>...  | ... |
| *Chini   | h.s.       | Near village, about ¼ mile to right of the Sutlej river, and 5 miles N.E. of junction of that river with the Baspa. ( <i>Bashahr</i> ).                                                                        | 31 31 54.03 | 78 15 12.91 | 9083  | ... | 2   | ...         | ... |
| *Chitkul | No. 1 h.s. | On spur to right of the Baspa river a tributary of the Sutlej, about 1½ miles N. a little W. of Chitkul village on the Baspa. ( <i>Bashahr</i> ).                                                              | 31 22 22.19 | 78 25 43.27 | 15712 | ... | 2   | ...         | ... |

\* These points appertain to the North-West Himalaya Series.

DEGBEE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 76° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies between triangulation in centimetres | Reference to previous stations |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|--------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                    |                                |
| *Chitkul No. 2 h.s.                     | On spur about 1½ miles to left of the Baspa river, 3½ miles above Chitkul village on that river, and ¼ mile S. of road from that village by the Borásu pass. ( <i>Bashahr</i> ).                                                                                                               | 31 19 6.89  | 78 28 44.41               | 16142                               | ...                        | 3      | Feet                                               | ...                            |
| *Dádápokri h.s.                         | On spur to right of the Bhágirathi river, about 2½ miles N.E. of Makúa village. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                      | 31 4 8.71   | 78 48 20.81               | 14812                               | ...                        | 2      | ...                                                | ...                            |
| *Dakhani h.s.                           | On spur to right of the Bhágirathi river, about 2 miles E. of Bhairon Gháti over that river below Gaugotri, and 1½ miles N.W. of Ghumpoki Udar. ( <i>Tehri-Garhwál</i> ).                                                                                                                      | 31 1 15.92  | 78 54 26.90               | 14940                               | ...                        | 2      | ...                                                | ...                            |
| *Daráli h.s.                            | On spur, about 1½ miles S.S.E. of Daráli village on left bank of the Bhágirathi river below Gaugotri. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                | 31 0 56.60  | 78 47 42.44               | 12416                               | ...                        | 2      | ...                                                | ...                            |
| *Dumchákar h.s.                         | On spur E. of the Wangar stream, about 2½ miles N. a little E. of Chagoon village on right bank of the Sutlej, 2½ miles W. a little N. of Wíla, and 1 mile S. a little W. of Patiála Hill Staff. ( <i>Bashahr</i> ).                                                                           | 31 33 45.26 | 78 5 50.39                | 14287                               | ...                        | 3      | ...                                                | ...                            |
| *Egusárang h.s.                         | On spur between the Taite and Kozhang, confluent of the Sutlej river, about 3½ miles N.W. of Rárang village on right bank of Sutlej, and 4 miles W.S.W. of Lípe bridge over the Taite. ( <i>Bashahr</i> ).                                                                                     | 31 38 11.77 | 78 18 47.50               | 14306                               | ...                        | 3      | ...                                                | ...                            |
| *Gongra Hill Staff                      | On continuation of spur between the Kozhang and Taite, confluent of the Sutlej, about 2½ miles N.E. of Rárang village on the Sutlej, 3½ miles W.N.W. of Jangi village, and 2 miles S. of Lípe bridge over the Taite; Gongra h.s. being ¼ mile W.N.W. of Gongra Hill Staff. ( <i>Bashahr</i> ). | 31 37 42.49 | 78 22 41.34               | 14320                               | 3                          | 2      | 0.3                                                | ...                            |
| *Gongra h.s.                            | On continuation of spur between the Kozhang and Taite, confluent of the Sutlej, about 2½ miles N.E. of Rárang village on the Sutlej, 3½ miles W.N.W. of Jangi village, and 2 miles S. of Lípe bridge over the Taite; Gongra h.s. being ¼ mile W.N.W. of Gongra Hill Staff. ( <i>Bashahr</i> ). | 31 37 44.88 | 78 22 37.70               | ...                                 | ...                        | ...    | ...                                                | ...                            |
| *Hángo Hill Staff                       | On spur, about ¼ mile S.E. of Hángo village, 1 mile W.S.W. of Hangma, and 2½ miles N. a little E. of the Hángrang pass. ( <i>Bashahr</i> ).                                                                                                                                                    | 31 49 36.0  | 78 32 10.8                | 11576                               | 2                          | 1      | ...                                                | ...                            |
| *Hángrang s.                            | On pass over spur between the Thánam stream a confluent of the Sutlej, and the Spiti river, and a little W. of the pass. ( <i>Bashahr</i> ).                                                                                                                                                   | 31 47 38.95 | 78 31 34.59               | 14517                               | ...                        | 1      | ...                                                | ...                            |
| *Hendong h.s.                           | On spur between the Yálung stream and the Spiti river, about 2½ miles S.S.W. of Shal-<br>kar fort, and 1½ miles W. of Nisang village. ( <i>Bashahr</i> ).                                                                                                                                      | 31 57 58.76 | 78 32 26.44               | 16227                               | ...                        | 3      | ...                                                | ...                            |

\* These points appertain to the North-West Himalaya Series.



## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Jastágrang                             | h. s. On spur, about 2½ miles S.S.W. of Sfmoling, 2½ miles S.S.E. of Parbáni, and 2¼ miles E. of Paári village on left bank of the Sutlej river above its junction with the Baspa. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 31 33 10.54 | 78 19 30.31               | 14510                               | ...                        | 2      | Feet<br>...                                         | ...                          |
| *Kakthái                                | Hill Staff On spur from E. ending at Shalkar bridge over the Spiti river, about 6¼ miles E. a little S. of that bridge, and 3½ miles S.E. of bridge over the Chaladdokpo stream. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 31 59 10.5  | 78 40 26.7                | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| *Klargu                                 | h. s. On spur to left of the Bhágirathi river, about 2½ miles S.E. of Daráli village, and 2 miles S.W. of Kopanga bridge over that river below Gangotri and Bhairon Gháti. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 31 1 16.39  | 78 49 29.87               | 14513                               | ...                        | 2      | ...                                                 | ...                          |
| Kidarkanta                              | h. s. Is a secondary station of the N.W. Himalaya Series ( <i>vide</i> Synoptical Volume VII). Its position was re-determined in 1903 by special triangulation. It is situated on the highest point of Kidarkanta hill on the watershed between the Tons and Jumna valleys in the lands of village Durgaon Patti Siktur and is about ¼ mile E. of the higher road from Onot and Balshul villages to Shauro. It is about 3¼ miles N.N.E. of Our village, 3½ miles E. of Lodráo village and 3½ miles S. a little W. of Shauro village.<br>The station is marked by a ⊙ cut on the upper surface of a stone embedded centrally in a circular masonry pillar 3 feet in diameter and 2 feet high. Vertically below the upper mark, a similar mark was embedded below the pillar. The pillar was isolated in the usual manner from the surrounding platform, which was built up to the level of the upper surface of the pillar. The station is most easily approached from the north, the best route being <i>via</i> Chakráta, Mandali, Thadiar, Sendra Forest Bungalow, Naintwar Forest Bungalow (by Gainchra village) and Kidarkanta. ( <i>Tehri-Garhwál</i> ). | 31 1 22.09  | 78 10 23.37               | 12509                               | ...                        | 2      | ...                                                 | 278                          |
| *Kungrang                               | h. s. On same spur as Chango village near Shalkar fort, about 4½ miles to E. a little S. of it. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 31 57 32.13 | 78 39 55.18               | 18817                               | ...                        | 2      | ...                                                 | ...                          |
| *Lakhma                                 | h. s. On spur, about 2½ miles N.N.E. of Tashigáng village on the Sutlej river above its junction with the Spiti, and 3½ miles E.S.E. of Náko village on road from the Sutlej valley to Shalkar fort. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 31 52 2.35  | 78 41 33.73               | 17845                               | ...                        | 2      | ...                                                 | ...                          |
| *Lanchíchi                              | h. s. On spur between the Theta and Tagla Gár, confluents of the Sutlej river, about 8 miles S.E. of junction of the Thánam stream with that river, and 2½ miles S.S.W. of crossing of road along left bank of the Sutlej over the Theta stream. ( <i>Bashahr</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 31 40 36.92 | 78 34 44.77               | 17625                               | ...                        | 2      | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                     |
| *Malich Hill Staff                      | On spur, about 2½ miles N. of junction of the Nilang river with the Bhágirathi, and 2 miles N.N.E. of the Kopanga camping ground. ( <i>Tehri-Garhwál</i> ).                                                       | 31 3 40·4   | 78 52 27·9                | 15002                               | 2                          | 2      | Feet                                                | ...                 |
| *Náko h.s.                              | On spur, about ¼ mile S.W. of Náko village, and 1½ miles S.E. of bridge over the Spiti river between Leo and Leila villages. ( <i>Bashahr</i> ).                                                                  | 31 52 55·29 | 78 37 38·28               | 11890                               | ...                        | 2      | ...                                                 | ...                 |
| *Nalúmand h.s.                          | On spur, about 2½ miles N.N.E. of Naintwar village at junction of the Rupin stream with the Tous river, and ¾ mile S.E. of Khanásni. ( <i>Tehri-Garhwál</i> ).                                                    | 31 6 1·34   | 78 6 45·83                | ...                                 | ...                        | ...    | ...                                                 | ...                 |
| *Nela h.s.                              | About ¼ mile E. of the Eastern Nela pass leading from the Bhágirathi valley by the Baspa river. ( <i>Tehri-Garhwál-Bashahr</i> ).                                                                                 | 31 11 55·09 | 78 41 9·28                | 19069                               | ...                        | 2      | ...                                                 | ...                 |
| Nilang No. 1 h.s.                       | On a hill 2 miles S.S.W. of Nilang village, 2 miles E. of the Jadhganga stream, and 7 miles N.N.E. of Gangotri temple. Observed in 1878. ( <i>Tehri-Garhwál</i> ).                                                | 31 5 11·42  | 78 59 25·78               | 16490                               | ...                        | 2      | ...                                                 | 488                 |
| Nilang No. 2 h.s.                       | On a hill on the boundary between Bashahr and Tibet 3 miles N. of the village of Nilang, 4 miles S.W. of Jadhgang village and 2 miles N.N.W. of the Jadhganga stream. Observed in 1878. ( <i>Bashahr-Tibet</i> ). | 31 8 53·15  | 78 59 58·76               | 18204                               | ...                        | 1      | ...                                                 | 489                 |
| *Níthal No. 1 h.s.                      | On spur running N. from ridge between the Baspa and Bhágirathi rivers, about 2½ miles S.S.W. of the Níthal camping ground on the former river. ( <i>Bashahr</i> ).                                                | 31 15 23·03 | 78 38 0·95                | 18683                               | ...                        | 2      | ...                                                 | ...                 |
| *Níthal No. 2 h.s.                      | On spur, about 2 miles S.E. of the Níthal camping ground at junction of the two main streams at source of the Baspa river. ( <i>Bashahr</i> ).                                                                    | 31 15 49·30 | 78 42 19·16               | 18338                               | ...                        | 2      | ...                                                 | ...                 |
| *Patiála Hill Staff                     | On spur E. of the Wangar, a confluent of the Sutlej river, about 3 miles E. of Dutran village on the former, 1 mile N.N.E. of Dumhákar h.s., and 2½ miles N.W. of Wila village. ( <i>Bashahr</i> ).               | 31 34 34·84 | 78 6 12·67                | ...                                 | 4                          | ...    | 0·3                                                 | ...                 |
| *Peri Hill Staff                        | On spur between the Málgun and Kozhang, confluents of the Sutlej river, about 1½ miles N.N.W. of Paugi village. ( <i>Bashahr</i> ).                                                                               | 31 36 54·06 | 78 16 15·36               | 14139                               | 3                          | 3      | 0·4                                                 | ...                 |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                        | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                    |               |                           |                                     | Position                   | Height |                                                     |                              |
| *Rakham No. 1 h.s.                      | On spur to left of the Baspa river, about 2½ miles S.W. of Rakham village on that river. ( <i>Bashahr</i> ).                                                                                                                       | 31 22 4' 20"  | 78 19 18' 67"             | 16243                               | ...                        | 1      | ...                                                 | ...                          |
| *Rakham No. 2 h.s.                      | On spur to right of the Baspa river, about 1½ miles E. of Rakham village on that river, and 1½ miles N. a little W. of junction of stream from the Shinka pass with the Baspa. ( <i>Bashahr</i> ).                                 | 31 23 31' 69" | 78 22 51' 55"             | 15010                               | ...                        | 2      | ...                                                 | ...                          |
| *Rakchora h.s.                          | On spur, about 2½ miles W. a little N. of Chini village, and 2 miles N.W. of Rogi village on the Sutlej above its junction with the Baspa river. ( <i>Bashahr</i> ).                                                               | 31 32 0' 60"  | 78 12 36' 61"             | 14496                               | ...                        | 2      | ...                                                 | ...                          |
| *Runang s.                              | Little E. of the Runang pass leading over spur between the Tate and Thánam, confluents of the Sutlej river. ( <i>Bashahr</i> ).                                                                                                    | 31 43 14' 65" | 78 25 55' 31"             | 14341                               | ...                        | 2      | ...                                                 | ...                          |
| *Rusrang h.s.                           | On spur E. of the Wangar, a confluent of the Sutlej river, about 3¼ miles E. a little N. of Wangtu bridge over the latter at its junction with the Wangar, and 1½ miles N.W. of Chagaon village on the Sutlej. ( <i>Bashahr</i> ). | 31 32 54' 43" | 78 4 3' 87"               | 11917                               | ...                        | 4      | ...                                                 | ...                          |
| *Sanchu h.s.                            | On spur, about 1½ miles N.N.E. of the Sanchu camping ground on right bank of the Baspa river towards its head. ( <i>Bashahr</i> ).                                                                                                 | 31 19 5' 08"  | 78 33 16' 95"             | 17840                               | ...                        | 2      | ...                                                 | ...                          |
| *Sangla h.s.                            | On spur, about 2½ miles W.S.W. of Sangla village near junction of the Buktí stream and the Baspa river, and 1½ miles S. of Chúsang village. ( <i>Bashahr</i> ).                                                                    | 31 24 41' 99" | 78 13 26' 35"             | 13183                               | ...                        | 2      | ...                                                 | ...                          |
| *Sapni h.s.                             | On spur, about 1½ miles W. a little N. of Sapni village, 2¼ miles W. of junction of the Baspa and Sutlej rivers, and 2 miles S. of Kilba village on the Sutlej. ( <i>Bashahr</i> ).                                                | 31 29 9' 43"  | 78 8 21' 32"              | 12702                               | ...                        | 2      | ...                                                 | ...                          |
| Snowy Peak R.                           | See Pk. 81<br>53 I                                                                                                                                                                                                                 | ...           | ...                       | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Suki h.s.                              | On spur, about 1½ miles W.N.W. of Suki village, 1½ miles S.W. of Jháin village on right bank of the Bhágratli river towards its head, and ¼ mile S.E. of Surgánabín h.s. ( <i>Tehrí-Garhwal</i> ).                                 | 31 0 38' 91"  | 78 41 21' 52"             | 11991                               | ...                        | 1      | ...                                                 | ...                          |

\* These stations appertain to the North-West Himalaya Series.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancy per mille of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                    |                              |
| *Surgánahin                             | h.s. On spur, about 2 miles W.N.W. of Suki village, 2 miles W. a little S. of Jhála village on right bank of the Bhágirathii river towards its head, and $\frac{1}{2}$ mile N.W. of Suki h.s. ( <i>Tehri-Garhwál</i> ).                                                                                                | 31 1 8'80   | 78 40 34'10               | 14919                               | ...                        | 2      | Feet                               | ...                          |
| *Themso                                 | h.s. About 1 $\frac{1}{2}$ miles W.N.W. of the Runáng pass over spur between the Taite and Thánam, confluents of the Sutlej river. ( <i>Bashahr</i> ).                                                                                                                                                                 | 31 43 43'68 | 78 24 30'89               | 16707                               | ...                        | 2      | ...                                | ...                          |
| *Thugiriga                              | h.s. About $\frac{1}{2}$ mile S.E. of the Hángrang pass leading over spur between the Thánam stream and the Spiti river. ( <i>Bashahr</i> ).                                                                                                                                                                           | 31 47 9'65  | 78 32 13'51               | 16671                               | ...                        | 4      | ...                                | ...                          |
| *Tinga                                  | h.s. On spur S. of the Lípak stream entering the Spiti river, about $3\frac{1}{2}$ miles N.N.W. of Hangma village, and $3\frac{1}{2}$ miles W.S.W. of Leo village on road from the Sutlej to the Spiti valley. ( <i>Bashahr</i> ).                                                                                     | 31 52 18'11 | 78 31 25'51               | 16431                               | ...                        | 3      | ...                                | ...                          |
| *Tumrang                                | Hill Staff On spur between the Todúg Gár and Tagla Gár, confluents of the Sutlej river, about 2 $\frac{1}{2}$ miles N.E. of Morang fort and Gramang village on the Sutlej, 2 $\frac{1}{2}$ miles S. of junction of the Tagla Gár and the Sutlej, and 2 $\frac{1}{2}$ miles S.W. of Nisang village. ( <i>Bashahr</i> ). | 31 37 32'8  | 78 28 55'4                | 14630                               | 5                          | 5      | 0'4                                | ...                          |
| * $\frac{\text{Pk.1}}{53 \text{ I}}$    | ... In Spiti, on spur E. of the Kyokti stream and the Pin river, about 2 $\frac{1}{2}$ miles E. a little S. of Tiling village on the latter, and 4 miles S.S.E. of Kagma village. ( <i>Kángra</i> ). (Called Sutlej-Spiti Watershed No. 4 Peak in Synoptical Vol. VII).                                                | 31 59 10    | 78 7 16                   | 19440                               | 2                          | 1      | ...                                | ...                          |
| * $\frac{\text{Pk.2}}{53 \text{ I}}$    | ... In Spiti, on spur at N.E. head of the Kyokti a branch of the Pin river, and about 3 $\frac{1}{2}$ miles E. a little S. of $\frac{\text{Pk.1}}{53 \text{ I}}$ . ( <i>Kángra</i> ). (Called Sutlej-Spiti Watershed No. 3 Peak in Synoptical Vol. VII).                                                               | 31 58 37    | 78 10 43                  | 19650                               | 2                          | 1      | ...                                | ...                          |
| * $\frac{\text{Pk.3}}{53 \text{ I}}$    | ... On spur E. of branch of the Wangar stream rising at the Bhábe pass, about 3 $\frac{1}{2}$ miles S.E. of that pass, and 6 miles N. of Yángpa on the Wangar. ( <i>Bashahr</i> ). (Called Sutlej-Spiti Watershed No 2 Peak in Synoptical Vol. VII).                                                                   | 31 41 15    | 78 3 0                    | 17550                               | 2                          | 2      | ...                                | ...                          |
| * $\frac{\text{Pk.4}}{53 \text{ I}}$    | ... On spur S.W. of the Kozhang stream, about 6 $\frac{1}{2}$ miles N. of Wíla village. ( <i>Bashahr</i> ). (Called Sutlej-Spiti Watershed No. 1 Peak in Synoptical Vol. VII).                                                                                                                                         | 31 38 6'9   | 78 8 59'0                 | 19480                               | 3                          | 2      | 1'7                                | ...                          |

\* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                       | Height |                                                     |                              |
| * Pk.5<br>53 I                          | ... On spur to W. of junction of the Baspa with the Sutlej, about 5 miles S.W. of that junction, 4 miles S. a little E. of Púnáni village on the Sutlej, and 4½ miles W. a little S. of Baring on the Baspa. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 4 Peak in Synoptical Vol. VII). | 31 27 8.9   | 78 6 33.1                 | 16330                               | 3                              | 1      | Feet<br>0.6                                         | ...                          |
| * Pk.6<br>53 I                          | ... On spur E. of the Milang stream entering the Sutlej, about 2½ miles from the watershed, and 4½ miles S. of Milang village. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 3 Peak in Synoptical Vol. VII).                                                                               | 31 26 39    | 78 3 52                   | 16810                               | 2                              | 2      | ...                                                 | ...                          |
| * Pk.7<br>53 I                          | ... On ridge, at N.W. head of the Pabar river, and about 1½ miles N.W. of <sup>Pk.9</sup> 53 I. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 1 Peak in Synoptical Vol. VII).                                                                                                               | 31 24 37    | 78 6 32                   | 16830                               | 2                              | 1      | ...                                                 | ...                          |
| * Pk.8<br>53 I                          | ... On ridge at head of the Milang stream joining the Sutlej, and 6 miles N. a little E. of Janglik village on the Pabar river. ( <i>Bashahr</i> ). (Called Sutlej-Tons Watershed No. 2 Peak in Synoptical Vol. VII).                                                                              | 31 24 33    | 78 2 39                   | 17260                               | 2                              | 2      | ...                                                 | ...                          |
| * Pk.9<br>53 I                          | ... On ridge, about 1 mile W. of the Borenda pass leading from the Pabar river to the Baspa. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 2 Peak in Synoptical Vol. VII).                                                                                                                  | 31 23 53.2  | 78 7 55.7                 | 16880                               | 3                              | 1      | 2.4                                                 | ...                          |
| * Pk.10<br>53 I                         | ... On ridge, about 1½ miles N.W. of the Rupin pass leading from the Burábati to the Baspa, and at N.E. head of the Pabar river. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 3 Peak in Synoptical Vol. VII).                                                                              | 31 22 51    | 78 10 5                   | ...                                 | 2                              | ...    | ...                                                 | ...                          |
| * Pk.11<br>53 I                         | ... On ridge, about 1½ miles W.N.W. of the Nalgaon pass, and ¼ mile S.E. of the Gonas pass leading from the Burábati to the Baspa. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 4 Peak in Synoptical Vol. VII).                                                                            | 31 19 54    | 78 11 43                  | 16500                               | 2                              | 1      | ...                                                 | ...                          |
| * Pk.12<br>53 I                         | ... On spur between the Burábati or Rupin stream and the Pabar river, about 3½ miles E. of Janglik village on the Pabar towards its source. ( <i>Bashahr</i> ). (Called Gonas Peak in Synoptical Vol. VII).                                                                                        | 31 19 21    | 78 4 40                   | ...                                 | 2                              | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancy in miles of triangles | Reference Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                   |                               |
| * Pk. 13<br>53 I                        | On spur between the Burábati stream and the Pahar river, about 2½ miles E. of Mila village on the Pahar, and 4¼ miles N.W. a little N. of junction of stream from the Ropin and Gonnas passes with the Burábati ( <i>Bashahr</i> ). (Called Ratan-ku-Chanúai Peak in Synoptical Vol. VII).      | 31 17 25    | 78 3 19.                  | ...                                 | 2                          | ...    | Feet                              | ...                           |
| * Pk. 14<br>53 I                        | On spur between the Burábati stream and the Pahar river, about 4¼ miles W.N.W. of Pujearl on the former, and 2½ miles E. of Burshelo on the Pahar. ( <i>Bashahr</i> ) (Called Hollondi Peak in Synoptical Vol. VII).                                                                            | 31 14 49    | 78 2 2                    | ...                                 | 2                          | ...    | ...                               | ...                           |
| * Pk. 15<br>53 I                        | On spur between the Khuror and Burábati, confluent of the Tons river, about 2 miles N. of junction of these two streams, 1¼ miles N.N.W. of Goárl village on the Khuror, and 1¼ miles S.E. of Dandruár village. ( <i>Bashahr-Tehri-Garhwál</i> ). (Called Singhore Peak in Synoptical Vol. VII) | 31 11 8     | 78 6 20                   | ...                                 | 2                          | ...    | ...                               | ...                           |
| * Pk. 16<br>53 I                        | On spur to right of the Ropin stream, about 2 miles W.N.W. of Hudwar village, and 3 miles W. a little S. of Bar village on that stream. ( <i>Tehri-Garhwál</i> ) (Called Sarelangúne Peak in Synoptical Vol. VII).                                                                              | 31 8 51     | 78 2 28                   | ...                                 | 2                          | ...    | ...                               | ...                           |
| * Pk. 17<br>53 I                        | On spur to right of the Ropin, about 6¼ miles N.W. of junction of that stream with the Tons river, and 3¼ miles N. a little W. of Sahldúr village. ( <i>Tehri-Garhwál</i> ). (Called Charo Peak in Synoptical Vol. VII).                                                                        | 31 7 10     | 78 0 40                   | ...                                 | 2                          | ...    | ...                               | ...                           |
| * Pk. 18<br>53 I                        | On watershed of the Spiti and Sutlej rivers, the boundary between Bashahr and Spiti, about ¼ mile N.E. of the Manirang pass leading from the Sutlej valley to Spiti by the Tánam stream and Mani village. ( <i>Kángra-Bashahr</i> ). (Called Manirang Peak in Synoptical Vol. VII).             | 31 57 14.6  | 78 21 58.7                | 21630                               | 3                          | 2      | 1.9                               | ...                           |
| * Pk. 19<br>53 I                        | On spur branching from that between the Todúng Gár stream and the Baspa river, about 4¼ miles S. of Kiba village on left bank of the Sutlej. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 5 Peak in Synoptical Vol. VII).                                                             | 31 31 13.7  | 78 21 51.6                | 19850                               | 3                          | 3      | 1.9                               | ...                           |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                      |                              |
| * Pk.20<br>53 I                         | On spur branching from that between the Todúng Gár stream and the Baspa river, about 6½ miles S.S.W. of Rispa village, 5½ miles E.S.E. of Skangrang village on the Suttlej, and 2 miles S.S.E. of <sup>Pk.19</sup> / <sub>53 I</sub> . ( <i>Bashahr</i> ). (Called Raldang Peak in Synoptical Vol. VII). | 31 29 35    | 78 22 34                  | 21240                               | 2                          | 2      | Feet<br>...                                          | ...                          |
| * Pk.21<br>53 I                         | On ridge, 3½ miles N.E. of Sangla village on the Baspa river, and 4½ miles S.E. of Barang <sup>Pk.22</sup> / <sub>53 I</sub> being ¼ mile S.S.E. of <sup>Pk.21</sup> / <sub>53 I</sub> . ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed Nos. 1 and 2 Peaks respectively in Synoptical Vol. VII).    | 31 27 50.4  | 78 18 12.7                | 18000                               | 5                          | 4      | 0.8                                                  | ...                          |
| * Pk.22<br>53 I                         | On ridge, 3½ miles N.E. of Sangla village on the Baspa river, and 4½ miles S.E. of Barang <sup>Pk.22</sup> / <sub>53 I</sub> being ¼ mile S.S.E. of <sup>Pk.21</sup> / <sub>53 I</sub> . ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed Nos. 1 and 2 Peaks respectively in Synoptical Vol. VII).    | 31 27 31.7  | 78 18 20.6                | 18040                               | 4                          | 2      | 2.4                                                  | ...                          |
| * Pk.23<br>53 I                         | On minor spur from that between the Todúng Gár stream and the Baspa river, about 4 miles S.S.W. of Lamber village on the former, and 2½ miles N.W. of glacier stretching N.E. from the Chárang pass. ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed No. 3 Peak in Synoptical Vol. VII).             | 31 27 13.5  | 78 29 3.8                 | 20830                               | 7                          | 2      | 4.3                                                  | ...                          |
| * Pk.24<br>53 I                         | On ridge between the Baspa river and the Todúng Gár stream, about 4½ miles N.N.E. of Rakcham village on the former. ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed No. 4 Peak in Synoptical Vol. VII).                                                                                              | 31 27 1     | 78 23 58                  | ...                                 | 2                          | ...    | ...                                                  | ...                          |
| * Pk.25<br>53 I                         | On ridge, at head of stream passing to N. of Barang village and joining the Suttlej, about 4½ miles E.N.E. of Sangla village on the Baspa. ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed No. 3 Peak in Synoptical Vol. VII).                                                                       | 31 26 53.7  | 78 20 7.4                 | 19630                               | 4                          | 2      | †                                                    | ...                          |
| * Pk.26<br>53 I                         | On same spur as <sup>Pk.23</sup> / <sub>53 I</sub> , about 1½ miles N. of the Chárang pass, and between <sup>Pk.27</sup> / <sub>53 I</sub> and <sup>Pk.23</sup> / <sub>53 I</sub> . ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed No. 7 Peak in Synoptical Vol. VII).                              | 31 25 54.6  | 78 28 8.5                 | 20250                               | 4                          | 2      | 2.2                                                  | ...                          |
| * Pk.27<br>53 I                         | On spur between the Baspa river and the Todúng Gár stream, about 1½ miles N.W. of the Chárang pass crossing that spur. ( <i>Bashahr</i> ). (Called Suttlej-Baspa Watershed No. 6 Peak in Synoptical Vol. VII).                                                                                           | 31 25 21    | 78 27 16                  | 19790                               | 2                          | 1      | ...                                                  | ...                          |
| * Pk.28<br>53 I                         | On spur W. of stream flowing from the Shínka pass to the Baspa river, about 1½ miles S. of Rakcham No. 1 h.s., and 3½ miles S.W. a little S. of Rakcham village on the Baspa. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 6 Peak in Synoptical Vol. VII).                                       | 31 21 0.4   | 78 19 8.0                 | 18640                               | 3                          | 1      | 2.3                                                  | ...                          |

\* These points appertain to the North-West Himalaya Series.  
† Fixed by two triangles having no common side.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| * <u>Pk.29</u><br><u>53 I</u>           | ... On spur W. of stream flowing from the Shinka pass to the Baspa river, about 2½ miles N. a little E. of the pass, and 1½ miles E.N.E. of <u>Pk.30</u><br><u>53 I</u> . ( <i>Bashahr</i> ).<br>(Called Tons-Baspa Watershed No. 7 Peak in Synoptical Vol. VII).               | 31 19 59    | 78 19 10                  | 18850                               | 3                          | 2      | Feet<br>3·9                                         | ...                          |
| * <u>Pk.30</u><br><u>53 I</u>           | ... On ridge, about 2½ miles N.N.W. of the Shinka pass leading from the Tons valley to the Baspa, and 4½ miles E. of the Nalgaon pass from the Burabati to the Baspa. ( <i>Bashahr</i> ).<br>(Called Tons-Baspa Watershed No. 5 Peak in Synoptical Vol. VII).                   | 31 19 36·4  | 78 17 37·8                | ...                                 | 3                          | ...    | 0·1                                                 | ...                          |
| * <u>Pk.31</u><br><u>53 I</u>           | ... On ridge, about 1½ miles N.W. of the Kimile pass, and 3½ miles E. of the Shinka pass. ( <i>Bashahr-Tehri-Garhwál</i> ).<br>(Called Tons-Baspa Watershed No. 8 Peak in Synoptical Vol. VII).                                                                                 | 31 17 12    | 78 22 18                  | 18740                               | 2                          | 1      | ...                                                 | ...                          |
| * <u>Pk.32</u><br><u>53 I</u>           | ... On ridge, about ¼ mile S. of the Kimile pass. ( <i>Bashahr-Tehri-Garhwál</i> ).<br>(Called Tons-Baspa Watershed No. 9 Peak in Synoptical Vol. VII).                                                                                                                         | 31 16 17·5  | 78 23 14·9                | 19330                               | 6                          | 1      | 1·4                                                 | ...                          |
| * <u>Pk.33</u><br><u>53 I</u>           | ... On ridge, about 3½ miles N.W. a little N. of the Borásu pass, and 3 miles E.S.E. of the Kimile pass. ( <i>Bashahr-Tehri-Garhwál</i> ).<br>(Called Tons-Baspa Watershed No. 12 Peak in Synoptical Vol. VII).                                                                 | 31 15 29    | 78 26 11                  | 19190                               | 2                          | 1      | ...                                                 | ...                          |
| * <u>Pk.34</u><br><u>53 I</u>           | ... On ridge at S. head of glacier, about 3 miles S.E. by S. of the Kimile pass. ( <i>Bashahr-Tehri-Garhwál</i> ).<br>(Called Tons-Baspa Watershed No. 10 Peak in Synoptical Vol. VII).                                                                                         | 31 14 26    | 78 24 46                  | 19280                               | 2                          | 1      | ...                                                 | ...                          |
| * <u>Pk.35</u><br><u>53 I</u>           | ... On ridge, about 1½ miles N.E. of the Manju Kanda pass, about 7 miles E.S.E. of Dalmir village on the Tons, and 7 miles N. a little W. of Banás village on the Jumna below Jamnotri. ( <i>Tehri-Garhwál</i> ).<br>(Called Jumna-Tons Watershed Peak in Synoptical Vol. VII). | 31 2 28     | 78 23 16                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.36</u><br><u>53 I</u>             | ... Snowy peak. Observed in 1864-65.                                                                                                                                                                                                                                            | 31 2 8      | 78 27 33                  | 17180                               | 3                          | 3      | 0·1                                                 | ...                          |
| * <u>Pk.37</u><br><u>53 I</u>           | ... Rock on spur to left of the Spiti river, about 3½ miles N.E. of Leila village on road from the Sulej valley to Shalkar fort, and 4 miles S.E. of Ganfa. ( <i>Bashahr</i> ).<br>(Called Kiripichi No. 1 Peak in Synoptical Vol. VII).                                        | 31 56 12    | 78 39 22                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.



## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| * Pk.38<br>53 I                         | ... Rock on same spur as Pk.37<br>53 I, about 1½ miles S.E. of that point, and 3¼ miles E.N.E. of Lela village. ( <i>Bashahr</i> ). (Called Kiripichi No. 2 Peak in Synoptical Vol. VII).                                                                                                                            | 31 55 35    | 78 40 55                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk.39<br>53 I (Leo Pargial N.)        | On E. watershed of the Spiti river, N.E. of junction of that river with the Sutlej, at head of stream which passes a little N. of Lela village and enters the Spiti, and 1¼ miles N.N.E. of Pk.41<br>53 I (Leo Pargial S.). ( <i>Bashahr-Chinese Tartary</i> ). (Called Leo Pargial N. Peak in Synoptical Vol. VII). | 31 54 8'0   | 78 44 39'1                | 22210                               | 3                          | 2      | 0'9                                                 | ...                          |
| Pk.40<br>53 I                           | ... Snowy peak; S.W. end. Observed in 1877.                                                                                                                                                                                                                                                                          | 31 54 3     | 78 44 40                  | 22280                               | 3                          | 1      | 10'2                                                | ...                          |
| * Pk.41<br>53 I (Leo Pargial S.)        | On E. watershed of the Spiti river, N.E. of junction of that river with the Sutlej, at head of the Chunggrazi stream entering the Sutlej, and 1¼ miles S.S.W. of Pk.39<br>53 I (Leo Pargial N.). ( <i>Bashahr-Chinese Tartary</i> ). (Called Leo Pargial S. Peak in Synoptical Vol. VII).                            | 31 53 5     | 78 44 5                   | 22170                               | 2                          | 2      | ...                                                 | ...                          |
| * Pk.42<br>53 I                         | ... To left of the river, on spur between the Theta and Tagla Gar streams, about 3 miles S. of Hishi Dogri on the former, 2¼ miles E. a little S. of Lanchichi h.s., and 2¼ miles N.W. of Pk.43<br>53 I. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 1 Peak in Synoptical Vol. VII).                      | 31 40 5     | 78 37 36                  | 20630                               | 2                          | 2      | ...                                                 | ...                          |
| * Pk.43<br>53 I                         | ... To left of the river, on spur between the Theta and Tagla Gar streams, about 2¼ miles S.E. of Pk.42<br>53 I, and 2 miles W. a little N. of Pk.44<br>53 I. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 2 Peak in Synoptical Vol. VII).                                                                 | 31 38 50'9  | 78 39 18'4                | 20630                               | 3                          | 1      | 0'7                                                 | ...                          |
| * Pk.44<br>53 I                         | ... To left of the river, on spur between the Theta and Tagla Gar streams, about 3 miles W. of the Gantang pass across that spur, and 2 miles E. a little S. of Pk.43<br>53 I. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 3 Peak in Synoptical Vol. VII).                                                | 31 38 29    | 78 41 10                  | 19730                               | 2                          | 1      | ...                                                 | ...                          |
| * Pk.45<br>53 I                         | ... To left of the river, on spur between the Todung Gar and Tagla Gar streams, about 4¼ miles E.N.E. of Tangi village on the former about 3 miles above its junction with the Sutlej. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 4 Peak in Synoptical Vol. VII).                                        | 31 34 52'6  | 78 32 32'3                | 20500                               | 6                          | 4      | 1'1                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BARS DETERMINING |        | Discrepancies per mile in common sides of triangles | Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                     |                     |
| * Pk. 46<br>53 I                        | ... To left of the river, on spur between the Todúng Gár and Tagla Gár streams, about 5½ miles E.N.E. of Lamber village on the former. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 5 Peak in Synoptical Vol. VII).                                                                               | 31 32 35    | 78 35 1                   | 20370                               | 2                          | 2      | Feet                                                | ...                 |
| * Pk. 47<br>53 I                        | ... To left of the river, on minor spur from that between the Todúng Gár and Tagla Gár streams, about 3 miles E.N.E. of <sup>Pk. 48</sup> <sub>53 I</sub> on opposite side of glacier, and 1¼ miles N. of main spur. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 7 Peak in Synoptical Vol. VII.) | 31 32 33' 2 | 78 42 1' 8                | ...                                 | 3                          | ...    | 2' 0                                                | ...                 |
| * Pk. 48<br>53 I                        | ... To left of the river, on spur between the Todúng Gár and Tagla Gár streams, about 3¼ miles N.N.W. of the Chiberbar camping ground on branch of the former from the Sholárang pass. ( <i>Bashahr</i> ). (Called Sutlej River Watershed No. 6 Peak in Synoptical Vol. VII).                               | 31 31 51    | 78 39 7                   | 19190                               | 2                          | 1      | ...                                                 | ...                 |
| * Pk. 49<br>53 I                        | ... On minor spur N. of the Baspa river, about 4½ miles E.N.E. of Chitkul village on that river. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 9 Peak in Synoptical Vol. VII).                                                                                                                     | 31 22 19    | 78 30 50                  | ...                                 | 2                          | ...    | ...                                                 | ...                 |
| * Pk. 50<br>53 I                        | ... On minor spur S. of the Todúng Gár stream, about 4½ miles S.E. of Bangrikcha village on that stream towards its head. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 13 Peak in Synoptical Vol. VII.)                                                                                           | 31 22 12    | 78 38 8                   | ...                                 | 3                          | ...    | 2' 5                                                | ...                 |
| * Pk. 51<br>53 I                        | ... On same spur as <sup>Pk. 50</sup> <sub>53 I</sub> , about 1¼ miles S.W. of that point, 5½ miles S.E. a little S. of Bangrikcha village, and at head of E. branch of glacier above that village. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 12 Peak in Synoptical Vol. VII).                 | 31 21 15    | 78 37 3                   | 21500                               | 5                          | 2      | 5' 9                                                | ...                 |
| * Pk. 52<br>53 I                        | ... On spur between the Todúng Gár stream and the Baspa river, about 4½ miles N.E. of the Níthal camping ground on the latter stream towards its source and on road to the Nola pass. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 15 Peak in Synoptical Vol. VII).                               | 31 20 18    | 78 42 24                  | 19330                               | 2                          | 1      | ...                                                 | ...                 |
| * Pk. 53<br>53 I                        | ... On spur between the Todúng Gár stream and the Baspa river, about 3¼ miles N.N.E. of the Níthal camping ground. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 14 Peak in Synoptical Vol. VII).                                                                                                  | 31 20 12    | 78 40 40                  | 19800                               | 3                          | 2      | 2' 1                                                | ...                 |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF SAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| * Pk. 54<br>53 I                        | On spur between the Todung Gár stream and the Baspa river, about 3½ miles N.W. of the Níthal camping ground on the latter towards its head. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 11 Peak in Synoptical Vol. VII).                                    | 31 20 2.7   | 78 36 14.2                | 21150                               | 4                          | 1      | Feet<br>†                                           | ...                          |
| * Pk. 55<br>53 I                        | On minor spur N. of the Baspa river, about 3¼ miles N.E. by E. of the Sanchu camping ground on that river towards its head, and 2¼ miles E.N.E. of Sanchu h.s. ( <i>Bashahr</i> ). (Called Sutlej-Baspa Watershed No. 10 Peak in Synoptical Vol. VII).                 | 31 19 37    | 78 35 22                  | 21210                               | 2                          | 1      | ...                                                 | ...                          |
| * Pk. 56<br>53 I                        | On spur E. of stream flowing down to the Baspa river from the Borásu pass, and 4 miles E.N.E. of the pass. ( <i>Bashahr</i> ). (Called Tons-Baspa Watershed No. 11 Peak in Synoptical Vol. VII).                                                                       | 31 14 5.5   | 78 32 4.6                 | 20600                               | 6                          | 1      | 1.1                                                 | ...                          |
| * Pk. 57<br>53 I                        | On ridge, about 5½ miles W. of the Nela pass over Bhágirathi-Baspa watershed. ( <i>Bashahr-Tehri-Garhwál</i> ). (Called Bhágirathi-Baspa Watershed No. 1 Peak in Synoptical Vol. VII).                                                                                 | 31 13 16.6  | 78 34 34.2                | ...                                 | 6                          | ...    | 0.5                                                 | ...                          |
| * Pk. 58<br>53 I                        | Near tri-junction of watersheds of the Baspa, Tons, and Bhágirathi rivers, about 3½ miles E. a little N. of the Borásu pass on watershed of the two former rivers. ( <i>Bashahr-Tehri-Garhwál</i> ). (Called Tons-Baspa Watershed No. 13 Peak in Synoptical Vol. VII). | 31 13 13    | 78 31 59                  | 20430                               | 2                          | 1      | ...                                                 | ...                          |
| * Pk. 59<br>53 I                        | On ridge, about ¼ mile S.E. of Nela h.s. and pass on that ridge. ( <i>Bashahr</i> ). (Called Bhágirathi-Baspa Watershed No. 2 Peak in Synoptical Vol. VII).                                                                                                            | 31 11 43.4  | 78 41 37.1                | ...                                 | 6                          | ...    | 2.9                                                 | ...                          |
| * Pk. 60<br>53 I                        | On spur about 1 mile W. of ridge. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Tons Watershed No. 2 Peak in Synoptical Vol. VII).                                                                                                                                      | 31 9 10     | 78 34 23                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk. 61<br>53 I                        | On ridge, about 5 miles S.W. of the Nela pass, and 7 miles W. by N. of the Karkúti camping ground. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Tons Watershed No. 4 Peak in Synoptical Vol. VII).                                                                     | 31 8 56     | 78 36 29                  | 19550                               | 2                          | 2      | ...                                                 | ...                          |
| * Pk. 62<br>53 I                        | On ridge, about ¾ mile W.S.W. of Pk. 61 ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Tons Watershed No. 3 Peak in Synoptical Vol. VII).                                                                                                                                | 31 8 45     | 78 35 52                  | 19590                               | 2                          | 1      | ...                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.  
† Fixed by two triangles having no common side.

## DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile or comparison of distances | Number of Triangulation |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|-------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                   |                         |
| • Pk. 63<br>53 I                        | ... On spur from watershed of the Tons and Bhágirathi rivers, about 4½ miles W. of Karkúti on road from Gangotri by the Nela pass, and 5½ miles S. a little W. of that pass. ( <i>Tehri-Garhwál</i> ). (Called Dumdar Peak in Synoptical Vol. VII).                                                                                                        | 31 7 35.9   | 78 38 35.4                | 18910                               | 5                          | 1      | Feet<br>0.3                                       | ...                     |
| Pk. 64<br>53 I (Sargaroin)              | On ridge between the Tons and Bhágirathi rivers, at head of stream joining the latter about 1 mile above Púrálí village, and between main branches of the Tons at its source. This peak is identical with Sargaroin N. Peak of the N.W. Himalaya Series. Observed in 1833-34. ( <i>Tehri-Garhwál</i> ).                                                    | 31 6 8      | 78 30 4                   | 20370                               | 3                          | 2      | 0.1                                               | ...                     |
| • Pk. 65<br>53 I                        | ... For Description <i>see</i> above. (Called Sargaroin S. Peak in Synoptical Vol. VII).                                                                                                                                                                                                                                                                   | 31 6 2      | 78 30 29                  | ...                                 | 3                          | ...    | 1.1                                               | ...                     |
| • Pk. 66<br>53 I                        | ... On ridge, about 2 miles N.E. of Pk. 69 (Bandarpunch), and 4½ miles W.N.W. of Manára village above the Bhágirathi river. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Tons Watershed No. 1 Peak in Synoptical Vol. VII).                                                                                                                                | 31 1 35     | 78 34 22                  | ...                                 | 3                          | ...    | 1.4                                               | ...                     |
| Pk. 67<br>53 I                          | ... Snowy peak. Observed in 1864-65.                                                                                                                                                                                                                                                                                                                       | 31 0 26     | 78 31 40                  | 19980                               | 3                          | 3      | 0.6                                               | ...                     |
| Pk. 68<br>53 I                          | ... Observed in 1835.                                                                                                                                                                                                                                                                                                                                      | 31 0 24.8   | 78 31 38.8                | 20020                               | 2                          | 2      | ...                                               | ...                     |
| Pk. 69<br>53 I (Bandarpunch)            | At head of the Snpin or Tons river, a tributary of the Jumna, about 4 miles N.N.W. of the Bamsor pass leading from a feeder at head of the Jumna river to Gangotri by Manára, 5½ miles W. of Manára, and 5½ miles E. of Jamnotri. This peak is identical with Bandarpunch Peak of the N.W. Himalaya Series. Observed in 1834-36. ( <i>Tehri-Garhwál</i> ). | 31 0 12.1   | 78 33 17.1                | 20720                               | 8                          | 5      | 0.0                                               | ...                     |
| Pk. 70<br>53 I                          | ... Snowy peak. Observed in 1877.                                                                                                                                                                                                                                                                                                                          | 31 59 35    | 78 47 17                  | 21680                               | 3                          | 2      | 0.2                                               | ...                     |
| • Pk. 71<br>53 I                        | ... On ridge separating Bashahr from Chinese Tartary, 2 miles N. of the Keobrung pass, and at head of glacier from which the Tagla Gár stream takes its rise. ( <i>Bashahr-Chinese Tartary</i> ). (Called Keobrung Peak in Synoptical Vol. VII).                                                                                                           | 31 36 34    | 78 50 56                  | 18510                               | 2                          | 1      | ...                                               | ...                     |
| • Pk. 72<br>53 I                        | ... To left of the river, on spur from S. and near head of the Tagla Gár stream, 4½ miles S. a little W. of the Gantang camping ground on the Tagla Gár stream, and 5 miles S.W. of the Keobrung pass. ( <i>Bashahr</i> ). (Called Sullej River Watershed No. 8 Peak in Synoptical Vol. VII).                                                              | 31 32 56    | 78 45 47                  | ...                                 | 2                          | ...    | ...                                               | ...                     |

• These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 I, between Lats. 31° - 32° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in compass/side of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| * Pk 73<br>53 I                         | N. of glacier at head of the Todung Gâr stream, about 2½ miles N.W. by W. of Pk 74. (Bashahr-Tartary). (Called Satej River Watershed No. 9 Peak in Synoptical Vol. VII).                                                                                                                              | 31 23 46    | 78 47 29                  | 18990                               | 2                          | 1      | Feet                                                | ...                          |
| * Pk 74<br>53 I                         | N. of glacier at head of the Todung Gâr stream, about 2½ miles S.E. by E. of Pk 73. (Bashahr-Tartary). (Called Satej River Watershed No. 10 Peak in Synoptical Vol. VII).                                                                                                                             | 31 22 44    | 78 50 7                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk 75<br>53 I                           | Snowy peak. Observed in 1878.                                                                                                                                                                                                                                                                         | 31 14 47    | 78 58 14                  | ...                                 | 3                          | ...    | 5'5                                                 | ...                          |
| * Pk 76<br>53 I                         | On ridge, about 5 miles W. of the Nela pass. (Bashahr-Tehri-Garhwâl). (Called Bhâgirathi-Baspa Watershed No. 3 Peak in Synoptical Vol. VII).                                                                                                                                                          | 31 11 10    | 78 46 0                   | 19650                               | 2                          | 2      | ...                                                 | ...                          |
| Pk 77<br>53 I                           | Snowy peak. Observed in 1878.                                                                                                                                                                                                                                                                         | 31 9 54     | 78 59 24                  | ...                                 | 3                          | ...    | 6'9                                                 | ...                          |
| * Pk 78<br>53 I                         | Needle rock, on spur leaving ridge at Pk 76 and ending at E. side of junction of stream from the Nela pass with the Bhâgirathi river, about 4½ miles N.N.E. of the Fuldaru camping ground on the Nela stream. (Tehri-Garhwâl). (Called Bhâgirathi-Baspa Watershed No. 4 Peak in Synoptical Vol. VII). | 31 7 55'9   | 78 46 44'3                | 18630                               | 2                          | 2      | ...                                                 | ...                          |
| * Pk 79<br>53 I                         | Great snowy cone on spur about ½ mile from ridge, and at N.E. head of stream joining the Bhâgirathi at bridge 2 miles below Nakûn village. (Bashahr-Tehri-Garhwâl). (Called Bhâgirathi-Baspa Watershed No. 5 Peak in Synoptical Vol. VII).                                                            | 31 7 54'9   | 78 50 30'1                | 19930                               | 5                          | 4      | 1'0                                                 | ...                          |
| * Pk 80<br>53 I                         | On same spur as Pk 79 E.S.E. of that point, and 2½ miles W. a little N. of Pk 81. (Bashahr-Tehri-Garhwâl). (Called Bhâgirathi-Baspa Watershed No. 6 Peak in Synoptical Vol. VII).                                                                                                                     | 31 7 0      | 78 52 46                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk 81<br>53 I                         | On same spur as Pk 79 a little S. of the latter point, and 3 miles W. a little N. of junction of the Choro Gâr stream and the Nilang river. (Bashahr-Tehri-Garhwâl). (Called Bhâgirathi-Baspa Watershed No. 7 Peak in Synoptical Vol. VII).                                                           | 31 6 36'9   | 78 55 10'9                | 19660                               | 3                          | 1      | 2'3                                                 | ...                          |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides | Reference Number of Triangulation |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------|-----------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                        |                                   |
| *Adála                                  | <i>h.s.</i> On watershed of the Bhágrathi and Behling rivers, S.E. of Jarmk and Karmúr villages on the former, about 3½ miles from Karmúr, 6½ miles N.N.W. of Ahgunda on the Newarlad stream a branch of the Behling, and ½ mile N.E. of Adálákánta <i>h.s.</i> ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                 | 30 41 22.64 | 78 35 34.70               | 11232                               | ...                        | 3      | Feet<br>...                            | ...                               |
| *Adálákánta                             | <i>h.s.</i> On watershed of the Behling and Bhágrathi rivers S.E. of Jarmk and Karmúr villages on the latter, about 3½ miles from Karmúr, 3 miles N.N.E. of Tharnda at head of the Jalkaur stream entering the Bhágrathi river. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                 | 30 40 51.21 | 78 35 10.31               | 10872                               | ...                        | 4      | ...                                    | ...                               |
| Ameli                                   | No. 1 <i>h.s.</i> On a peak of a range of hills forming the boundary between the <i>pattis</i> of Mawalsyún and Ghurdorsyún; 1½ miles E. by S. of Ithosi village, 2 miles S.W. by S. of Pindwalni and 2½ miles N.E. of Marvára. Observed in 1864-65. ( <i>Chándkot, Garhwál</i> ).                                                                                                                                                                                                                                                                                                        | 30 0 11.21  | 78 54 14.42               | 8211                                | ...                        | 2      | ...                                    | 474                               |
| Ameli                                   | No. 2 <i>h.s.</i> On a range of hills forming the boundary between the <i>pattis</i> of Mawalsyún and Ghurdorsyún, 1½ miles E. of Ithosi village and 1½ miles S.W. of Pindwalni. Observed in 1864-65. ( <i>Chándkot, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                       | 30 0 32.05  | 78 53 55.70               | 8015                                | ...                        | 2      | ...                                    | 551,<br>552                       |
| Angaila                                 | No. 1 <i>h.s.</i> Is situated on a spur a little more than a mile S.S.W. of the village of that name. The hill runs southwards from the village. The station is easy of access from the village of Birpur which is about ½ mile south of the station.<br>A ⊙ mark cut on an embedded stone marks the station. Observed in 1873-74. ( <i>Dakra Dún</i> ).                                                                                                                                                                                                                                  | 30 22 21.25 | 78 1 56.03                | 2793                                | ...                        | 2      | ...                                    | 165,<br>166                       |
| Angaila                                 | No. 2 <i>h.s.</i> Is situated on the edge of a precipice overlooking the Nún nadi nearly a mile W.S.W. of the village of that name, and about ½ mile east of Jaininwála village. There is a good view towards the south and west from this station.<br>The station can be reached easily from the south along the spur which runs down from the station southwards. The trijunction boundary pillar of Angaila, Birpur and Nagnáth-ka-bara villages is 37 feet north of the station mark. A ⊙ mark cut on an embedded stone marks the station. Observed in 1873-74. ( <i>Dakra Dún</i> ). | 30 22 52.10 | 78 1 43.65                | 3003                                | ...                        | 2      | ...                                    | 167,<br>168                       |
| †Annakal                                | <i>h.s.</i> ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 13 41    | 78 25 42                  | ...                                 | ...                        | ...    | ...                                    | ...                               |

\* These stations appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Badrāj Masras                          | h.s. On spur between the Uglār and Badri, confluents of the Jumna river, about 4¼ miles N.E. by E. of junction of the former with the Jumna, and ¼ mile N.E. of the temple. ( <i>Tehri-Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 32 38.04 | 78 3 16.08                | 7123                                | ...                        | 2      | Feet<br>...                                         | ...                          |
| *Badrāj Masras Temple                   | s. On spur between the Uglār and Badri streams, about 4¼ miles N.E. by E. of junction of the former with the Jumna, and ¼ mile N.N.W. of Thargad village. ( <i>Tehri-Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 32 31.24 | 78 3 5.43                 | 7167                                | ...                        | 1      | ...                                                 | ...                          |
| Bahak                                   | h.s. Is on the highest point of the hill of the same name in the hands of the village Kaprole, <i>patti</i> Mungar Santi on the watershed of the Bhāgirathi and Jumna rivers, about 2¼ miles E.N.E. of Tehliank village on the Burni stream entering the latter, and 5¼ miles N.W. of Gula village on stream entering the former between Gula and Thara villages.<br>The point is marked by the usual ⊙ inscribed on a stone. Over this lower mark is built a circular masonry pillar 2 feet 5 inches high and 3 feet in diameter carrying at the centre of its upper surface an upper mark vertically above the lower. Surrounding this pillar but isolated from it is a masonry platform 14 feet square and built to a level 3 inches higher than the top of the pillar.<br>The station is easily approached from the south from Chujula village or from the west from Kaprole. There is a site for a small camp, a short distance west of and below the station, but the nearest good water is over 2 miles in the same direction. Observed in 1903. ( <i>Tehri-Garhwāl</i> ). | 30 45 5.28  | 78 13 36.98               | 9715                                | ...                        | 2      | ...                                                 | 277                          |
| †Bahera.                                | h.s. On spur on N. face of the Siwālik range, about 1¼ miles N.E. of the Kānsrao pass. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 4 17.51  | 78 5 13.06                | 2141                                | ...                        | ...    | ...                                                 | ...                          |
| Baingwāri.                              | h.s. On the spur of a hill close W. of the small village of that name and ¼ mile N. by E. of Gadoli tea factory in the <i>patti</i> Nādusyān. Observed in 1866. ( <i>Bārahayūn, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 8 1.68   | 78 48 33.46               | ...                                 | ...                        | ...    | ...                                                 | 389                          |
| Banali.                                 | h.s. On the N. end of a high range of hills in the <i>patti</i> Udepur Talā, 1¼ miles S. of the Ganges, 2 miles E. of Rikhikesh and 1¼ miles N.W. of Marhal village. Observed in 1864-65. ( <i>Ganga Salān, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 6 26.95  | 78 20 24.22               | 4242                                | ...                        | 1      | ...                                                 | 356                          |
| Bangarni                                | h.s. On a range forming the boundary between <i>patti</i> Manyasyūn and Bandleyūn, close W. of the village of that name, 1¼ miles S.E. of Tari, ¼ mile N. by W. of Dusa, and 2¼ miles N.W. of Naithāna bungalow on the high road to Srinagar. Observed in 1864-65. ( <i>Bārahayūn, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 2 56.86  | 78 39 33.00               | ...                                 | ...                        | ...    | ...                                                 | 383,<br>384                  |

\* These stations appertain to the North-West Himalaya Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 20°.

DEGREE SHEET 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille to nearest side of triangles | Reference to triangulation |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                      |                            |
| †Banog, (X)                             | Is situated on a detached peak of the lower range of the Himalaya Mountains, being thrown back about a mile to the north of the range whereon stands the sanitarium of Mussooree.<br>The pillar is solid, and 2 feet high. It has a mark-stone at top, and another at bottom. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                             | 30 28 36.91 | 78 0 55.96                | 7433                                | ...                        | ...    | ...                                                  | ...                        |
| †Baura Hill Staff                       | ( <i>Garhwáti</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 21 39    | 78 18 22                  | ...                                 | ...                        | ...    | ...                                                  | ...                        |
| Bellkudáuda h.s.                        | Is situated on the hill of the same name about a mile N.E. of the well-known village of Nágál and about $\frac{1}{2}$ mile N. and above the village of Dhannula. The village of Kalrigadh on the Baldi stream is nearly a mile N.E. of the station. A good pathway from Nágál <i>via</i> Khuradoni leads to the station.<br>A $\odot$ cut on a well embedded stone marks the station and a cairn of stones 5 feet high with a staff in the centre has been erected over the station. Observed in 1874-75. ( <i>Dehra Dún</i> ). | 30 23 42.26 | 78 7 21.67                | 4371                                | ...                        | 2      | ...                                                  | 185, 186                   |
| Bhogpur Mark                            | On <i>thána</i> . Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 12 38.5  | 78 13 55.2                | ...                                 | ...                        | ...    | ...                                                  | 185, 186                   |
| Birásí House                            | Sahedra's house. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 15 24.6  | 78 10 5.9                 | 2283                                | ...                        | 2      | ...                                                  | 200, 201                   |
| Birbhaddar a.                           | On the right bank of the Ganges $\frac{1}{2}$ mile S. of Birbhaddar temple, $3\frac{1}{2}$ miles S.W. of Rishikesh, and $2\frac{1}{2}$ miles E.N.E. of Khurak village. Observed in 1864-65. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                               | 30 3 51.97  | 78 16 50.16               | ...                                 | ...                        | ...    | ...                                                  | 332, 353                   |
| †Birhoni Hill Staff                     | ( <i>Garhwáti</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 10 26    | 78 18 57                  | ...                                 | ...                        | ...    | ...                                                  | ...                        |
| †Birpur Temple                          | 8. spire of temple on hill. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 4 3.1    | 78 16 53.0                | ...                                 | ...                        | ...    | ...                                                  | ...                        |
| Bisone h.s.                             | On a prominent peak on the watershed of Helhog and Bhadkuni rivers about $3\frac{1}{2}$ miles S.E. of Dunje village on the left bank of the former. Chivali village is about 3 miles N. by W. Observed in 1851-52. ( <i>Takri-Garhwáti</i> ).                                                                                                                                                                                                                                                                                   | 30 29 3.75  | 78 49 22.74               | 10181                               | ...                        | 3      | ...                                                  | 205, 306                   |
| †Blucher's h.s.                         | In Mussooree; marked by a $\odot$ engraved on stone, and covered with a pile of stones. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 27 32.18 | 78 3 5.58                 | 7188                                | ...                        | ...    | ...                                                  | ...                        |

‡ This station appertains to the Base-line figure of the Great Arc Meridional Series—Section 24° - 30°.  
† These points appertain to the Great Arc Meridional Series—Section 34° - 30°.



## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bodri Temple                            | Higher of the two temples together. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                   | 30 16 14    | 78 3 45                   | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Bukreáh h.s.                           | On spur between the Binsi stream and the Bhágirathi river, about 6 miles N.E. of Gaudana above their junction, 4 miles E.S.E. of Ahgora on the former, and 4½ miles W.N.W. of Paki and Maláha on the Bhágirathi river. ( <i>Tehri-Garhwál</i> ).                                                                                                                 | 30 49 22.42 | 78 32 31.40               | 12488                               | ...                        | 2      | ...                                                 | ...                          |
| *Búse h.s.                              | On spur, about 3 miles E. of Udára village, and 3 miles S.S.E. of Bhuki village on higher portion of the Bhágirathi river. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                             | 30 49 21.30 | 78 40 19.68               | 12064                               | ...                        | 3      | ...                                                 | ...                          |
| Chackanda Temple                        | On peak on the right bank of the Alaknanda river. Observed in 1865. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                    | 30 15 49    | 78 47 4                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Chauban Hill Staff                     | ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                              | 30 14 44    | 78 18 8                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Chauki h.s.                             | Is situated on a knoll on the first range about ½ mile N.W. of the village of that name and about a mile S. of Nunás. The station is in the lands of Chauki village and is easily reached by a path from it and is about 1½ miles W.N.W. of Santaurgarh. The station is marked by a $\odot$ cut on an embedded stone. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 24 42.18 | 78 0 7.68                 | 3404                                | ...                        | 2      | ...                                                 | 154                          |
| Chilangbita h.s.                        | On the ridge between Kankhwála h.s. and Gurdhári h.s., and commands a good view of the valleys on either side. The station is on a knoll a little above the road from Pauci to Deopuyág which runs generally along the ridge. Observed in 1864-65. ( <i>Bárahshyán, Garhwál</i> ).                                                                               | 30 9 41.65  | 78 43 22.32               | 5721                                | ...                        | 1      | ...                                                 | 373                          |
| †Childer's Lodge in Landour             | Lightning conductor. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                         | 30 28 5.37  | 78 5 43.75                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Cloud End h.s.                         | In Mussooree; marked by a $\odot$ engraved on stone, and covered over with a pile of stones. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                               | 30 27 58.54 | 78 0 36.13                | 7065                                | ...                        | ...    | ...                                                 | ...                          |

\* These stations appertain to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to Triangles |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------|
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                     |                        |
| †Daolaghari                                   | h.s. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 20 21    | 78 10 44                  | ...                                 | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Basevi's Pendulum Station          | In the transit room of the Dehra Dún small Photo-heliograph Observatory. Observed in 1870-71.                                                                                                                                                                                                                                                                                                                                                                                               | 30 19 29    | 78 3 15                   | 2239                                | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Body-guard Temple                  | Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 21 25.3  | 78 3 59.2                 | ...                                 | ...                        | ...    | ...                                                 | 177, 178               |
| Dehra Dún Church                              | N.W. corner of steeple of the English Church near Dilaram Bázár. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                 | 30 20 18.9  | 78 3 29.5                 | ...                                 | ...                        | ...    | ...                                                 | 172                    |
| Dehra Dún, Gillespie's Tomb                   | N. pillar. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 20 12    | 78 4 9                    | 2345                                | ...                        | ...    | ...                                                 | ...                    |
| †Dehra Dún, Gurúdwára Temple                  | Staff. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 19 5.2   | 78 1 59.9                 | 2205                                | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Latitude Station                   | Is 66 feet 5 inches east of the Haig Observatory. It is 39 feet 11¼ inches south and 89 feet 8 inches east of the Dehra Dún Longitude Station. See page (59) Vol. XVIII, G. T. Survey of India. Observed in 1904-05.                                                                                                                                                                                                                                                                        | 30 19 28.73 | 78 3 23.14                | ...                                 | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Lenox Conyngham's Pendulum Station | Is in the room on the north-east corner of the large Photo-heliograph Observatory, west of the Haig Observatory and 590 feet due east of Basevi's pendulum station. Observed in 1904-05.                                                                                                                                                                                                                                                                                                    | 30 19 29    | 78 3 22                   | 2241                                | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Longitude Station                  | Is situated in the north-eastern portion of the Survey of India office compound, 33 feet 6¼ inches north of the Haig Observatory, 43 feet 6 inches from the northern boundary wall measured on the ray to the Mussooree eastern meridian mark, and 628 feet 9 inches due east of the small Photo-heliograph Observatory called Dehra Dome Observatory T.S. (New) in Synoptical Vol. II. (See Vol. XV of the <i>Account of the Operations of the Survey of India</i> ). Observed in 1885-86. | 30 19 29.13 | 78 3 22.12                | ...                                 | ...                        | ...    | ...                                                 | ...                    |
| Dehra Dún, Magazine House                     | Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 20 54.8  | 78 2 12.0                 | ...                                 | ...                        | ...    | ...                                                 | 175, 178               |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                           |                                     | Position                   | Height |                                                     |                              |
| Dehra Dún, Magnetic Observatory                  | Situated in the compound of the Trigonometrical Survey office south of the Haig Observatory. Observed in 1900-01.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 19 19     | 78 3 19                   | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| Dehra Dún, Mission School                        | In the bázár. Tower, N.E. corner. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 19 19' 1  | 78 2 24' 3                | ...                                 | ...                        | ...    | ...                                                 | 173,<br>174                  |
| †Dehra Dún, Observatory (old)                    | Is situated immediately on the right bank of the Riepana nadi in the compound of the house formerly used as the Head Quarters Office of the G. T. Survey. It is about 0.4 of a mile S. by E. of the English Church of Dehra Dún and about 0.6 of a mile N.E. by N. of the Dehra Dún small Photo-heliograph Observatory: the upper surface of the paka pillar, carrying the mark-stone, is about 1 foot above the ground level.                                                                                                                                                                                                                                          | 30 19 57' 07 | 78 3 34' 70               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Dehra Dún, Observatory (small Photo-heliograph) | Is situated in the grounds of the Head Quarter's Office of the G. T. Survey. The pillar is solid and 16 feet high above the level of the floor of the observatory and has a mark-stone at its surface. ( <i>Dehra Dún</i> ). (Called Dehra Dome Observatory (New) in Synoptical Vol. II).                                                                                                                                                                                                                                                                                                                                                                               | 30 19 29' 13 | 78 3 14' 94               | 2255' 13                            | ...                        | ...    | ...                                                 | ...                          |
| Dehra Dún                                        | s. Is situated on the top of Lala Sarai Mal's three-storied house 38 feet high N.E. of the Dehra Dún Sarai with a road running between the Sarai and the house. The station is a fine commanding one and is marked by a ⊙ cut in the plaster of the very top of the house. It is 7½ feet from the N. corner, 6½ feet from the E. corner, 7½ feet from the S. corner and 7½ feet from the W. corner of the roof, and is marked by a bamboo pole 11 feet high from the mark. This house is about 150 yards S.W. of the Gurkha Hospital (at present occupied by Tahsildar's kachahri) and 200 yards S.E. of the Mission School. Observed in 1873-74. ( <i>Dehra Dún</i> ). | 30 19 14' 92 | 78 2 26' 39               | 2211                                | ...                        | 2      | ...                                                 | 152                          |
| Dehra Dún, Standard Bench-mark No. 1             | This is a large stone monolith surrounded by iron railings and situated a few feet north of the office of the Superintendent Trigonometrical Surveys. Observed in 1904.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ...          | ...                       | § 2233                              | ...                        | ...    | ...                                                 | ...                          |
| Dehra Dún, Standard Bench-mark No. 2             | This is a large stone monolith situated a few feet south of the Haig Observatory. Observed in 1904.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ...          | ...                       | § 2237                              | ...                        | ...    | ...                                                 | ...                          |
| †Dehra Dún, Surveyor General's old Office        | Centre chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 19 59' 16 | 78 3 30' 31               | 2324                                | ...                        | ...    | ...                                                 | ...                          |
| Dehra Dún Temple                                 | On race course. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 18 21     | 78 2 34                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

‡ Determined by Spirit-Levelling.

§ Spirit-level values unadjusted.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Benchmarks |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|--------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                      |                                |
| Deoprayág                               | h.s. On a low peak above the junction of the Alaknanda and Bhágirathi branches of the Ganges and is about a mile and a half by a good path up the large town of Deoprayág which is a sacred place of the Hindus and well-known throughout the district of Garhwál and Kumaun. Observed in 1864-65. ( <i>Tehri-Garhwál</i> ).                                  | 30 8 55' 90 | 78 36 11' 27              | 2509                                | ...                        | 1      | Feet ...                                             | 379                            |
| Devidat                                 | h.s. On a ridge above the tea plantations of Pauri and Gadoli which are on the eastern slopes. The road from Pauri to Najíbabad crosses the ridge and passes close under the station. The station is accessible from every direction and the city of Srinagar is visible from it. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                         | 30 7 33' 71 | 78 46 49' 84              | 7031                                | ...                        | 1      | ...                                                  | 383                            |
| Dhano                                   | h.s. On a spur from a peak of the ridge between Devidat h.s. and Ránigarh, II and above the village of Dhano. The road from Najíbabad to Pauri runs above the station. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                    | 30 5 20' 43 | 78 43 30' 48              | ...                                 | ...                        | ...    | ...                                                  | 387, 388                       |
| Dhari                                   | h.s. On a remarkable peak on the spur which runs down to the Ganges river parallel to the Hiul river from Naogarh h.s. The village of Dhari from which the station takes its name is on the southern slope and distant about 2½ miles. The Har-dwár-Srinagar road runs about 3 miles below the station. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ). | 30 1 49' 23 | 78 29 38' 74              | 5000                                | ...                        | 1      | ...                                                  | 330                            |
| Dhura                                   | h.s. 2½ miles N.N.W. of Tapoban on the Ganges, and 3½ miles N. of Rikhikesh. Observed in 1864-65. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                   | 30 9 13' 57 | 78 19 33' 82              | 4260                                | ...                        | 1      | ...                                                  | 354, 355                       |
| †Doiwála, LV.                           | Is situated on a peak of the Siwálik range of hills which separate Dohra Dún from the plains of the Doab. The nearest habitable place is the village of Doiwála, which lies about 7 miles in a direct distance N.E. of the station.<br>The station is denoted by a mark-stone embedded in the ground. ( <i>Dohra Dún</i> ).                                   | 30 7 12' 13 | 78 2 2' 44                | 2949                                | ...                        | ...    | ...                                                  | ...                            |

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| Dwara                                   | h.s. Is situated about 30 yards from and south of the top of the peak which is about a hundred yards W. of the village of that name.<br>A ⊙ cut on an embedded stone marks the station and a cairn of stones 5 feet high has been erected over the station mark. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 19 23.26 | 78 7 51.02                | 3739                                | ...                        | 2      | Feet<br>...                                         | 183,<br>184                  |
| Gadoli                                  | No. 1 h.s. On the N. slope of a hill near the Gadoli tea factory, $\frac{1}{2}$ mile N. of the high road to Srinagar; $\frac{3}{4}$ mile S.E. of Ráyi Bichli and 1 mile W.N.W. of Mandekhal on the Srinagar road in the <i>patti Nádslyún</i> . Observed in 1866. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 7 21.63  | 78 48 34.78               | ...                                 | ...                        | ...    | ...                                                 | 390                          |
| Gadoli                                  | No. 2 h.s. On a spur $\frac{1}{2}$ mile N.N.W. of Bubakhal, on the high road to Srinagar, $\frac{3}{4}$ mile S.S.E. of Ráyi Bichli, and close E. of the road to Srinagar; <i>patti Nádslyún</i> . Observed in 1866. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 7 27.96  | 78 47 58.42               | ...                                 | ...                        | ...    | ...                                                 | 391                          |
| Gadoli                                  | Tea Factory Top of the S.W. gable end. Observed in 1864. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 7 27     | 78 48 27                  | 5050                                | ...                        | ...    | ...                                                 | ...                          |
| Gandkhola                               | h.s. On a high rocky peak in the <i>patti Chalan-syún</i> , 1 mile E. of the small village of Budau, $1\frac{1}{2}$ miles S.E. of Pokhri. Observed in 1864-65. ( <i>Dewalgarh, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 11 10.08 | 78 54 12.10               | 7554                                | ...                        | 3      | ...                                                 | 478                          |
| †Garh                                   | h.s. On spur on S. face of Siwálik range, between the Harnaul and Gholne Raus. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 0 30.25  | 78 2 42.48                | 1436                                | ...                        | ...    | ...                                                 | ...                          |
| Garhi                                   | Temple In village, higher of the two temples. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 21 11    | 78 1 34                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Ghandiál, LVI                          | ( <i>Vide page 8—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 13 25.32 | 78 25 27.43               | 7350                                | ...                        | ...    | ...                                                 | ...                          |
| Ghandiál                                | H.S. No trace of the old mark-stone could be found. The temple had been enlarged within the last few years, and it was evident that the platform and pillar had been destroyed for building purposes; one of the mark stones was found in the wall surrounding the temple.<br>A new platform and pillar were built, a few feet to the west of the supposed position of the original mark-stone and to the south-west corner of the temple. This new station consists of a platform 14 feet square, with an isolated pillar 36 inches in diameter having two mark-stones 30 inches apart, the lower one being on the original level of the ground. The view from the station is shut out between azimuths 313° and 39° by the temple. Observed in 1864-65. ( <i>Tehri-Garhwál</i> ). | 30 13 25.09 | 78 25 27.14               | 7350                                | ...                        | 2      | ...                                                 | 281                          |

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|--------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                    |
| † Ghoren                                | h.s. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                              | 30 17 6     | 78 15 26                  | ...                                 | ...                        | ...    | ...                                                 | ...                |
| * Gióhútibba                            | h.s. On spur between the Uglár and Badri, confluent of the Jumna, about $\frac{1}{2}$ mile E. a little N. of Badráj Masras h.s., and 1 mile N. of Thargad village above the Uglár. ( <i>Tehri-Garhwál</i> ).                                                                                                                                          | 30 32 42.00 | 78 3 30.21                | 6905                                | ...                        | 1      | ...                                                 | ...                |
| † Gorakhpur N. Dome Spire               | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                 | 30 16 56    | 78 3 24                   | ...                                 | ...                        | ...    | ...                                                 | ...                |
| Gunadánda                               | h.s. On a peak on a range of hills forming the boundary between the <i>pattis</i> Kandarayún and Bidolsayún, about $1\frac{1}{2}$ miles N. of Chipalghát Dák Bungalow on the Nayar river, and on the high road to Srinagar, and $1\frac{1}{2}$ miles W. of Dungan village. Observed in 1864-65. ( <i>Dewalgarh, Garhwál</i> ).                        | 30 8 13.20  | 78 55 35.11               | 6339                                | ...                        | 2      | ...                                                 | 553, 554           |
| Gurdhári                                | h.s. On a hill so named forming the trijunction of the <i>pattis</i> Idwáleyún, Bangarháyún and Sitonsyún, $\frac{1}{2}$ mile N. of Kathur, $1\frac{1}{2}$ miles S.W. of Bara, $1\frac{1}{2}$ miles E. of Balmanna, and $5\frac{1}{2}$ miles S.W. of the town of Srinagar on the Alaknanda river. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ). | 30 10 29.37 | 78 42 8.57                | 5891                                | ...                        | 2      | ...                                                 | 366, 367           |
| † Hátipáon Hill Mark                    | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                 | 30 27 23.0  | 78 1 44.6                 | 7089                                | ...                        | ...    | ...                                                 | ...                |
| † Herne Hill                            | h.s. In Mussooree; marked by a $\odot$ engraved on stone, and covered with a pile of stones. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                    | 30 28 27.54 | 78 2 58.00                | 6573                                | ...                        | ...    | ...                                                 | ...                |
| † Hill                                  | $\alpha$ On Siwálik range nearly 1 mile due N. of Salempur h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                 | 30 0 44.7   | 78 5 48.2                 | ...                                 | ...                        | ...    | ...                                                 | ...                |
| † Hill                                  | $\beta$ On Siwálik range, 1 mile N.E. of Salempur h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                          | 30 0 47.7   | 78 6 26.9                 | ...                                 | ...                        | ...    | ...                                                 | ...                |
| † Hill                                  | $\gamma$ Near termination of spur on E. face of Siwálik range, above eastern edge of the Kúnerao. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                               | 30 1 33.8   | 78 1 44.7                 | ...                                 | ...                        | ...    | ...                                                 | ...                |
| † Hill                                  | $\epsilon$ On summit of Siwálik range, about 1 mile N. of the Buláwála Pass. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                    | 30 8 37.6   | 78 1 9.4                  | ...                                 | ...                        | ...    | ...                                                 | ...                |
| Jalbali                                 | h.s. On a peak so named in the <i>patti</i> Udepur Talla, 1 mile W. by N. of Diuli village, 1 mile S.W. of Kothar, and $\frac{1}{2}$ mile S.S.W. of Bhuwan village. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                             | 30 3 39.48  | 78 20 9.88                | 3804                                | ...                        | 1      | ...                                                 | 327                |

† These points appertain to the Great Arc Meridional Series—Section 24°-30°.

• This station appertains to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                       | Height |                                                     |                              |
| †Jámankháta                             | h.s. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 2 57.19  | 78 10 21.98               | 1924                                | ...                            | ...    | ...                                                 | ...                          |
| Jámankháta (new)                        | h.s. On the S.E. end of the Siwálik range, 1 mile W.N.W. of the road to Hardwar, $\frac{1}{2}$ mile S.W. of the same and the Suswa river, $1\frac{1}{2}$ miles N.W. of Partinagar village, and 1 mile N.W. of Raiwála railway station. Observed in 1864-65. (Dehra Dún-Subáranpur).                                                                                                                                                                                | 30 2 33.59  | 78 11 56.99               | 1754                                | ...                            | 1      | ...                                                 | 350, 351                     |
| *Jauntgarh Fort                         | s. In ruins, on spur between the Badri and Tansa, confluent of the Jumna, about 1 mile N.W. of Gbiákoti village on the Badri, and $1\frac{1}{2}$ miles S.E. of Kabandi village above the Tansa stream. (Teñri-Garhwál).                                                                                                                                                                                                                                            | 30 37 54.81 | 78 5 47.75                | 7323                                | ...                            | 2      | ...                                                 | ...                          |
| Jhangarh                                | h.s. On a peak of the range forming the boundary between the <i>pattis</i> Bangarbeyún and Sitonsyún, $1\frac{1}{2}$ miles S.E. of Saur village, $\frac{1}{2}$ mile N.N.W. of Pawayi and 4 miles E. of Deoprayág. Observed in 1864-65. (Bárahayún, Garhwál).                                                                                                                                                                                                       | 30 8 16.53  | 78 40 13.02               | 5876                                | ...                            | 2      | ...                                                 | 362                          |
| †Jharipáni                              | h.s. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 25 19    | 78 5 12                   | ...                                 | ...                            | ...    | ...                                                 | ...                          |
| Jogiwála                                | House Rája's house in village. Observed in 1874-75. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                   | 30 17 14.0  | 78 4 10.9                 | ...                                 | ...                            | ...    | ...                                                 | 189, 190                     |
| Julendi                                 | h.s. Just south of the village of that name, 2 miles S.W. of the Hiul river, $\frac{1}{2}$ mile S.S.E. of Diuli and $1\frac{1}{2}$ miles W.N.W. of Phaldakot village; in the <i>patti</i> Udepur Talla. Observed in 1864-65. (Ganga Salán, Garhwál).                                                                                                                                                                                                               | 30 2 54.84  | 78 21 13.57               | 3293                                | ...                            | 2      | ...                                                 | 359                          |
| †Kalanga                                | h.s. On Nálápáni hill. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 20 33.79 | 78 5 58.80                | ...                                 | ...                            | ...    | ...                                                 | ...                          |
| Kalanga                                 | h.s. Is situated on the highest point of the hill of the same name about 4 miles N.E. of the city of Dehra Dún about a mile south of the village of Lukhaund and about a mile N.N.E. of the village of Nálápáni, on the spot where Gurkha Fort of Kalanga was situated.<br>A $\odot$ cut on an embedded stone marks the station, and a cairn of stones 5 feet high with a staff in the centre has been erected over the station. Observed in 1874-75. (Dehra Dún). | 30 20 33.91 | 78 5 58.85                | 3093                                | ...                            | 2      | ...                                                 | 182                          |
| †Kála Tibba                             | h.s. (Garhwál).                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 15 51    | 78 19 27                  | ...                                 | ...                            | ...    | ...                                                 | ...                          |

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* This station appertains to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in centimetres | Reference Number of Station |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------|-----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                       |                             |
| Kálimatti                               | h.s. Locally called Khiámi. Is situated on a spur in direct distance about 1½ miles due N. of the village of Kálimatti and about 1 mile E. of the Sarwargarh Got. There is a tolerably easy ascent to it along the Sarwargarh to its head and thence along the spur.<br>The station, which is the same as that of the Forest Survey, is marked by a ⊙ cut on a rock in <i>sitá</i> and covered over with a pile of stones. It is probably identical with Khiámi h.s. of the Great Arc Meridional Series—Section 24° - 30°. Observed in 1875-76. ( <i>Dehra Dún</i> ). | 30 16 48.83 | 78 10 4.28                | 4411                                | ...                        | 2      | ...                                   | 150                         |
| Káluwála                                | s. Is situated about 200 yards W. of the village of that name which is 2 miles N.E. of Lachiwála on the Dehra Dún-Hardwár road. The station is in high grass jungle and about 150 yards from the left bank of the Song river.<br>The station originally a Forest Survey point, is marked by a ⊙ cut on an embedded stone. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                  | 30 13 11.03 | 78 8 59.42                | 1777                                | ...                        | 2      | ...                                   | 198, 199                    |
| †Kanár                                  | h.s. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 9 48     | 78 18 14                  | ...                                 | ...                        | ...    | ...                                   | ...                         |
| †Kanda                                  | h.s. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 19 34    | 78 14 33                  | ...                                 | ...                        | ...    | ...                                   | ...                         |
| Kankhwála                               | h.s. On a ridge above the tea plantations of Pauri and Gadoli which are on the eastern slopes. The road from Pauri to Deoprayág passes under the station. The station is accessible from every direction and the city of Srinagar is visible from it. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                                                                                                                                             | 30 9 25.82  | 78 45 21.43               | 6648                                | ...                        | 1      | ...                                   | 364, 365                    |
| Kankhwála                               | Temple Kales of the temple. Observed in 1864. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 9 29     | 78 45 31                  | ...                                 | ...                        | ...    | ...                                   | ...                         |
| †Kánserao                               | h.s. On summit of Siwálik range, between the Kánserao and Salempur passes. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30 2 22.66  | 78 4 31.49                | 2431                                | ...                        | ...    | ...                                   | ...                         |
| †Kasmeri                                | h.s. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 15 15    | 78 19 29                  | ...                                 | ...                        | ...    | ...                                   | ...                         |
| Kathugarh                               | h.s. On the range forming the boundary between the <i>patlis</i> Kathulyún and Nádalayún of pargannas Dewalgarh and Bárahayún respectively; 2 miles E. by N. of Pauri on the road to Srinagar, ½ mile S.W. of the small village of Pékri, and ½ mile N. of Sirkot. Observed in 1864-65. ( <i>Dewalgarh and Bárahayún, Garhwál</i> ).                                                                                                                                                                                                                                  | 30 9 26.28  | 78 48 29.56               | 5220                                | ...                        | 2      | ...                                   | 369, 370                    |

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.



## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°.

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                            | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |          |
|-----------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|----------|
|                                         |             |                                                                                                                                                                                                                                                                                                        |                           |                                     | Position                   | Height |                                                     |                              |          |
| Kaulágir                                | House       | E. chimney of thatched house S.E. of tea factory. Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                           | 30 20 11                  | 78 1 34                             | ...                        | ...    | ...                                                 | ...                          |          |
| †Khiámi                                 | h.s.        | ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                    | 30 16 48                  | 78 10 5                             | ...                        | ...    | ...                                                 | ...                          |          |
| Kimna                                   | h.s.        | On the ridge which connects Ránigarh, II and Panukhál h.s. and near the temple of Mondan Devi. It can be approached from any direction and commands a fair view of the valleys running into the Nyar river. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                        | 30 1 11 95                | 78 44 14 87                         | 6329                       | ...    | 1                                                   | ...                          | 382      |
| Kolkidánda                              | h.s.        | On a flat-topped hill $\frac{1}{2}$ mile E. of the village of Khon in the <i>patti</i> Banelsyún, $1\frac{1}{2}$ miles N.N.E. of Dadogi village and $1\frac{1}{2}$ miles S.W. of Dhanan. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                                           | 30 5 14 83                | 78 41 6 69                          | 5569                       | ...    | 2                                                   | ...                          | 375      |
| *Kori                                   | s.          | About midway up the Badri, a confluent of the Junna. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                         | 30 35 11 50               | 78 5 9 11                           | 4472                       | ...    | 1                                                   | ...                          | ...      |
| Kotikbál                                | No. 1 h.s.  | On the S. side of the high road from Panri and on the boundary of the <i>pattis</i> Bachhansyún and Kandársyún; $1\frac{1}{2}$ miles S.S.W. of Kóli village, $1\frac{1}{2}$ miles N. by E. of Malúnd and $1\frac{1}{2}$ miles W.N.W. of Chonthani. Observed in 1864-65. ( <i>Dawalgarh, Garhwál</i> ). | 30 10 40 08               | 78 57 52 16                         | 7492                       | ...    | 2                                                   | ...                          | 555, 556 |
| Kotikbál                                | No. 2 h.s.  | On a hill so named on the boundary of the <i>pattis</i> Bachhansyún and Kandársyún, 1 mile N. of Nalui, $1\frac{1}{2}$ miles E. by N. of Mathgnon, and 2 miles S. by E. of Syúni, on the high road from Panri to Nand-prayág. Observed in 1864-65. ( <i>Dawalgarh, Garhwál</i> ).                      | 30 10 30 92               | 78 57 26 37                         | ...                        | ...    | ...                                                 | ...                          | 557, 558 |
| *Kudáha                                 | h.s.        | On spur, about $\frac{1}{2}$ mile S.E. of Kudáha village, N. of the Uglár a confluent of the Junna river, and $4\frac{1}{2}$ miles E. of their junction. ( <i>Tehri-Garhwál</i> ).                                                                                                                     | 30 30 55 79               | 78 3 27 70                          | 4161                       | ...    | 3                                                   | ...                          | ...      |
| Kund                                    | h.s.        | On a hill $\frac{1}{2}$ mile W. of the village of that name, $\frac{1}{2}$ mile N.W. of Unchakot, 1 mile S.W. of the Ganges river and $\frac{1}{2}$ mile E. of Naudha village. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                   | 30 3 24 02                | 78 26 48 44                         | 4396                       | ...    | 2                                                   | ...                          | 357, 358 |

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

\* These stations appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Station |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|-----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                      |                             |
| Kuthal                                  | h.s. Is situated at the extremity of the spur which runs down from Naogarah station to the Gungee River. It is accessible from east, south and west. The high road from Srinagar to Haridwar crosses over the spur about 3 miles S.E. of the station to Bairagia on the Hiul stream, Kund station is above the road and to the south of it. Kund village is 1 mile below the station and to the N.E. The large village of Mala is 1½ miles below Kuthal station on the east and Pralgaon a mile on the western slope. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ). | 30 5 52.41  | 78 24 36.97               | 4748                                | ...                        | 1      | Feet                                                 | 329                         |
| †Lachkua                                | h.s. On spur on S. face of Siwálik range at head of Sindli Rau. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 4 34.24  | 78 1 41.67                | 2674                                | ...                        | ...    | ...                                                  | ...                         |
| †Lachmanjhula                           | Temple ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 7 36.71  | 78 19 40.09               | ...                                 | ...                        | ...    | ...                                                  | ...                         |
| Lamkhál                                 | Hill Mark Observed in 1851-52. ( <i>Bárahayán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 6 33.4   | 78 49 41.6                | ...                                 | ...                        | ...    | ...                                                  | 309, 310                    |
| †Landour                                | Hospital Heliotrope on roof. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 27 18.7  | 78 6 22.0                 | 7362                                | ...                        | ...    | ...                                                  | ...                         |
| †Landour, Lál Tibba Bungalow            | N. and highest of two chimneys. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 27 31    | 78 6 5                    | ...                                 | ...                        | ...    | ...                                                  | ...                         |
| †Landour, Lál Tibba                     | h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 27 30    | 78 6 5                    | 7464                                | ...                        | ...    | ...                                                  | ...                         |
| Landour, Lál Tibba Standard Bench-mark  | ...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ...         | ...                       | § 7460                              | ...                        | ...    | ...                                                  | ...                         |
| †Landour, Protestant Church             | Angle of ridge over porch. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 27 39.4  | 78 5 48.2                 | 7287                                | ...                        | ...    | ...                                                  | ...                         |
| †Landour, R. C. Chapel                  | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 27 50    | 78 5 50                   | 7538                                | ...                        | ...    | ...                                                  | ...                         |
| ¶Mabla                                  | h.s. On spur about 2½ miles E. of Snki village on the higher portion of the Bhágirathi river, and 2½ miles S., a little W. of bridge over that river, 2 miles below Daráli village on left bank. Observed in 1853-54. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                             | 30 59 50.08 | 78 44 45.15               | 15059                               | 3                          | 3      | 0.2                                                  | ...                         |
| Maidan                                  | h.s. Is situated on a clear knoll about ¼ mile west of the village of that name about 1½ miles north of Tháno village and about ¼ mile S.W. of Kathar village. There is a Forest Bungalow close N.W. of the station.<br>A (c) cut on an embedded stone marks the station and a cairn of stones 5 feet high has been erected over the mark-stone. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                 | 30 15 26.05 | 78 12 31.84               | 3864                                | ...                        | 2      | ...                                                  | 192                         |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

¶ This station is identical with Mabla Hill Staff of the North-West Himalaya Series.

§ Spirit-level value unadjusted.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |             |               |                           |                                     | Position                   | Height |                                                     |                              |
| Májin                                   | h.s.        | 30 13 1' 20"  | 78 42 58' 62"             | 3654                                | ...                        | 2      | ...                                                 | 368                          |
| Málkot                                  | h.s.        | 30 14 45' 82" | 78 14 4' 67"              | 3932                                | ...                        | 2      | ...                                                 | 191                          |
| Manda                                   | h.s.        | 30 6 23' 51"  | 78 49 50' 62"             | 6884                                | ...                        | 2      | ...                                                 | 481                          |
| Maniknáth                               | h.s.        | 30 22 7' 19"  | 78 39 51' 36"             | 8209                                | ...                        | 3      | ...                                                 | 282, 283                     |
| Marhal                                  | h.s.        | 30 6 5' 88"   | 78 20 35' 78"             | 4582                                | ...                        | 2      | ...                                                 | 328                          |

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference to <i>Annals of Surveying</i> |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|-----------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                      |                                         |
| Matarkhani                              | h.s. Is situated in the lands of the Bāgli village, <i>patti</i> of Gadúl, about a hundred yards S.W. of the trijunction boundary pillar of Bāgli, Mālsi and Tehri-Garhwāl. A very good path-way comes here from Bhogpur, called the Rāja's road.<br>The station is marked by a ⊙ cut on an embedded stone with a cairn of stones 5 feet high erected above it. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                    | 30 12 56.81 | 78 15 52.51               | 4455                                | ...                        | 2      | ...                                                  | 193, 194                                |
| Mintidhār                               | h.s. On a hill so named on the boundary of the <i>patti</i> of Idwāleyūn and Bangarhsyūn, $\frac{3}{4}$ mile E. of Jumla, 1 mile N.E. of Balmāna, $1\frac{1}{2}$ miles W. of Phisoli village and 2 miles S.E. of Ranibāgh on the road to Srinagar along the Alaknanda river. Observed in 1864. ( <i>Bārakhsyūn, Garhwāl</i> ).                                                                                                                                                                                                                | 30 11 9.06  | 78 41 22.92               | 5503                                | ...                        | 2      | ...                                                  | 371, 372                                |
| †Mohan Kīrat                            | Temple ( <i>Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 7 23.48  | 78 18 44.83               | ...                                 | ...                        | ...    | ...                                                  | ...                                     |
| Motichūr                                | s. On the W. bank of the Ganges just N. of the Motichūr Rau, $1\frac{1}{2}$ miles N.E. of Kelavāla, $1\frac{1}{2}$ miles S.W. of Raiwāla, and 1 mile S. by E. of Jhora tank. Observed in 1865-66. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                       | 30 0 10.13  | 78 12 40.50               | ...                                 | ...                        | ...    | ...                                                  | 349                                     |
| †Mussooree, Abbey Spire                 | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 27 39    | 78 2 41                   | 7092                                | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree, Bachelor's Hall             | Chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 27 34    | 78 1 24                   | ...                                 | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree, Camel's Back                | h.s. On the highest knoll E. of and adjoining Ferne Cliff estate; marked by a ⊙ engraved on stone and embedded in the soil. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                             | 30 27 36.36 | 78 4 31.20                | 7029                                | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree, Church Steeple              | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 27 36.0  | 78 4 9.7                  | ...                                 | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree, Clover Lodge                | W. chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 27 48    | 78 1 30                   | ...                                 | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree Convent                      | Top of N. white chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 27 48.6  | 78 3 33.8                 | 6985                                | ...                        | ...    | ...                                                  | ...                                     |
| †Mussooree Dome Obsy. H.S.              | Is situated in the station of Mussooree on the ridge of the hill called the "Camel's Back" to the west of and considerably below the highest part of the hill. A few yards to E.S.E. is the transit room, and a little below on the northern face of the hill is the house formerly occupied by the Great Trigonometrical Survey Office.<br>The pillar is solid and isolated and has a mark-stone embedded at its surface, level with the floor of the observatory, which is about 4 feet higher than the ground level. ( <i>Dehra Dún</i> ). | 30 27 40.55 | 78 4 17.41                | 6937                                | ...                        | ...    | ...                                                  | ...                                     |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| †Mussooree, Dúdhili or Moltí Tibba        | Hill mark. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 27 59    | 78 0 37                   | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| †Mussooree, Eagle's Nest h.s.             | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 27 31    | 78 3 16                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Gracemount                    | Top of Dial pillar. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 27 33    | 78 3 53                   | 6569                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Himalaya Club                 | Top of westernmost chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                               | 30 27 14.4  | 78 5 9.9                  | 6768                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Laureston                     | Top of Dial pillar. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 27 34    | 78 3 42                   | 6651                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Laureston Observatory Mark    | ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 27 34.2  | 78 3 43.0                 | 6653                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree Library                        | Top of S.E. corner. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 27 35    | 78 3 56                   | 6599                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Logarithm Lodge               | Centro chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 27 39    | 78 1 5                    | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Manor House h.s.              | Between the Dormitory and Chapel of the R.C. School so called; marked by a ⊙ cut on rock. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                 | 30 26 10.57 | 78 5 19.05                | 5911                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Park House                    | E. chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 27 32    | 78 1 28                   | 6712                                | ...                        | ...    | ...                                                 | ...                          |
| Mussooree, Pendulum Station (Dunseverick) | In a room in the lower storey of the house situated on the eastern end of a ridge which runs nearly due east and west; the ground falls very steeply on three sides, but on the fourth it continues at about the same level, though with irregular ups and downs, for about 7 miles and then descends gradually to the Jumna. There is a bench-mark of the G. T. Survey in the verandah just outside the pendulum room. Observed in 1904. ( <i>Dehra Dún</i> ). | 30 27 28    | 78 3 33                   | 7129                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Priory                        | W. gable end. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 28 6     | 78 3 32                   | 6787                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Tundelabad                    | N. chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 27 37    | 78 2 1                    | 6424                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Vincent's Hill s.             | On knoll to S.E. of and adjoining Bellevue house; marked by a ⊙ engraved on stone and embedded in the soil. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                               | 30 27 17.24 | 78 3 29.60                | 7006                                | ...                        | ...    | ...                                                 | ...                          |
| †Mussooree, Zephyr Hall                   | Top of old observatory S. end of ridge. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                   | 30 27 22.5  | 78 4 49.1                 | 6725                                | ...                        | ...    | ...                                                 | ...                          |
| *Nágni Tank h.s.                          | On spur, about 3½ miles E.N.E. of Odarg village, 4 miles E. a little S. of bridge over the Bhágirathi between Daunda and Ustol villages, and 2½ miles S. of Pokri. ( <i>Tehrí-Garkwadí</i> ).                                                                                                                                                                                                                                                                   | 30 41 12.31 | 78 25 23.22               | 8885                                | ...                        | 2      | ...                                                 | ...                          |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.  
 \* This station appertains to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in comparison of triangulations | Reference to Triangle of Survey |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------------------------|---------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                        |                                 |
| Nágsidh                                 | h.s. Is situated on the eastern main ridge of the hills in the Nágsidh Government Forest about a mile due south of Bohli's Kúa (Bohli's well) on the Dehra Dún-Hardwar road and about 2 miles S.W. of the village of Harrawála.<br>This is a Forest Survey station, and is marked by a $\odot$ cut on an embedded stone with a cairn of stones 5 feet high over the mark. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 13 54.26 | 78 54 07.5                | 2392                                | ...                        | 2      | Feet<br>...                                            | 149                             |
| *Nágtát                                 | Temple On spur between the Badri stream and the Jumna river, about 1½ miles E.S.E. of Díál village, and 1 mile N. of Biroti village. ( <i>Tehri-Garkwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 36 22.6  | 78 4 28.2                 | 6831                                | 4                          | 3      | 0.6                                                    | ...                             |
| Nag Tiba                                | h.s. Is situated on the summit of the highest of three peaks known locally by that name on the watershed of the Bhúgirathi and Jumna rivers, about 3½ miles N.N.W. of Unthal village on a branch of the Uglár, a confluent of the latter, and 2½ miles E. of Párbati on the Badri. The hill can be approached from Mussooree in two marches by several different paths all of which are very steep in places. There is a site for a good camping ground on the spur running north from the station and water is found on the north side of the main ridge to the east.<br>A $\odot$ inscribed on the upper surface of a stone embedded centrally in a circular masonry pillar 40 inches in diameter and 2 feet high marks the station. Vertically below this upper mark two other stones similarly inscribed are embedded at the centre and in the foundation of the pillar respectively. Around the pillar a circular masonry ring has been built, 1 foot thick, and of similar height as the pillar, leaving a concentric space 3 inches wide and surrounding this a platform of earth and stones 14 feet square has been constructed. Observed in 1902. ( <i>Tehri-Garkwál</i> ).<br><i>Note</i> :—This was a secondary station of the North-West Himalaya Series. When visited in 1902 a mark covered with a pile of stones was found and adopted as lower mark. The values of co-ordinates and height given here are those revised in 1902. | 30 35 11.09 | 78 9 9.57                 | 9915                                | ...                        | 3      | ...                                                    | 276                             |
| Naithána                                | h.s. This station is on the right bank of the Nayar river above its junction with the Ganges on a sharp peak of the spur which comes down from Kánigarh, II. The village of Naithána is about a mile and a half below on the eastern slope. The high road from Pauri to Najibabad passes below the station over the village of Naithána. Pauri is one long march from the station. Observed in 1864-65. ( <i>Bárahyaín, Garkwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 0 24.44  | 78 40 52.16               | 5960                                | ...                        | 3      | ...                                                    | 380,<br>381                     |

\* This point appertains to the North-West Himalaya Series.

## DEGREE SHEET 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF LAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                     |                              |
| Nalápáni                                | h.s. Is situated on the south-eastern corner of a bungalow in ruins which lies in a mango tope on a densely-wooded ridge immediately to the east of the village of Nálápáni.<br>The station consists of a $\odot$ mark cut on a stone embedded 4 feet 6 inches above the surface of the ground. This station therefore corresponds with that of the Forest Survey. The station is easy of access from Nálápáni village. Observed in 1873-75. ( <i>Dehra Dún</i> ).                                                        | 30 19 42.20 | 78 5 35.03                | 2673                                | ...                        | 2      | ...                                                 | 151                          |
| Naogarh                                 | h.s. Is on a remarkable peak of the ridge which runs down to the Ganges at its junction with the Hiul stream. It is on the left bank of the Nayar or Byaus Ganga which joins the Ganges in a direct line of 4 miles N.N.E. of the station. The Har-dwár-Srinagar road crosses the Nayar immediately above the junction and here a good road branches up to Naogarh. The larger villages of Kothar and Hathnor are in the valley below the station and to the north. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ). | 30 1 15.85  | 78 33 46.09               | 6062                                | ...                        | 3      | ...                                                 | 325                          |
| †Nawáda                                 | h.s. On summit near N.W. end of the Nágsidh or Nawáda hill. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 14 29.43 | 78 3 27.74                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Oak Grove, Mussoree                    | Centre of northernmost chimney of house so called. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 25 11.36 | 78 5 29.38                | 5222                                | ...                        | ...    | ...                                                 | ...                          |
| Pali                                    | h.s. On the range between the Nayar river and Rundi nadi; $\frac{1}{4}$ mile N.N.E. of the village of Laseri in the Banelsyún patti; $2\frac{1}{4}$ miles E. of the high road from Srinagar to Har-dwár skirting the Ganges river, and 2 miles W S.W. of Muklori village. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                                                                             | 30 5 15.42  | 78 37 34.96               | 5440                                | ...                        | 2      | ...                                                 | 385,<br>386                  |
| Partitnagar                             | h.s. Is situated on a clear knoll in the Government Forest of Jamnankhúta about $1\frac{1}{4}$ miles N. of the Parduni Government Forest Rest-house on the Dehra Dún-Hardwár road and about $1\frac{1}{4}$ miles W. of Partitnagar village. The Rikikesh Road railway station is about $\frac{1}{4}$ mile east of the station.<br>This is an intersected point of the Kummun and Garhwál Survey and a mark-stone with usual $\odot$ was found intact. Observed in 1874-75. ( <i>Dehra Dún</i> ).                          | 30 1 59.57  | 78 12 6.84                | 1597                                | ...                        | 1      | ...                                                 | 202                          |
| Partitnagar                             | Temple Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 1 43     | 78 13 24                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Pauri, Commissioner's House             | Eastern chimney on the northern slope of the roof. Observed in 1865-66. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 8 59     | 78 46 41                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common side of triangles | Reference to Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                    |                       |
| Páwálgarh                               | h.s. On a hill so named in the Maikhandá <i>patti</i> , $\frac{3}{4}$ mile E. of the Tehri-Garhwál boundary, $1\frac{1}{2}$ miles W. by S. of Tarsáli village, 2 $\frac{1}{2}$ miles W. of Jámú, and 2 $\frac{1}{4}$ miles S. by W. of Nyálsu on the road from Tehri. Observed in 1867. ( <i>Nággur, Garhwál</i> ).                                                                                             | 30 34 44·06 | 78 59 23·15               | 10360                               | ...                        | 2      | Feet<br>...                                        | 510,<br>511           |
| Phaldakot                               | h.s. On a hill so named in Udepur Talla <i>patti</i> , $\frac{1}{2}$ mile N. of the village of Phaldakot, $\frac{3}{4}$ mile S.S.E. of Bheldhunga village, 1 mile S.S.W. of the Hiul river, and 2 miles S.E. of the large village of Diuli. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                               | 30 2 48·55  | 78 22 39·46               | 4325                                | ...                        | 3      | ...                                                | 324                   |
| Piplimath                               | h.s. On a range of hills forming the boundary between the Ghurdursyán and the Choprakot <i>pattis</i> ; 1 mile W. by S. of Salyana village, $1\frac{1}{4}$ miles E.S.E. of Tal, 3 miles S.E. of Kota on the high road to Srinagar, and 2 miles E. of the Nayar river. Observed in 1864-65. ( <i>Devalgarh, Garhwál</i> ).                                                                                       | 30 4 29·28  | 78 54 54·73               | 6678                                | ...                        | 3      | ...                                                | 476                   |
| Pireh                                   | h.s. On a peak on watershed of Behling and Bhágirathi rivers about 3 miles S. by W. of Dhang village on the left bank of a tributary of the latter.<br>The station is about $4\frac{1}{2}$ miles N.E. of Tehri State; a steep descent of about $1\frac{1}{2}$ miles to the S.W. from the station leads to Putturi village. Observed in 1851-52. ( <i>Tehri-Garhwál</i> ).                                       | 30 26 8·21  | 78 32 5·34                | 8912                                | ...                        | 3      | ...                                                | 301,<br>302           |
| *Pokri                                  | h.s. On spur from Nag Tiba to W., about 1 mile E. a little N. of Kori village on the Badri stream a confluent of the Jumna. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                           | 30 35 19·47 | 78 6 12·30                | 6495                                | ...                        | 1      | ...                                                | ...                   |
| Ráj Bonga                               | h.s. On a spur on watershed of Behling and Mandakini rivers about 2 $\frac{1}{4}$ miles E. by S. and 3 miles E.S.E. of Pundoti and Múlkot villages respectively. Observed in 1851-52. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                 | 30 21 26·41 | 78 50 11·14               | 9038                                | ...                        | 2      | ...                                                | 308,<br>304           |
| Rájpur Auxiliary Station                | This station, from and to which observations were taken for the purpose of triangulation, was selected 16 feet south and 9 inches west of the centre of the latitude station which is situated about the centre of the small level field immediately to the east of the ruined bungalow known as Seal's kothi just to the east of the upper end of the Rájpur bázár. Observed in 1892-93. ( <i>Dehra Dún</i> ). | 30 23 57    | 78 6 0                    | ...                                 | ...                        | ...    | ...                                                | ...                   |
| †Rájpur Dák Bungalow                    | N.W. corner. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                              | 30 23 57    | 78 5 58                   | ...                                 | ...                        | ...    | ...                                                | ...                   |
| †Rájpur Hotel                           | Skylight of paka house. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                   | 30 23 22·08 | 78 5 37·47                | 2997                                | ...                        | ...    | ...                                                | ...                   |

\* This station appertains to the North-West Himalaya Series.

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.



## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N.              | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                           |                                     | Position                   | Height |                                                     |                              |
| Rájpur                                  | h.s. Is situated on the low hill W. of Rájpur about $\frac{3}{4}$ mile N. of the village of Málai which is immediately at the foot of the spur. The Bindál stream runs north and south about $\frac{1}{4}$ mile east of the station. This station is some old point of the G. T. Survey as the stone which is well embedded with a $\odot$ on it was found with a fine high cairn of stones on it. The station must have been made a long time ago as it was found completely surrounded by forest trees.<br>There is a station of the Forest Survey marked by a $\odot$ on an embedded stone about a mile N. of the station on a peak of some low ridge. Observed in 1873-74. ( <i>Dehra Dún</i> ). | $30^{\circ} 22' 59'' 85$ | $78^{\circ} 4' 58'' 33$   | 3227                                | ...                        | 2      | Feet<br>...                                         | 153                          |
| †Rájpur                                 | h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | $30^{\circ} 24' 47'' 01$ | $78^{\circ} 6' 45'' 30$   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Rájpur Mosque                          | S. Minaret. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | $30^{\circ} 23' 50'' 7$  | $78^{\circ} 5' 53'' 6$    | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Ránigarh, II                            | ( <i>vide page 6—L</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $30^{\circ} 4' 4' 47$    | $78^{\circ} 42' 54'' 38$  | 7055                                | ...                        | 2      | ...                                                 | 2                            |
| Ránipokhri                              | s. Is situated $\frac{1}{2}$ of a mile N.W. of Ránipokhri Temple in the lands of the village of that name immediately on the left high bank of the Jákhán nadi and about $1\frac{1}{4}$ miles S.W. of Bhogpur village.<br>A $\odot$ cut on an embedded stone marks the station. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                           | $30^{\circ} 11' 34'' 99$ | $78^{\circ} 12' 41'' 44$  | 1969                                | ...                        | 2      | ...                                                 | 148                          |
| †Ránipokhri                             | Temple ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | $30^{\circ} 11' 15'' 53$ | $78^{\circ} 13' 4' 85$    | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Baunkál                                | h.s. On spur, about 2 $\frac{1}{2}$ miles E. a little N. of Huri village on left bank of higher portion of the Bhágrathi river. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $30^{\circ} 54' 27'' 07$ | $78^{\circ} 43' 42'' 16$  | 13987                               | ...                        | 3      | ...                                                 | ...                          |
| †Bauri                                  | h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | $30^{\circ} 0' 7$        | $78^{\circ} 5' 45$        | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Rikhikesh                               | New Temple Observed in 1864-65. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | $30^{\circ} 6' 22$       | $78^{\circ} 18' 27$       | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Rikhikesh                               | Temple Observed in 1864-65. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | $30^{\circ} 5' 59$       | $78^{\circ} 17' 51$       | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Rikhikesh                              | Temple ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | $30^{\circ} 6' 22'' 25$  | $78^{\circ} 18' 12'' 05$  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Ringalbanj                              | h.s. On a hill so called in the <i>patti</i> of Bángar, $1\frac{1}{2}$ miles N.W. of Siur, $1\frac{1}{2}$ miles S.W. of Uchola, and 2 miles S. by E. of Baker; also 5 miles W.N.W. of Bhatwari on the road to Kedarnath and on the Mandakini river. Observed in 1867. ( <i>Nággur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                    | $30^{\circ} 27' 28'' 55$ | $78^{\circ} 59' 11'' 91$  | 8918                                | ...                        | 2      | ...                                                 | 448                          |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* This station appertains to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference to Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                      |                        |
| *Sáalda Hill                            | On spur between the Kamaláda and Banáli streams, confluent of the Jumna, about 4½ miles N.E. of junction of the Kamaláda with the Jumna, 3¼ miles N.W. of junction of the Banáli with that river, and 1¼ miles S.S.E. of Sáalda pagoda. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                     | 30 50 12    | 78 10 6                   | ...                                 | 2                          | ...    | ...                                                  | Feet                   |
| *Sáalda Hill Pagoda                     | On spur between the Kamaláda and Banáli, confluent of the Jumna, about 1¼ miles N.N.E. of Baináo village in valley of the Kamaláda, and 1½ miles W. of Paur village in valley of the Banáli. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                | 30 51 11.3  | 78 9 5.3                  | ...                                 | 2                          | ...    | ...                                                  | ...                    |
| †Salempur h.s.                          | On spur on S. face of Siwálik range. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                            | 30 0 6.35   | 78 5 44.74                | 2380                                | ...                        | ...    | ...                                                  | ...                    |
| Santaur Devi Temple                     | Observed in 1873-74. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                            | 30 24 6.7   | 78 1 54.6                 | ...                                 | ...                        | ...    | ...                                                  | 173, 180               |
| Sápar h.s.                              | Is situated on the top of the hill of that name about 3 miles N.E. of the village of Pokhri and about a mile E. of the hill called Baghora.<br>The station consists of a $\odot$ mark cut on an embedded stone and a cairn of stones with a staff in the centre has been erected over the station mark. A tin plate with $\frac{\text{G.T.S.}}{66}$ on it has been nailed on to the staff. Observed in 1874-75. ( <i>Dehra Dún</i> ). | 30 45 6.99  | 78 0 14.01                | 8886                                | ...                        | 1      | ...                                                  | 235, 239               |
| Satikadánda h.s.                        | Is situated about a mile and a half N.E. of the top of the Rájpur Bázár. The hill on which the station is situated is well known from the fact of there being two <i>Satis</i> close to and S.E. of the station. The village of Basol is about ½ mile east and below the station.<br>A $\odot$ cut on a well embedded stone marks the station. Observed in 1874-75. ( <i>Dehra Dún</i> ).                                             | 30 24 47.02 | 78 6 45.30                | 5485                                | ...                        | 1      | ...                                                  | 187, 188               |
| *Sem Hill Staff                         | On spur E. of the Julkeur, a confluent of the Bhágirathi river, about 2½ miles W.N.W. of Bichpur village on the former, and 4½ miles N.N.E. of Rhsingo village. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                             | 30 32 33.2  | 78 27 18.0                | ...                                 | 2                          | ...    | ...                                                  | ...                    |
| †Shaindra h.s.                          | ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 19 41    | 78 18 7                   | ...                                 | ...                        | ...    | ...                                                  | ...                    |
| Sindi (Sindhi) h.s.                     | On a flat-topped hill and close W. of the village of that name in the Idwálayún patti, 2 miles S.W. of Nougoti village on the Alaknanda river and 4 miles S.W. of the town of Srinagar. Observed in 1864-65. ( <i>Bárahayún, Garhwál</i> ).                                                                                                                                                                                           | 30 11 52.05 | 78 42 53.94               | 3994                                | ...                        | 1      | ...                                                  | 374                    |

\* These points appertain to the North-West Himalaya Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Singhani                               | h.s. On spur, about 2½ miles W.N.W. of Tháli village near junction of the Kamaláda stream with the Jumna, and 2¼ miles N.N.W. of Chúmota village. (Tehri-Garhwál).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30 48 17.14 | 78 3 53.18                | 8868                                | ...                        | I      | Feet<br>...                                         | ...                          |
| †Sirkanda                               | H.S. (new) Was made to coincide as nearly with the site of the old station of that name, described on page 25—A. of Synoptical Volume II, as could be estimated from the remains of the platform found there, the isolated pillar together with the mark-stones having been removed by natives visiting the temple to build a wall round it. The present mark is distant from the N.W. corner of the temple 26 feet 6 inches, from the S.W. corner 18 feet 7 inches, from the S.E. corner 31 feet 2 inches. The pillar is solid and 2 feet high, having a mark-stone embedded level with the surface and is surrounded by a platform from which it is isolated. | 30 24 41.66 | 78 17 23.21               | 9089                                | ...                        | ...    | ...                                                 | ...                          |
| †Sirkanda                               | H.S. (old) Is situated on a hill of this name, in the pargana of Sukniama of the Tehri State. It is in the lands of the Mafidar of the village of Pujárgáon. A temple dedicated to a Devi stands close to the platform on its eastern side, and is very much frequented by the inhabitants of the surrounding villages: this station has been completely destroyed. Observed in 1851-52. (Tehri-Garhwál).                                                                                                                                                                                                                                                       | 30 24 41.68 | 78 17 23.18               | 9082                                | ...                        | ...    | ...                                                 | ...                          |
| †Sirwána                                | h.s. (Garhwál).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 24 9     | 78 9 49                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Sitaragarh                              | h.s. On a hill so named in the Nágpur Talla pattá, ½ mile S. by E. and S.W. respectively of the villages of Nari and Khatyana; 1 mile N.E. of the Kaliganga river and the road to Kedarnáth, 1½ miles N. of the Alaknanda river and the road to Almora, and 2 miles N. by E. of Rudraprayág at the junction of the Alaknanda and the Kálí-ganga rivers. Observed in 1867. (Nágpur, Garhwál).                                                                                                                                                                                                                                                                    | 30 19 3.73  | 78 59 41.69               | 4800                                | ...                        | I      | ...                                                 | 512                          |
| †Suakhera                               | h.s. (Garhwál).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 27 5     | 78 8 38                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Sumári                                  | h.s. On a high peak immediately N. of the village of that name; about a mile S. of the river Alaknanda, and 8 miles E.S.E. of the town of Brinsgar. Observed in 1865-66. (Devalgarh, Garhwál).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 12 22.43 | 78 49 0.70                | 4878                                | ...                        | I      | ...                                                 | 376,<br>377                  |
| †Sanárganh                              | h.s. On spur on N. face of Siwálik range. (Dehra Dún).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 0 21.15  | 78 8 12.83                | 2387                                | ...                        | ...    | ...                                                 | ...                          |

\* This station appertains to the North-West Himalaya Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to triangulation |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                     |                            |
| *Súri                                   | h.s. On spur between the Tansa and Badri, confluents of the Jumna river, about 1 mile N.N.W. of Kota village at head of the Badri, and 1 mile S.S.E. of Lodna at head of the Tansa. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                      | 30 37 57.85 | 78 7 16.57                | 7208                                | ...                        | 2      | Feet                                                | ...                        |
| *Táta                                   | h.s. On spur, about 2½ miles N.N.W. of Tiára village, and 2½ miles W.S.W. of Bangeli village near the Dangal bridge over the Bhágirathi river at its higher portion. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                     | 30 54 17.00 | 78 37 44.65               | 12911                               | ...                        | 2      | ...                                                 | ...                        |
| Tháno                                   | House Observed in 1874-75. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                   | 30 14 15.0  | 78 12 33.0                | 2434                                | ...                        | 2      | ...                                                 | 197                        |
| †Timli                                  | h.s. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 21 21    | 78 7 43                   | ...                                 | ...                        | ...    | ...                                                 | ...                        |
| Timli                                   | h.s. Is situated on the western part of the top of the peak situated about ¼ mile S.W. of the village of that name. There is a path from the village of Khairi in the Baldi stream to the station. A path from Mál-deota to Tehri passes close by and E. of the station.<br>A ⊙ cut on an embedded stone marks the station and a cairn of stones five feet high has been erected over the station mark. Observed in 1874-75. ( <i>Dehra Dún</i> ). | 30 22 19.66 | 78 7 44.96                | 4646                                | ...                        | 2      | ...                                                 | 181                        |
| †Tondáwála                              | h.s. On summit of Siwálik range, at head of Andheri Rau. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                                                     | 30 10 40.87 | 78 0 13.56                | 2735                                | ...                        | ...    | ...                                                 | ...                        |
| †Top Tibba                              | h.s. Beyond Seale's hill; marked by a ⊙ engraved on stone and surmounted by a pile of stones. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                                                                                                                                | 30 26 58.56 | 78 11 12.68               | 8570                                | ...                        | ...    | ...                                                 | ...                        |
| *Tunna                                  | Hill Staff On spur E. of the Badár, a branch of the Jumna, towards its source, about 2½ miles N.E. of Khando village on the former, 2½ miles N.N.W. of Kureil on the Jumna, and 1½ miles W.N.W. of Páli village. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                         | 30 53 52.7  | 78 10 0.4                 | ...                                 | ...                        | 2      | ...                                                 | ...                        |
| Ulkagarh                                | h.s. On a peak of a range forming the boundary between Bidolayún and Katholayún <i>patáir</i> ; ¼ mile E. by N. of the village of Singori, 1 mile N.W. of Uli, and 2½ miles N. of Talla Chani on the Almora-Bringarh road. Observed in 1866-66. ( <i>Dawalgarh, Garhwál</i> ).                                                                                                                                                                     | 30 9 35.36  | 78 50 54.29               | 6848                                | ...                        | 2      | ...                                                 | 540, 550                   |
| *Usraingarh                             | Hill Staff On watershed of the Jumna and Bhágirathi rivers, about 2 miles S.E. of Kirnia on the Tansa stream, 1 mile N.E. of Hansai on the Badri and 4½ miles W.N.W. of Gurta on the Bhágirathi side of ridge. ( <i>Tehri-Garhwál</i> ).                                                                                                                                                                                                           | 30 38 7.2   | 78 9 19.1                 | ...                                 | ...                        | 2      | ...                                                 | ...                        |

\* These points appertain to the North-West Himalya Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| † Wellington                            | h.s. On Pari Tibba; marked by a $\odot$ engraved on stone, and surmounted by a pile of stones. ( <i>Dehra Dún</i> ).                                                                                                                                                                       | 30 26 31.35 | 78 6 20.78                | 6749                                | ...                        | ...    | Feet<br>...                                         | ...                          |
| * Pk.1<br>53 J                          | ... On spur from Kidarkanta h.s., about 3 miles S.W. of that point, 1½ miles N.W. of Our village on road by Kidarkanta to the Shínka pass, 2½ miles S.E. of Ladráo village, and ½ mile N.E. of Malshári peak. ( <i>Tehri-Garhwál</i> ). (Called Gagarsu Peak in Synoptical Vol. VII).      | 30 59 51    | 78 7 48                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk.2<br>53 J                          | ... On spur from Kidarkanta h.s., about 3½ miles S.W. of that point, 1½ miles W.N.W. of Our village on road by Kidarkanta to the Shínka pass, and 2½ miles N.E. of Binkassur village. ( <i>Tehri-Garhwál</i> ). (Called Malshári Peak in Synoptical Vol. VII).                             | 30 59 29    | 78 7 21                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk.3<br>53 J                          | ... On spur E. of the Badiár, a branch of the Jumna, about 1½ miles N.N.W. of Tunnu Hill Staff, and 2½ miles E.N.E. of Gadai village on the Badiár. ( <i>Tehri-Garhwál</i> ). (Called Tunnu Peak in Synoptical Vol. VII).                                                                  | 30 55 18    | 78 15 47                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk.4<br>53 J                          | ... On watershed of the Jumna river and the Binsi, a branch of the Bhágirathi river, about 2½ miles S. a little E. of Bári village on the Jumna towards its head, and 4½ miles N.W. of Gújola village on the Binsi. ( <i>Tehri-Garhwál</i> ). (Called Thadol Peak in Synoptical Vol. VII). | 30 52 2.4   | 78 22 51.2                | ...                                 | 3                          | ...    | 1.1                                                 | ...                          |
| * Pk.5<br>53 J                          | ... On watershed of the Bhágirathi and Jumna rivers, about 4 miles S.E. of junction of the Badiár stream and the Jumna river. ( <i>Tehri-Garhwál</i> ). (Called Palarch Peak in Synoptical Vol. VII).                                                                                      | 30 48 22    | 78 18 34                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| * Pk.6<br>53 J                          | ... On spur from Srikanta peak, about 3½ miles S. a little E. of bridge over the Bhágirathi river, 2 miles below Daráli village, and 1½ miles S.E. of Mahla Hill Staff. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Dehling No. 5 Peak in Synoptical Vol. VII).                           | 30 59 2     | 78 45 53                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.  
 \* These points appertain to the North-West Himalaya Series.

DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point   | Description                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference of Triangles |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------|
|                                           |                                                                                                                                                                                                                                                               |             |                           |                                     | Position                       | Height |                                                     |                        |
| <u>Pk.7</u><br><u>53 J</u> (Srikanta)...  | On spur, about 6 miles S.W. by S. of junction of the Nilang river with the Bhágirathi, and 6½ miles E.S.E. of Suki village on the latter. Observed in 1841-42. ( <i>Tehri-Garhwál</i> ).                                                                      | 30 57 25.2  | 78 48 22.0                | 20120                               | 3                              | 4      | Feet<br>0.3                                         | ...                    |
| * <u>Pk.8</u><br><u>53 J</u> ...          | About 1½ miles S.S.E. of Srikanta peak. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Behling No. 4 Peak in Synoptical Vol. VII).                                                                                                                              | 30 56 6     | 78 49 7                   | 20070                               | 2                              | 1      | ...                                                 | ...                    |
| * <u>Pk.9</u><br><u>53 J</u> ...          | On spur to left of the Bhágirathi river, at N. head of stream which flows by Pilang village and joins that river at Bhela Tipar, and 3½ miles S.E. of Srikanta peak. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Behling No. 3 Peak in Synoptical Vol. VII). | 30 55 5     | 78 50 49                  | 21890                               | 2                              | 1      | ...                                                 | ...                    |
| * <u>Pk.10</u><br><u>53 J</u> ...         | On spur, about 6½ miles S. of Gangotri temple towards head of the Bhágirathi river, and 2 miles N. of main ridge. ( <i>Tehri-Garhwál</i> ). (Called Bhágirathi-Behling No. 2 Peak in Synoptical Vol. VII).                                                    | 30 53 51    | 78 56 1                   | 20810                               | 2                              | 1      | ...                                                 | ...                    |
| <u>Pk.11</u><br><u>53 J</u> (Gangotri)... | Snowy peak. Observed in 1867.                                                                                                                                                                                                                                 | 30 52 58.1  | 78 52 14.4                | 21700                               | 2                              | 3      | ...                                                 | ...                    |
| <u>Pk.12</u><br><u>53 J</u> ...           | Snowy peak. Observed in 1864-65.                                                                                                                                                                                                                              | 30 52 41    | 78 55 34                  | 21210                               | 3                              | 3      | 0.4                                                 | ...                    |
| <u>Pk.13</u><br><u>53 J</u> ...           | Snowy peak. Observed in 1864-65.                                                                                                                                                                                                                              | 30 51 41    | 78 59 46                  | 22650                               | 3                              | 3      | 0.2                                                 | ...                    |
| <u>Pk.14</u><br><u>53 J</u> (Tharlasagar) | East of Badrináth. Observed in 1841-42.                                                                                                                                                                                                                       | 30 51 40.6  | 78 59 45.1                | 22610                               | 2                              | 2      | ...                                                 | ...                    |
| <u>Pk.15</u><br><u>53 J</u> ...           | Observed in 1849-50.                                                                                                                                                                                                                                          | 30 51 40.2  | 78 59 46.9                | 22559                               | 3                              | 3      | 0.7                                                 | ...                    |
| <u>Pk.16</u><br><u>53 J</u> ...           | Snowy peak. Observed in 1864-65.                                                                                                                                                                                                                              | 30 51 18    | 78 51 25                  | 21740                               | 3                              | 3      | 1.9                                                 | ...                    |
| <u>Pk.17</u><br><u>53 J</u> (Jaonli) ...  | On watershed of the Behling and Bhágirathi rivers at N.W. head of the former river. Observed in 1849-50. ( <i>Tehri-Garhwál</i> ).                                                                                                                            | 30 51 17.4  | 78 51 25.4                | 21760                               | 4                              | 1      | 0.1                                                 | ...                    |

\* These points appertain to the North-West Himalaya Series.

## DEGREE SHEET No. 53 J, between Lats. 30° - 31° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                           | Latitude N.       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                       |                   |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 18</u><br><u>53 J</u>            | ... Snowy peak. Observed in 1867.                                                                                                                                                                                     | ° ' "<br>30 51 13 | ° ' "<br>78 55 47         | ...                                 | 2                          | ...    | <i>Feet</i><br>...                                  | ...                          |
| <u>Pk. 19</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 44 7           | 78 57 43                  | ...                                 | 3                          | ...    | 0'3                                                 | ...                          |
| <u>Pk. 20</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 44 0           | 78 58 47                  | ...                                 | 4                          | ...    | 0'1                                                 | ...                          |
| * <u>Pk. 21</u><br><u>53 J</u>          | ... On watershed of the Behling and Bhāgirathi rivers, about 1½ miles N.N.E. of head of the Barlung, a branch of the former. ( <i>Tehri-Garhwāl</i> ). (Called Bhāgirathi-Behling No. 1 Peak in Synoptical Vol. VII). | 30 43 46          | 78 49 24                  | 16910                               | 2                          | 2      | ...                                                 | ...                          |
| <u>Pk. 22</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 43 2           | 78 48 31                  | 15900                               | 3                          | 1      | 0'6                                                 | ...                          |
| <u>Pk. 23</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 42 47          | 78 55 31                  | ...                                 | 3                          | ...    | 0'9                                                 | ...                          |
| <u>Pk. 24</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 42 33          | 78 48 53                  | ...                                 | 3                          | ...    | 0'5                                                 | ...                          |
| <u>Pk. 25</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 41 32          | 78 54 50                  | 15240                               | 3                          | 2      | 0'1                                                 | ...                          |
| <u>Pk. 26</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 38 33          | 78 54 33                  | ...                                 | 3                          | ...    | 0'3                                                 | ...                          |
| <u>Pk. 27</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 37 10          | 78 55 37                  | ...                                 | 3                          | ...    | 0'5                                                 | ...                          |
| <u>Pk. 28</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 36 32          | 78 55 57                  | 12400                               | 3                          | 1      | 3'9                                                 | ...                          |
| <u>Pk. 29</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 36 30          | 78 55 59                  | 12390                               | 3                          | 1      | 0'4                                                 | ...                          |
| <u>Pk. 30</u><br><u>53 J</u>            | ... Peak. Observed in 1867.                                                                                                                                                                                           | 30 34 55          | 78 57 18                  | 11800                               | 4                          | 3      | 0'1                                                 | ...                          |

\* This point appertains to the North-West Himalaya Series.

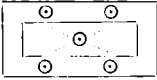
DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides | Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                        |                     |
| Akali                                   | h.s. On a hill forming part of the southern boundary of the Painaun <i>patti</i> ; 1 mile S.W. of Jhirt on the same road. 1½ miles W. by S. of Gajarjal on the high road to Pauri. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                            | 29 39 51·79 | 78 50 41·52               | 3351                                | ...                        | 2      | ...                                    | 581, 582            |
| *Akbarpur, XLIV                         | Is situated close to the high road from Hardwár to Moradabad, and distant about ¼ a mile N.W. of the village of Akbarpur: tahsil and pargana Amroha. The station consists of a tower of unburnt bricks and mud cement, 14 feet in diameter at top, enclosing a central solid pillar of masonry 15 feet high: it has a mark-stone at summit. The bearings and distances of surrounding villages are:—Garhi 0·4 mile S. by W.; Burhpur 0·8 mile W. by S.; and Salimpur 0·5 mile N.E. by E. Observed in 1842-43. ( <i>Moradabad</i> ). | 29 4 56·85  | 78 38 23·78               | 719                                 | ...                        | ...    | ...                                    | ...                 |
| Ambwála                                 | h.s. On a low spur ½ mile S.W. of the N.W. end of the Chiplighati range about ¼ a mile N. of Ambwála Parao on the high road from Hardwár to Láldhang; the road forming the district boundary between Bijnor and Garhwál. The station is about 5 miles E. of the town of Hardwár. Observed in 1871-72. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                              | 29 57 17·21 | 78 13 52·44               | 1407                                | ...                        | 1      | ...                                    | 341, 342            |
| Bagnala                                 | h.s. Is situated ¼ mile W. of the high road to Kálagarh which forms the boundary of Garhwál and Bijnor, ¼ mile N.N.W. of Bhagwála village, 1¼ miles E. by S. of Aurangabad on the high road from Nagina to Kotdwára. Observed in 1865-66. ( <i>Bijnor, Zohikhand</i> ).                                                                                                                                                                                                                                                             | 29 38 56·15 | 78 30 55·96               | 933                                 | ...                        | 1      | ...                                    | 407                 |
| Barikothirau                            | h.s. On a hill ¼ mile N. of the Kotdwára-Ramnagar road; on the boundary between Kumau and Garhwál; ¼ mile N.E. of Kothirau village, and 2 miles E. of Jhirnaun. Observed in 1867-68. ( <i>Patli Dún and Bhabar Kota, Garhwál and Kumau</i> ).                                                                                                                                                                                                                                                                                       | 29 26 39·51 | 78 55 51·46               | 1713                                | ...                        | 2      | ...                                    | 678, 679            |
| Barsoti                                 | h.s. On a hill so called, 1 mile S. of the Bám-ganga river and the road through the Patli Dún to Rámnagar, 1 mile E. of the boundary of Garhwál. Observed in 1867-68. ( <i>Kotá, Kumau</i> ).                                                                                                                                                                                                                                                                                                                                       | 29 31 29·34 | 78 59 10·48               | 2779                                | ...                        | 5      | ...                                    | 663, 664            |
| Bhingora                                | h.s. On a hill in the Siwalike, ¼ mile W. of the Hardwár road and the Ganges river, ¼ mile N. of the town of Hardwár, and ¼ mile W.N.W. of Kharkhari village. The hill is in the Maharaupur Govt Forest. Observed in 1871-72. ( <i>Dehra Dún, Saharanpur</i> ).                                                                                                                                                                                                                                                                     | 29 57 51·83 | 78 10 15·65               | 1561                                | ...                        | 1      | ...                                    | 340                 |

\* This station appertains to the Budhon Meridional Series.



## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bhingora                                | s. Is situated on the top of the police station at the entrance of the Hardwár bazar. A $\odot$ has been inscribed on the top of the roof and 4 $\odot$ s have been inscribed on parapet so that in case the roof should be repaired the station mark may be recovered. The station dot is 9 feet 9 inches above ground level. Observed in 1874-75. ( <i>Dehra Dún</i> ).<br> | 29 57 46.74 | 78 10 25.73               | 987                                 | ...                        | 2      | Feet<br>...                                         | 203                          |
| Bijnagar                                | h.s. About $\frac{1}{2}$ mile N. of the Rawāsan nadi, 1 mile W.N.W. of Laldhung on the high road from Hardwár to Kotdwāra. Observed in 1865-66. ( <i>Ganga Salán, Garhwāl</i> ).                                                                                                                                                                                                                                                                               | 29 51 54.30 | 78 19 28.44               | 1981                                | ...                        | 3      | ...                                                 | 347,<br>348                  |
| *Bijnor                                 | s. On centre chimney of Collector's house. ( <i>Bijnor</i> ).                                                                                                                                                                                                                                                                                                                                                                                                  | 29 22 41.52 | 78 8 4.09                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Binak                                   | h.s. On a hill close to the village of that name in <i>patti</i> Udepur Bichla, $1\frac{1}{2}$ miles W. of Lakwāra village, 1 mile S. of Thanur village and $3\frac{1}{2}$ miles W. of the Hiul river. Observed in 1864-65. ( <i>Ganga Salán, Garhwāl</i> ).                                                                                                                                                                                                   | 29 54 44.12 | 78 27 47.66               | 3904                                | ...                        | 1      | ...                                                 | 360                          |
| †Chándipahár, LIV                       | ( <i>vide page 7—1</i> .)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29 55 29.73 | 78 11 9.95                | 1913                                | ...                        | ...    | ...                                                 | ...                          |
| *Chándipahár Hill Temple                | Spire. ( <i>Bijnor</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29 56 1     | 78 10 53                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Chándkot                                | h.s. On the boundary between <i>pattis</i> Gurarsyún and Maundarsyún, $\frac{1}{2}$ mile W. by S. of Garur and $1\frac{1}{2}$ miles S. of Jaintoli. Observed in 1864-65. ( <i>Chándkot, Garhwāl</i> ).                                                                                                                                                                                                                                                         | 29 56 21.74 | 78 49 9.43                | 5926                                | ...                        | 4      | ...                                                 | 318                          |
| Chapra                                  | s. Near the small village of that name, 31 miles N.E. of the town of Barhapura, 21 miles S. by W. of Pakhrao chuuki on the Garhwāl boundary and $1\frac{1}{2}$ miles N. of the high road from Barhapura to Kalusayid. Observed in 1865-66. ( <i>Bijnor, Rohilkhand</i> ).                                                                                                                                                                                      | 29 33 31.08 | 78 34 24.29               | 916                                 | ...                        | 2      | ...                                                 | 411,<br>412                  |
| Charekh                                 | h.s. On a hill in <i>patti</i> Ajmír, 1 mile W. by N. of a dák bungalow on the road to Srinagar, $1\frac{1}{2}$ miles W. of Purankot village and 2 miles N.W. of Umrela. Observed in 1864-65. ( <i>Ganga Salán, Garhwāl</i> ).                                                                                                                                                                                                                                 | 29 49 51.71 | 78 33 24.72               | 5914                                | ...                        | 2      | ...                                                 | 314                          |

\* These points appertain to the Rudhon Meridional Series.

† These stations appertain to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancy per mile of triangles | Reference Number of Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                       | Height |                                   |                               |
| Chatargarhi                             | h.s. On the boundary of <i>patti</i> Talain and Kola-gad, 2½ miles S.W. of Sakuoli, 1 mile W. by N. of Kunj on a main road and 1½ miles W. of Sungarkhal. Observed in 1864-65. ( <i>Malla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29 52 36.00 | 78 53 29.38               | 6790                                | ...                            | 2      | ...                               | 319                           |
| Chitaor                                 | h.s. On a peak ½ mile N. of Tolion village, 2 miles E. of the high road to Pauri, 1½ miles N.E. of Joi and 1 mile S. by W. of Noni village. Observed in 1865-66. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 29 40 40.74 | 78 55 57.11               | 5230                                | ...                            | 2      | ...                               | 579,<br>580                   |
| †Dam Chauki                             | <i>Paka chauki, S. corner. (Bijnor).</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 29 58 21.55 | 78 11 31.23               | 960                                 | ...                            | ...    | ...                               | ...                           |
| Danapúni                                | h.s. On a peak 2 miles S. of the road to Rám-nagar, 1 mile W. of the cross-road from Dharu to Pauri and 2½ miles S.W. of the Rám-ganga river. Observed in 1867. ( <i>Patli Dún, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 29 32 35.19 | 78 53 9.48                | 2285                                | ...                            | 2      | ...                               | 662                           |
| Dasmeri                                 | h.s. Known as Nagdeo-ka-dánda. Is on a spur from and close to the Naogarh-Langur-garhi ridge which runs down to the Ganges between the Hiul and Nayar streams. The best road to the station is up the spur which runs S.W. of it. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 29 56 18.29 | 78 35 11.77               | 6392                                | ...                            | 1      | ...                               | 318                           |
| Devitonk                                | H.S. Is situated in <i>patti</i> Bángsarayún about 5 miles west of the village of Naursayún and about the same distance east of Jhairpali. The station can easily be reached from either of these villages by a path-way communicating between them, which crosses the ridge about a mile to the north of the station. About 2 feet from the southern ridge of the platform is a temple from which the hill derives its name and which is much resorted to by the people of the surrounding villages. Water is distant from the station about 2½ miles. The platform is 14 feet square, with a <i>paka</i> isolated pillar in its centre, 30 inches high and 36 inches in diameter and having 3 mark-stones, 15 inches apart, the lowest being on the original surface of the ground. Observed in 1864-65. ( <i>Malla Salán, Garhwál</i> ). | 29 57 6.53  | 78 58 40.26               | 8850                                | ...                            | 2      | ...                               | 285                           |
| Dharaun                                 | No. 1 h.s. On a hill of that name, 1 mile W.N.W. of the Dharaun stream, 2 miles N.N.E. of the road to Káladhúngi and 2 miles N.N.W. of Dharaun village. Observed in 1867. ( <i>Patli Dún, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 29 29 4.37  | 78 50 19.50               | 2331                                | ...                            | 2      | ...                               | 674,<br>675                   |

† This point appertains to the Great Arc Meridional Series—Section 24°-30°.

## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF LINES DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                    | Height |                                                     |                              |
| Dharaun No. 2 h.s.                      | On a hill 1½ miles N.N.W. of the village of Dharaun, on the road to Káladhúngi, ¾ mile W.N.W. of the road to Pauri and ¼ mile S.S.E. of Dharaun No. 1 h.s. Observed in 1867. ( <i>Patti Dún, Garhwál</i> ).                                                                                                                                                                                                                                     | 29 28 34.17 | 78 50 28.98               | 2117                                | ...                         | 2      | Feet<br>...                                         | 676                          |
| Dhargaon h.s.                           | On a hill so called, on the boundary of <i>patti</i> Painoun, ¾ mile N. of the road to Pauri, 2 miles S.S.W. of Barai village and 2½ miles W.N.W. of Jhirit village. Observed in 1865-66. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                      | 29 41 8.74  | 78 49 19.09               | 3906                                | ...                         | 2      | ...                                                 | 334                          |
| Dhela, V                                | ( <i>See page 8—1.</i> )                                                                                                                                                                                                                                                                                                                                                                                                                        | 29 26 31.67 | 78 59 26.55               | 2235                                | ...                         | 3      | ...                                                 | 7                            |
| Dhunga h.s.                             | Is on the same range as Mábegarh, I and to the north of it, and on the left bank of the Hiul river which runs down to the Ganges. It is accessible from every direction, the nearest point of the Hardwár-Srinagar road is one long march distant. The village of Bagor is on a spur from the station on the north and about 1½ miles below, Kandi village is 2 miles below on the south. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ). | 29 57 21.56 | 78 28 34.03               | 5374                                | ...                         | 2      | ...                                                 | 312                          |
| Dikhet h.s.                             | On a hill ¼ mile W. of the village of that name, ¾ mile N. of Timli village in <i>patti</i> Dhangu Malla, 1½ miles N.N.E. of Syalna close to the right bank of the Hiul river. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                                            | 29 55 19.53 | 78 32 54.26               | ...                                 | ...                         | ...    | ...                                                 | 398,<br>399                  |
| Dorbun h.s.                             | On a hill so called, 1½ miles W. by S. of Gurar, 2½ miles S.E. of Dobala and 1½ miles S.S.W. of Jaintoli. The station is in <i>patti</i> Mandarsyún. Observed in 1864-65. ( <i>Chándkot, Garhwál</i> ).                                                                                                                                                                                                                                         | 29 56 20.31 | 78 48 10.92               | 5558                                | ...                         | 1      | ...                                                 | 421,<br>422                  |
| Gajbára No. 1 h.s.                      | On a flat-topped hill, in <i>patti</i> Sila Malla, about ¼ mile S. by E. of Gajbára village, 3 miles S. of the large village of Sila and 1½ miles S.E. of Byansi. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                         | 29 46 22.55 | 78 39 56.73               | 3877                                | ...                         | 3      | ...                                                 | 316                          |
| Gajbára No. 2 h.s.                      | On a flat rocky ridge, in <i>patti</i> Sila Malla, ¼ mile W. of Gajbára village, 2½ miles S. by W. of the large village of Sila and ¼ mile E.S.E. of Byansi. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                              | 29 46 39.07 | 78 39 28.69               | ...                                 | ...                         | ...    | ...                                                 | 404,<br>405                  |

DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile of triangulation | Reference Number of Triangulation |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------|-----------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                         |                                   |
| Ganair                                  | h.s. One of the hills between the Paili Rau stream and the Ganges, 3½ miles E.N.E. of Shāmpur on the Ganges, 2 miles N.W. of Paili village and 2 miles W.N.W. of Diowāli encamping ground. Observed in 1871-72. ( <i>Bijnor, Rohilkhand</i> ).                                                                                                                                                                                                                                                                                                                                                             | 29 52 53·99 | 78 13 37·98               | 1851                                | ...                        | 2      | ...                                     | 345,<br>346                       |
| Ghugtigarh                              | h.s. Is on a remarkably well-known hill on the outer or sand-stone range of hills which form the boundary of the Garhwāl forests on the north. It can be approached from any direction, the best road however is one which runs from Bidini ghat on the Hardwār-Srinagar road up along a spur via Banasa village. The village of Kasuna is about 1½ miles below the station and to the north. The station is visible from Hardwār. Observed in 1864-65. ( <i>Ganga Salán, Garhwāl</i> ).                                                                                                                   | 29 57 7·45  | 78 20 15·18               | 4450                                | ...                        | 2      | ...                                     | 322,<br>323                       |
| Ghungti, IV                             | ( <i>Vide page 8—<sub>I</sub></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29 45 36·02 | 78 55 20·56               | 6922                                | ...                        | 3      | ...                                     | 3                                 |
| Girijwāla, III                          | ( <i>Vide page 8—<sub>I</sub></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29 33 0·87  | 78 42 6·90                | 2721                                | ...                        | 3      | ...                                     | 4                                 |
| Godāhwāli                               | h.s. On a hill ¼ mile from the right bank of the Paili Rau stream, about ¼ mile N. of Paili village and the same distance W.S.W. of the Diowāli encamping ground. Observed in 1871-72. ( <i>Bijnor, Rohilkhand</i> ).                                                                                                                                                                                                                                                                                                                                                                                      | 29 52 6·69  | 78 14 50·63               | 1363                                | ...                        | 2      | ...                                     | 344                               |
| Gujarsot                                | h.s. In group of hills 1½ miles S.W. of the Sona nadi, one of the main affluents of the Rāmganga river, 3½ miles N.N.E. of the road which marks the Garhwāl-Bijnor boundary and 2 miles W. of a cross-road branching therefrom into the hills. Khairia Parno on the Sona nadi is distant 3½ miles to the E. Observed in 1865-66. ( <i>Talla Salán, Garhwāl</i> ).                                                                                                                                                                                                                                          | 29 35 38·66 | 78 39 32·56               | 2758                                | ...                        | 3      | ...                                     | 408,<br>410                       |
| Hālda-ki-devi                           | Temple Observed in 1865-66. ( <i>Talla Salán, Garhwāl</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 29 38 31    | 78 59 36                  | ...                                 | ...                        | ...    | ...                                     | ...                               |
| *Haldaur, XLVI                          | Is situated on a sandy mound (8 or 9 feet in height) in the lands of the village of Rasūlpur, and is distant about 1 mile S.W. of the large village of Haldaur; taluqā Bijnor, pargana Daranagar, district Bijnor. The station consists of a tower of unburnt bricks and mud cement, 14 feet in diameter at top, enclosing a central solid pillar of masonry 19·7 feet high; it has a mark-stone at top. The bearings and distances of surrounding villages are:—Chujjupura 0·8 mile S.E. by E.; Uttarpur 0·8 mile S.W.; and Sitandarpur Sani 1·1 miles nearly due N. Observed in 1843. ( <i>Bijnor</i> ). | 29 16 41·23 | 78 16 6·10                | 806                                 | ...                        | ...    | ...                                     | ...                               |

\* This station appertains to the Budhon Meridional Series.

## DEGREE SHEET 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Haldukhāta                              | s. On the Bijnor-Garhwāl boundary, near the crossing of the Najibabad and Kotdwāra roads and $\frac{1}{2}$ mile W. of Haldukhāta village. Observed in 1865-66. ( <i>Ganga Salān, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                              | 29 45 41.88 | 78 25 42.37               | 1307                                | ...                        | 2      | Feet<br>...                                         | 395                          |
| †Hardwār                                | House Turret of Patiāla Rāja's house. ( <i>Sahāranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 29 57 36.4  | 78 10 24.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Hardwār Peak                           | h.s. ( <i>Sahāranpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 29 58 4     | 78 9 1                    | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Harpālsid, XLVIII                      | Is situated on the peak immediately west of the hill of Harpālsid on the southern border of the Sub-Himalaya mountains, and is approached from Najibabad by Kotkadr and Bagnala: district Garhwāl. The station is denoted by the centre of a circle engraved on a stone which is fixed in the middle of a platform and is flush with the level of the ground. The station of 1843 was revisited in 1866 in the course of the secondary operations of the Kumaun and Garhwāl Survey, but, from the absence of information to the contrary, no alteration in its construction appears to have been made. Observed in 1843. ( <i>Garhwāl</i> ). | 29 39 50.90 | 78 33 20.81               | 2876                                | ...                        | ...    | ...                                                 | ...                          |
| Haruwāla                                | s. On the high road to and $4\frac{1}{2}$ miles E. by N. of the town of Barhapura, 2 miles W. by S. of the Garhwāl-Bijnor boundary and 3 miles S.S.W. of Dhaukhand chauki; the station is about $1\frac{1}{2}$ miles S.W. of Haruwāla village. Observed in 1865-66. ( <i>Bijnor, Rohilkhand</i> ).                                                                                                                                                                                                                                                                                                                                           | 29 31 58.58 | 78 36 24.66               | 922                                 | ...                        | 2      | ...                                                 | 413,<br>414                  |
| †Hazāra                                 | h.s. On spur, on S. face of Sivālik range, between the Raoli and Rānīpur Raos. ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 29 58 13.54 | 78 5 57.62                | 1476                                | ...                        | ...    | ...                                                 | ...                          |
| †Hill                                   | δ ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29 59 11.6  | 78 9 28.6                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Hill                                   | θ ( <i>Dehra Dūn</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29 57 58.1  | 78 9 59.7                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Jamangarb                               | h.s. On a hill about a mile S.E. of Kotdwāra. Observed in 1864-65. ( <i>Talla Salān, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 29 44 55.05 | 78 32 49.81               | 2884                                | ...                        | 2      | ...                                                 | 392,<br>393                  |
| Jamargadi                               | h.s. On a rocky hill, in patti Sila Talla, $\frac{1}{2}$ mile S. of Jamargadi village, $1\frac{1}{2}$ miles S.E. of the high road to Kotdwāra and 3 miles E. by N. of Kotdwāra itself. Observed in 1864-65. ( <i>Talla Salān, Garhwāl</i> ).                                                                                                                                                                                                                                                                                                                                                                                                 | 29 45 50.29 | 78 35 3.90                | 3991                                | ...                        | 1      | ...                                                 | 416,<br>417                  |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.

\* This station appertains to the Budhon Meridional Series.

## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference height of triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Jaspalgarh                              | h.s. On a hill of that name, in <i>patti</i> Udepur Bichla, $\frac{1}{2}$ mile S.E. of the Rawásan nadi, 1 mile N.W. of Syalna village, 2 miles S.E. of Amola and $2\frac{1}{2}$ miles S.W. of Tal village. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                 | 29 53 5·67  | 78 25 8·07                | 3649                                | ...                        | 2      | Feet                                                | 361                          |
| *Jawálapur House                        | s. On Bania's high paka house, marked with an iron spike. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                  | 29 55 26·87 | 78 6 33·91                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Jawálapur                              | s. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                         | 29 55 8·60  | 78 7 26·22                | 932                                 | ...                        | ...    | ...                                                 | ...                          |
| Jenti Rao                               | h.s. On a low hill and on the left bank of the Rám-ganga river, $\frac{1}{2}$ mile W. of the road from Pauni and 1 mile N. of the road to Rámngar. Observed in 1867. ( <i>Patli Dún, Garhwál</i> ).                                                                                                                               | 29 35 4·33  | 78 54 7·10                | 1870                                | ...                        | 3      | ...                                                 | 661                          |
| Jinti                                   | No. 1 h.s. On a hill so named, $1\frac{1}{2}$ miles N. of the Káladhúngi road, $1\frac{1}{2}$ miles E. by N. of Amelika-chol on the Pauni road, and 2 miles N.E. of the Dharaun village on the road to Káladhúngi. Observed in 1867. ( <i>Patli Dún, Garhwál</i> ).                                                               | 29 28 18·49 | 78 52 27·35               | 2500                                | ...                        | 1      | ...                                                 | 671                          |
| Jinti                                   | No. 2 h.s. On a hill, 1 mile E. by S. of Jinti No. 1 h.s., $1\frac{1}{2}$ miles N. by W. of Jhirnaun village and $1\frac{1}{2}$ miles N. of the road to Káladhúngi. Observed in 1867. ( <i>Patli Dún, Garhwál</i> ).                                                                                                              | 29 28 2·51  | 78 53 28·42               | 2321                                | ...                        | 2      | ...                                                 | 672, 673                     |
| Joi                                     | h.s. On a hill, in <i>patti</i> Ajmir, $\frac{3}{4}$ mile N. of Kotdwára and closo E. of the high road to Srinagar. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                         | 29 46 4·38  | 78 32 21·52               | 2381                                | ...                        | 2      | ...                                                 | 419, 430                     |
| Kájigarhi                               | h.s. On a high range, in <i>patti</i> Langur, 1 mile E.N.E. of Muthgaon, $\frac{3}{4}$ mile N. by W. of Gám and $2\frac{1}{2}$ miles E. of Diusa on the high road to Srinagar. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                              | 29 54 18·08 | 78 40 3·88                | ...                                 | ...                        | ...    | ...                                                 | 402, 403                     |
| Kálagarh                                | h.s. On a hill, $1\frac{1}{2}$ miles E. of the Rám-ganga river, 4 miles S. of the Doksar Dák Dungalow on the Rámngar road and $1\frac{1}{2}$ miles E.N.E. of the old fort of Kálagarh on the high road to Káladhúngi which here forms the boundary between Bijnor and Garhwál. Observed in 1867. ( <i>Talla Salán, Garhwál</i> ). | 29 30 25·92 | 78 46 58·42               | 2317                                | ...                        | 2      | ...                                                 | 667, 668                     |
| Kalajbuni                               | h.s. On a range of hills forming the boundary between <i>patti</i> Badalpur Malla and Badalpur Talia, 2 $\frac{1}{2}$ miles S. by W. of Hadun, $1\frac{1}{2}$ miles N. of Ghungali and $1\frac{1}{2}$ miles W. of Manigaon. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                 | 29 49 10·60 | 78 46 38·71               | 6888                                | ...                        | 4      | ...                                                 | 317                          |

\* This station appertains to the Badhon Meridional Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet, above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|--------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                         |             |                           |                                      | Position                   | Height |                                                     |                              |
| Kálapahár                               | h. s. On a peak of the Kálapahár range about a mile S. W. of Ambwála Parao, $\frac{1}{2}$ mile S. S. W. from the Bijnor-Garhwál boundary and $3\frac{1}{4}$ miles E. by S. of Hardwár town. Observed in 1871-72. ( <i>Najibabad, Bijnor, Rohilkhand</i> ).                                                                              | 29 56 24.20 | 78 13 13.51               | 1645                                 | ...                        | 1      | ...                                                 | 398, 339                     |
| Kalogarhi                               | h. s. On a high peak at the trijunction of <i>pattis</i> Kauriya Palla, Kauriya Walla and Sila Mulla, $1\frac{1}{2}$ miles S. S. W. of Surmari, 2 miles N. E. of Muhara and $2\frac{1}{2}$ miles N. by E. of Sila. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                | 29 51 0.74  | 78 40 41.46               | 6065                                 | ...                        | 3      | ...                                                 | 315                          |
| Kalusayid                               | h. s. On a hill, $\frac{1}{2}$ mile S. S. E. of the chauki of that name on the cross-road, 1 mile N. E. of the road forming the boundary between Bijnor and Garhwál, 2 miles N. N. W. of the village of Got Kolari and $2\frac{1}{2}$ miles E. of Haruwála s. Observed in 1867. ( <i>Patti Dún, Garhwál</i> ).                          | 29 33 10.80 | 78 40 13.96               | 1981                                 | ...                        | 3      | ...                                                 | 665, 666                     |
| Kágra                                   | h. s. On one of the mass of hills between the Patti Rau and the Ganges, 3 miles N. E. of Shámpur on the Ganges and 3 miles N. W. of Patti village. Observed in 1865-66. ( <i>Bijnor, Rohilkhand</i> ).                                                                                                                                  | 29 53 27.33 | 78 13 8.75                | 2008                                 | ...                        | 3      | ...                                                 | 336, 337                     |
| *Kankhal Solitary Temple                | Spire, in the bed of the Ganges river, S. of town. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                               | 29 54 59.2  | 78 8 55.0                 | ...                                  | ...                        | ...    | ...                                                 | ...                          |
| *Kankhal Temple                         | Northernmost, on bank of the Ganges river near Bháramal's garden. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                | 29 55 50.3  | 78 9 10.8                 | ...                                  | ...                        | ...    | ...                                                 | ...                          |
| †Kesopur                                | s. Marked on ravines running along the W. side of the Ganges swamp and 1.25 miles E. of Kesopur village. The station is 2.5 miles W. of the Ganges. ( <i>Muzaffarnagar</i> ).                                                                                                                                                           | 29 20 34.43 | 78 0 8.02                 | ...                                  | ...                        | ...    | ...                                                 | ...                          |
| Khairagarh No. 1                        | h. s. On a hill, $1\frac{1}{2}$ miles N. E. of Khaira Parao and $3\frac{1}{2}$ miles N. N. W. of the Boksar Dák Bungalow on the road to Rámnagar. Observed in 1867. ( <i>Patti Dún, Garhwál</i> ).                                                                                                                                      | 29 36 14.57 | 78 43 51.95               | 3157                                 | ...                        | 1      | ...                                                 | 658                          |
| Khairagarh No. 2                        | h. s. On a low hill, $\frac{1}{2}$ mile N. W. of the Rámanga river and $1\frac{1}{2}$ miles N. by W. of the Boksar Dák Bungalow on the Rámnagar road. Observed in 1867. ( <i>Patti Dún, Garhwál</i> ).                                                                                                                                  | 29 35 10.58 | 78 45 40.75               | 1912                                 | ...                        | 3      | ...                                                 | 659                          |
| Khairagarh No. 3                        | h. s. On a peak, 1 mile N. of the Rámanga river and of the road to Rámnagar, 3 miles N. E. of the Boksar Dák Bungalow, $1\frac{1}{2}$ miles W. of the deserted village of Simulkhali and $2\frac{1}{2}$ miles W. of a branch road that goes northwards into the hills and on to Pauri. Observed in 1867. ( <i>Patti Dún, Garhwál</i> ). | 29 36 6.34  | 78 47 58.92               | 1835                                 | ...                        | 2      | ...                                                 | 660                          |

\* These points appertain to the Ludhon Meridional Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common side of triangles | Reference to Triangles of Terrestrial |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|---------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                    |                                       |
| Khára                                   | h.s. On the S. end of a ridge between the two branches of the road Láldhang-Gaurighát, $\frac{1}{2}$ mile N.E. of Khára chaudi and less than $\frac{1}{2}$ mile W. of the Methawáli Rau. Observed in 1871-72. ( <i>Ganga Salán, Garhwál</i> ).                                            | 29 54 35.82 | 78 16 35.07               | 1517                                | ...                        | 1      | ...                                                | 343                                   |
| Kharbana                                | h.s. On some high ground $4\frac{1}{2}$ miles N. of the town of Barhapura, 1 mile E. of Dinanagar, $1\frac{1}{2}$ miles W.S.W. of Gangaramwála and 2 miles from the road which forms the Bijnor-Garhwál boundary. Observed in 1865-66. ( <i>Bijnor, Rohilkhand</i> ).                     | 29 35 22.58 | 78 32 35.59               | 965                                 | ...                        | 2      | ...                                                | 408                                   |
| †Kharkhari                              | Bungalow Mr. Wilson's bungalow, western chimney. ( <i>Dehra Dún</i> ).                                                                                                                                                                                                                    | 29 58 11.68 | 78 10 24.60               | 980                                 | ...                        | ...    | ...                                                | ...                                   |
| Kilauli                                 | s. $\frac{1}{2}$ mile S.W. of the village of Got Kolari on the road which forms the Bijnor-Garhwál boundary and 5 miles W. of the Ráunganga river. Observed in 1865-66. ( <i>Bijnor, Rohilkhand</i> ).                                                                                    | 29 31 26.56 | 78 40 13.79               | 848                                 | ...                        | 2      | ...                                                | 415                                   |
| Koimath                                 | h.s. On a range forming the boundary between <i>pattis</i> Kingadigad and Mawalsyún, 1 mile N.N.W. of Kingadi and $2\frac{1}{2}$ miles S.W. of Gadari. A road through Gadari passes close by the station. Observed in 1864-65. ( <i>Chándkot, Garhwál</i> ).                              | 29 58 42.02 | 78 54 9.28                | 6837                                | ...                        | 2      | ...                                                | 428, 429                              |
| Kotdwára                                | Temple Kalas of the temple. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                            | 29 45 23    | 78 32 9                   | "                                   | ...                        | ...    | ...                                                | ...                                   |
| Láldhang                                | s. At the Rámnagar-Kotdwára road about $\frac{1}{2}$ mile E. of the village of that name. Observed in 1867. ( <i>Kota, Kumaon</i> ).                                                                                                                                                      | 29 26 1.80  | 78 57 39.72               | 1113                                | ...                        | 3      | ...                                                | 680, 681                              |
| Langurgarbi                             | h.s. On a high hill, in <i>patti</i> Langur, $\frac{1}{2}$ mile E. of Bakrari and $\frac{1}{2}$ mile W.S.W. of Rajkhil. A road to Srinagar passes $1\frac{1}{2}$ miles N.W. of the station, the Nayar river runs about 2 miles N.E. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ). | 29 55 29.46 | 78 40 1.50                | 6266                                | ...                        | 2      | ...                                                | 400, 401                              |
| Mábegarh, I                             | ( <i>Fide page 8—<i>I</i></i> ).                                                                                                                                                                                                                                                          | 29 52 39.58 | 78 27 24.86               | 5653                                | ...                        | 3      | ...                                                | 1                                     |
| †Mahesari, LII                          | ( <i>Fide page 7—<i>I</i></i> ).                                                                                                                                                                                                                                                          | 29 30 18.21 | 78 8 51.70                | 821                                 | ...                        | ...    | ...                                                | ...                                   |

† These points appertain to the Great Arc Meridional Series—Section 24° - 30°.



## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                     |                               |
| Mainsjadi                               | h.s. On a hill, in <i>patti</i> Bhábar, $\frac{1}{2}$ mile N. of the Rámnganga river and the road Rámngagar-Fatli Dún. Observed in 1867. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                | 29 32 51.02 | 78 58 10.55               | 2111                                | ...                        | 2      | Feet<br>...                                         | 669                           |
| *Milik, XLIII                           | Is situated in the lands of the village of Lodhipur Milik: tahsil Chándpur, pargana Burhpur or Nurpur, district Bijnor.<br>The station consists of a tower of unburnt bricks and mud cement, 14 feet in diameter at top, enclosing a central solid pillar of masonry 17.3 feet high: it has a mark-stone at summit. The bearings and distances of surrounding villages are:—Sahela 1.1 miles E; Ber 0.6 mile S.S.E.; Shehbonpur 0.6 mile W.S.W.; and Mor Mukdúmpur 1.2 miles N.E. by N. Observed in 1843. ( <i>Bijnor, Rohilkhand</i> ). | 29 4 42.70  | 78 25 28.43               | 742                                 | ...                        | ...    | ...                                                 | ...                           |
| *Nandi, XLVII                           | Is situated in the lands of the village of Púranpur, and is distant about half a mile E.S.E. of the village of Nandi: tahsil and pargana Káshipur, district Taráí.<br>The station consists of a tower of unburnt bricks and mud cement, 14 feet in diameter at top, enclosing a central solid pillar of masonry 12 feet high: it has a mark-stone at summit. The surrounding villages are:—Púranpur 0.6 mile N.; Raipur; Haripura and Mowa Dabra. Observed in 1842 and 1843. ( <i>Taráí</i> ).                                           | 29 17 7.53  | 78 46 32.23               | 771                                 | ...                        | ...    | ...                                                 | ...                           |
| Naugaon                                 | Math Observed in 1864. ( <i>Chándkot, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 29 54 41    | 78 44 19                  | 4020                                | ...                        | ...    | ...                                                 | ...                           |
| Naugaon                                 | No. 1 h.s. On a hill, in <i>patti</i> Udepur Talla, $\frac{1}{2}$ mile S.S.E. of Naugaon village, 1 mile S.W. of the village of Jamál and $1\frac{1}{2}$ miles N.E. of the Bidseni nadi. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> )                                                                                                                                                                                                                                                                                            | 29 59 19.07 | 78 23 0.83                | 4654                                | ...                        | 2      | ...                                                 | 311                           |
| Paneukhá                                | h.s. On the extremity of the spur which runs S.E. from Ránigarh to the Nayar river and can be approached from every direction. The large village of Sola is about a mile below to the east. Observed in 1864-65. ( <i>Bárahayán, Garhwál</i> ).                                                                                                                                                                                                                                                                                          | 29 59 55.38 | 78 45 9.46                | 6167                                | ...                        | 2      | ...                                                 | 378                           |
| Ramri                                   | h.s. On a hill $\frac{1}{2}$ mile W. of the village of that name, $\frac{1}{2}$ mile E. of Utircha village in <i>patti</i> Ajmir and 1 mile N.W. of Pulenda village on the high road to Srinagar. Observed in 1864-65. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                  | 29 49 7.20  | 78 32 11.31               | ...                                 | ...                        | ...    | ...                                                 | 418                           |

\* These stations appertain to the Budhon Meridional Series.

## DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|--------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                      |                    |
| Ringori                                 | h.s. On a flat topped hill so named, $\frac{1}{2}$ mile E.S.E. of Ghiri, $\frac{1}{2}$ mile W. by N. of Andarson, $\frac{1}{2}$ mile N. by E. of Sinala and 4 miles W. of Chauráni village on the high road Patli Dún-Srinagar. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                               | 29 48 18.79 | 78 49 56.26               | 5851                                | ...                        | 2      | ...                                                  | 427                |
| Sanai                                   | h.s. On the Bijnor-Garhwál boundary, 2 miles N.N.E. of Bawan Sarai village at the junction of the high roads from Hardwár and Srinagar to Kálagarh. Observed in 1865-66. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                           | 29 41 19.93 | 78 31 12.63               | 1006                                | ...                        | 2      | ...                                                  | 406                |
| *Sarkára, XLV                           | Is situated close to the high road from Hardwár to Moradabad, and distant about 0.6 mile S.S.E. of the village of Sarkára: tahsil Dhámpur, pargana Sherkot, district Bijnor.<br>The station consists of a tower of unburnt bricks and mud cement, 14 feet in diameter at top, enclosing a central solid pillar of masonry 16.3 feet high: it has a mark-stone at summit. The bearings and distances of surrounding villages are:—Rajmul 0.3 mile S.S.E.; Nasirpur Bhunwari 1.3 miles W.S.W.; and Salimpur Sarai 0.8 mile S. by W. Observed in 1843. ( <i>Bijnor, Kohil-khand</i> ). | 29 15 46.92 | 78 32 20.18               | 761                                 | ...                        | ...    | ...                                                  | ...                |
| Sidhon-ki-dhang                         | h.s. On a hill on the boundary between Garhwál and Naini Tál districts, $\frac{1}{4}$ miles N. of Lál-dhang village on the road to Rámnagar. Observed in 1867. ( <i>Dhár Kotá, Talla Salán, Kumaun and Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                               | 29 27 24.79 | 78 57 19.51               | 2213                                | ...                        | 3      | ...                                                  | 677                |
| Sidhwála                                | No. 1 h.s. On the S.E. spur of a hill so named in <i>patti Ajmir</i> , $\frac{1}{2}$ mile N.W. of the road Najibabad-Chauki Ghata, $\frac{1}{2}$ mile S.E. of Sidhwála peak and 3 miles N.N.E. of Hal-dukhán village on the road to Kotdwára. Observed in 1865-66. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                 | 29 47 57.87 | 78 27 19.56               | 2774                                | ...                        | 2      | ...                                                  | 394                |
| Sidhwála                                | No. 2 h.s. Observed in 1865-66. ( <i>Ganga Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 29 48 33.85 | 78 26 44.73               | 3463                                | ...                        | 4      | ...                                                  | 396, 397           |
| †Sonárkoti (Sunárkoti)                  | h.s. On a sharp peak of the sand-stone hills above the town of Hardwár on the right bank of the Ganges. The station can be reached from Hardwár or Márápur at head of the Ganges canal in 3 hours. Observed in 1864-65. ( <i>Saháranpur</i> ).                                                                                                                                                                                                                                                                                                                                      | 29 58 4.20  | 78 9 1.25                 | 2092                                | ...                        | ...    | ...                                                  | ...                |

\* This station appertains to the Budhor Meridional Series.

† This station appertains to the Great Arc Meridional Series—Section 24° - 30°.

DEGREE SHEET No. 53 K, between Lats. 29° - 30° and Longs. 78° - 79°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF SAYS DETERMINING |        | Discrepancies Per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Surabduli                               | h.s. S.E. of the Patli Dún, 1½ miles S. of the Rámanga river and of the road to Rámangar and 1½ miles E. of the high road from Fauri to Dharu. Observed in 1867. ( <i>Talla Salán, Garhwál</i> ).                                          | 29 31 38·76 | 78 55 17·74               | 2458                                | ...                        | 1      | Feet<br>...                                         | 670                          |
| *Súrajpahár                             | h.s. On the highest point of the hill. ( <i>Dehra Dún</i> ).                                                                                                                                                                               | 29 57 58·35 | 78 9 59·58                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Uta                                     | h.s. On a flat-topped hill in <i>patti</i> Kolagad, 1 mile W. of Gadari, on the high road to Srinagar and 1½ miles S.E. of Mahargaon. Observed in 1864-65. ( <i>Malla Salán, Garhwál</i> ).                                                | 29 51 43·94 | 78 53 22·46               | 6685                                | ...                        | 1      | ...                                                 | 425,<br>426                  |
| Utain                                   | h.s. On a range forming the boundary between <i>pattis</i> Badalpur Malla and Badalpur Talla, 2 miles S. of Badún, 1 mile W. by N. of Manigaon and 1½ miles N. of Bidorgaon village. Observed in 1864-65. ( <i>Talla Salán, Garhwál</i> ). | 29 49 23·70 | 78 46 48·23               | 6902                                | ...                        | 1      | ...                                                 | 423,<br>424                  |
| $\frac{\text{Pk.1}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 45 19    | 78 38 39                  | ...                                 | 3                          | ...    | 2·0                                                 | ...                          |
| $\frac{\text{Pk.2}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 44 47    | 78 35 27                  | ...                                 | 3                          | ...    | 0·1                                                 | ...                          |
| $\frac{\text{Pk.3}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 44 10    | 78 32 59                  | ...                                 | 3                          | ...    | 0·9                                                 | ...                          |
| $\frac{\text{Pk.4}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 42 10    | 78 36 16                  | ...                                 | 3                          | ...    | 1·8                                                 | ...                          |
| $\frac{\text{Pk.5}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 41 26    | 78 31 55                  | ...                                 | 3                          | ...    | 3·0                                                 | ...                          |
| $\frac{\text{Pk.6}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                               | 29 41 23    | 78 39 18                  | ...                                 | 5                          | ...    | 0·1                                                 | ...                          |
| $\frac{\text{Pk.7}}{53 \text{ K}}$      | ... Peak. Observed in 1865. ( <i>Patli Dún, Garhwál</i> ).                                                                                                                                                                                 | 29 36 14    | 78 43 54                  | ...                                 | 3                          | ...    | 0·4                                                 | ...                          |

\* This station appertains to the Budhon Meridional Series.

## DEGREE SHEET No. 53 M, between Lats. 31° - 32° and Longs. 79° - 80°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to Traverse of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                           |                                     | Position                   | Height |                                                     |                                   |
| Jadhang                                 | h.s. Is situated on the ridge between the Jadhanggadhi and the Jadganga, on a high knoll on a spur, a few hundred yards to the east of the watershed, but higher than the ridge itself. It is about 5 miles north of the village of Jadhang, and may be reached from that village by ascending the spur opposite to the village and following the ridge for 3 miles; or from the Sonam encamping ground by climbing straight up the face of the opposite ridge. It is marked with the usual mark-stone, staff and flag. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                           | 31 13 3'38"  | 79 4 24'27"               | 17356                               | ...                        | 2      | ...                                                 | 491                               |
| Ku                                      | h.s. Is situated on a high hill about 3 miles east of the Jadhaphu grazing ground and about 4 miles north-west of the junction of the Chungamugadh with the Managadh. On visiting the original station observed to from Sonam h.s., it was found necessary to move it along the ridge about a quarter of a mile to the south, as the view of the peaks on the Managadh was completely shut out by a heavy snow bank, the station being altogether not well selected. The mark-stone of the original station has been left <i>in situ</i> surmounted by a large pile of stones, the second or revised position of the station has been marked in the usual manner by a mark-stone, staff and flag. Observed in 1878. ( <i>Hundes, Tibet</i> ). | 31 8 48'04"  | 79 8 45'40"               | 19261                               | ...                        | 2      | ...                                                 | 494, 495                          |
| Naga                                    | h.s. Is situated on a knoll on the spur above the Naga bridge crossing the Jadganga, just above the junction of the Managadh. The spur is the one running down to the junction; and the station is reached either from the Naga Sangu to the south or from the Sonam, and also from the Ku encamping grounds by foot-paths leading from the river to the Jadhaphu grazing ground. The station is marked in the usual manner, with mark-stone, staff, flag and pile of stones. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                     | 31 8 22'70"  | 79 5 55'94"               | 15716                               | ...                        | 2      | ...                                                 | 490                               |
| Pulamsamda                              | h.s. Is situated on a high knoll on the spur between the Jadganga and Tirpanigadh (locally called Rongmachadh), running up north-westward from Tirpani to the Thaga La and is to the west of and immediately above the Pulamsamda encamping ground. The station is marked in the usual manner, by a mark-stone, rather deeply embedded in the ground, surmounted by the ordinary staff and flag. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                  | 31 18 24'72" | 79 6 48'15"               | 16570                               | ...                        | 2      | ...                                                 | 496                               |

## DEGREE SHEET No. 53 M, between Lats. 31° - 32° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |          |
|-----------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|----------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                                     | Position                   | Height |                                                     |                              |          |
| Sonam                                   | h.s.        | Is the westernmost of three peaks situated on a spur running west from the watershed between the Mángadh and Jadganga. It is best approached from a ravine on the east, which joins the Jadganga about 1½ miles north of the Sonam encamping ground. The station is marked in the usual manner. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                       | 31 13 34.67               | 79 7 48.45                          | 18883                      | ...    | 3                                                   | ...                          | 492, 493 |
| Thaga La                                | No. 1 h.s.  | Is situated on a conspicuous and high hill about 5 miles to the east of the Thaga La or western pass out of the Jadganga valley into Hundes. The hill is reached from the Shakingadh, to the right of the long flat spur up which the road across the pass ascends. The station is marked with the usual mark-stone embedded amongst the loose rocks which cover the hill. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                            | 31 23 48.18               | 79 10 9.37                          | 19214                      | ...    | 3                                                   | ...                          | 498, 499 |
| Thaga La                                | No. 2 h.s.  | Is situated on the summit of a conical and isolated hill, about 2 miles east of the Thaga La. The road is the same as that to Thaga La No. 1 as far as the top of the ascent to the pass but turns to the left instead of the right at this point. The station is marked with the usual mark-stone, staff and flag supported by a pile of stones. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                     | 31 25 16.02               | 79 8 34.19                          | 19127                      | ...    | 2                                                   | ...                          | 500      |
| Tsang Chok La                           | h.s.        | Is situated on a spur to the east of the Tsang Chok La or Jelukhaga pass. The hill which lies to the north of one of the sources of the Hoggadh a tributary of the Sullej river, rises steeply from the pass for about a mile, then there is a level stretch for another mile followed by an abrupt drop to the east into the Hoggadh. The station is situated on the highest point just at the edge of the fall into the Hoggadh, and is marked with the usual concentric $\odot$ on a stone embedded amongst the loose rocks which entirely cover the hills and by a staff and flag supported by a cairn of stones. Observed in 1878. ( <i>Hundes, Tibet</i> ). | 31 19 33.52               | 79 14 55.18                         | 19345                      | ...    | 2                                                   | ...                          | 497      |
| Pk. 1<br>53 M                           | ...         | Snowy peak. Observed in 1878.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 31 17 30                  | 79 1 49                             | 19410                      | 2      | 2                                                   | ...                          | ...      |
| Pk. 2<br>53 M                           | ...         | Peak. Observed in 1878.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 31 14 23                  | 79 12 20                            | 19850                      | 4      | 1                                                   | 4.4                          | ...      |

DEGREE SHEET No. 53 M, between Lats. 31° - 32° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per million common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|-----------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                               |             |                           |                                     | Position                   | Height |                                                     |                               |
| <u>Pk. 3</u><br><u>53 M</u>             | ... Snowy peak. Observed in 1878.             | 31 4 56     | 79 55                     | 20490                               | 3                          | 3      | 4'0                                                 | ...                           |
| <u>Pk. 4<sup>1</sup></u><br><u>53 M</u> | ... Snowy peak. Observed in 1878.             | 31 3 52     | 79 9 50                   | ...                                 | 2                          | ...    | ...                                                 | ...                           |
| <u>Pk. 4<sup>2</sup></u><br><u>53 M</u> | ... Snowy peak. Observed in 1878.             | 31 3 51     | 79 9 51                   | 20470                               | 2                          | 3      | ...                                                 | ...                           |
| <u>Pk. 5</u><br><u>53 M</u>             | ... Snowy peak. Observed in 1878.             | 31 3 2      | 79 11 49                  | 21070                               | 3                          | 3      | 4'9                                                 | ...                           |
| <u>Pk. 6</u><br><u>53 M</u>             | ... Snowy peak. Observed in 1853-54.          | 31 2 30     | 79 0 33                   | 20900                               | 2                          | 1      | ...                                                 | ...                           |
| <u>Pk. 7</u><br><u>53 M</u>             | ... Left of cone needle. Observed in 1853-54. | 31 2 2      | 79 3 19                   | ...                                 | 2                          | ...    | ...                                                 | ...                           |
| <u>Pk. 8</u><br><u>53 M</u>             | ... Snowy peak. Observed in 1878.             | 31 0 56     | 79 10 38                  | 22730                               | 3                          | 4      | 5'2                                                 | ...                           |
| <u>Pk. 9</u><br><u>53 M</u>             | ... Snowy cone needle. Observed in 1853-54.   | 31 0 48     | 79 4 22                   | 22050                               | 3                          | 1      | 1'0                                                 | ...                           |
| <u>Pk. 10</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1878.             | 31 47 41    | 79 23 52                  | 16490                               | 3                          | 1      | 5'5                                                 | ...                           |
| <u>Pk. 11</u><br><u>53 M</u>            | ... Peak. Observed in 1878.                   | 31 24 39    | 79 21 43                  | 18090                               | 3                          | 1      | 2'1                                                 | ...                           |
| <u>Pk. 12</u><br><u>53 M</u>            | ... Peak. Observed in 1878.                   | 31 15 26    | 79 22 22                  | ...                                 | 3                          | ...    | 2'7                                                 | ...                           |
| <u>Pk. 13</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1878.             | 31 3 44     | 79 17 52                  | 20030                               | 3                          | 3      | 0'5                                                 | ...                           |
| <u>Pk. 14</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1871.             | 31 2 49     | 79 22 16                  | 19910                               | 3                          | 2      | 1'9                                                 | ...                           |
| <u>Pk. 15</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1878.             | 31 1 49     | 79 18 13                  | 20960                               | 3                          | 3      | 5'8                                                 | ...                           |
| <u>Pk. 16</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1871.             | 31 1 24     | 79 26 8                   | 21050                               | 3                          | 2      | 1'8                                                 | ...                           |
| <u>Pk. 17</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1871.             | 31 1 18     | 79 24 53                  | 20610                               | 3                          | 2      | 2'1                                                 | ...                           |
| <u>Pk. 18</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1877.             | 31 47 53    | 79 43 10                  | ...                                 | 3                          | ...    | 0'4                                                 | ...                           |
| <u>Pk. 19</u><br><u>53 M</u>            | ... High point. Observed in 1877.             | 31 5 7      | 79 57 16                  | ...                                 | 3                          | ...    | 0'2                                                 | ...                           |
| <u>Pk. 20</u><br><u>53 M</u>            | ... Snowy peak. Observed in 1871.             | 31 0 1      | 79 51 42                  | 19130                               | 3                          | 2      | 3'1                                                 | ...                           |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| Airah                                   | h.s. On hill of that name in Dasoli Talla <i>patti</i> , 2 miles S. by E. of Gari on the Bir-ganga river, 1½ miles N. of Pagana, 2 miles S. of Sainji and 2¼ miles E.N.E. of Matui village. A path along the ridge passes about ¼ mile S. of the station. Observed in 1866-67. ( <i>Dasoli, Garhwál</i> ).                                                                           | 30 20 35·91 | 79 25 55·28               | 10358                               | ...                        | 3      | Feet<br>...                                         | 540,<br>541                  |
| Alimajari                               | h.s. Just S. of the high road from Pauri to Almora and N.E. of the village of Ali, in Tili Cháandpur <i>patti</i> , 1¼ miles W.S.W. of the Cháandpur Garhi and ½ mile N. of Kánsuwa. Observed in 1865-66. ( <i>Cháand-pur, Garhwál</i> ).                                                                                                                                            | 30 10 8·03  | 79 11 53·74               | 5133                                | ...                        | 2      | ...                                                 | 570,<br>571                  |
| Ánudeb                                  | h.s. At the western end of a range so named lying between the Ánudebganga and Khuliaganga streams, 1 mile E. of the Sarmswátiganga and the road to Badrináth and 2¼ miles N. by E. of Mána vil-lage. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                            | 30 48 10·17 | 79 30 45·16               | 15682                               | ...                        | 3      | ...                                                 | 934,<br>935                  |
| Argam                                   | h.s. On a hill on the boundary of the <i>pattis</i> of Argam and Nágpur Malla, ¾ mile N.W. of Khemana, 1¼ miles E.S.E. of Kulangot, 2½ miles S.S.W. of Dhyura village and 2¼ miles S.S.W. of Argam or Bangina vil-lage from which it is named. Observed in 1869-70. ( <i>Nágpur, Garhwál</i> ).                                                                                      | 30 30 15·64 | 79 26 35·64               | 10118                               | ...                        | 2      | ...                                                 | 925                          |
| Badhangarhi                             | h.s. On a hill of that name in Pindarpár <i>patti</i> , 2¼ miles S. by W. of Chhapali on the Pindar river and 2¼ miles S.W. by S. of Tharan-joli village on the road from Karnprayág to Baijnáth. Observed in 1867-68. ( <i>Bad-han, Garhwál</i> ).                                                                                                                                  | 30 0 45·76  | 79 31 32·82               | 8124                                | ...                        | 5      | ...                                                 | 889,<br>890                  |
| Badbra                                  | h.s. On a hill so named forming part of the boundary between the <i>pattis</i> of Dasoli Talla and Dasoli Malla, 1¼ miles S.S.W. of Tarag Tal on the road from Chamoli to Baij-náth, 2 miles W. of Ramni at the crossing of the roads from Baijnáth to Chamoli and Nandprayág to Joshimath and 1½ miles N. of the village of Lwani. Observed in 1866-67. ( <i>Dasoli, Garhwál</i> ). | 30 19 16·88 | 79 28 20·85               | 10915                               | ...                        | 2      | ...                                                 | 440                          |
| Badrináth                               | Temple Stone temple: on the road to Mána pass about ¼ mile N. of the junction of the Rishi-ganga with the Alankanda river. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                      | 30 44 42·0  | 79 29 33·6                | 10210*                              | ...                        | 2      | ...                                                 | 1213                         |

\* To top of temple, height 51 feet.

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BATS DETERMINING |        | Discrepancies per mille of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                      |                              |
| Balán                                   | h.s. On a hill so called, on the boundary between the parganas of Badhan in Garhwál and Dánpur in Kumaun, 3 miles W. of the Bhaiganga river, 3 miles E. by S. of Bhandara village, 2½ miles W. of Barhárákái and 5 miles N.N.W. of Jhaliya on the road to Pindari. Observed in 1868-69. ( <i>Badhan and Dánpur, Kumaun and Garhwál</i> ).             | 30 7 52.81  | 79 45 47.74               | 12138                               | ...                        | 2      | ...                                  | 434                          |
| Bamlás                                  | No. 1 h.s. On a hill in Painkhanda Malla <i>patti</i> , 1½ miles N. by W. of the deserted village of Bamlás, ½ mile E. of the road to Niti, 2½ miles N. of Niti village and 1½ miles S.E. of the Dhauli river. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                   | 30 48 43.57 | 79 49 50.81               | 16683                               | ...                        | 2      | ...                                  | 966, 967                     |
| Bámpa                                   | h.s. On a hill ½ mile W. by N. of the village of that name on the road to Niti, 1 mile W. of the Dhauli river and 2½ miles N.E. of the Kosa glacier in Painkhanda Mulla <i>patti</i> . Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                           | 30 44 43.29 | 79 49 0.57                | 14060                               | ...                        | 2      | ...                                  | 962                          |
| Banidhura                               | h.s. On a hill so called, on the boundary between the <i>pattis</i> of Painkhanda Talla and Dasoli Talla, 3½ miles N. by W. of Gohna on the Birehiganga stream, 4 miles S.S.E. of Marwára, 4 miles W. of the road to Joshimath and 2½ miles N.N.E. of the Chamoli-Baijnáth road. Observed in 1866-67. ( <i>Painkhanda and Dasoli, Garhwál</i> ).      | 30 24 26.49 | 79 28 48.58               | 11476                               | ...                        | 2      | ...                                  | 441                          |
| Bani Tál                                | h.s. On a high peak, 1½ miles N.W. of Kháti on the high road to Karnprayág in Sili Chándpur <i>patti</i> , ½ mile N. of Ranoli village, ½ mile E.S.E. of Bani Tál tea factory and 1½ miles S.S.E. of Julgar village. Observed in 1865-66. ( <i>Chándpur, Garhwál</i> ).                                                                               | 30 9 10.27  | 79 15 7.08                | 7479                                | ...                        | 1      | ...                                  | 668                          |
| Banjkot                                 | h.s. On the range forming the boundary between the <i>pattis</i> of Kandersyún and Dhajuli, in the Dewalgarh and Chándpur parganas; 1½ miles E. of Siroli village, 3 miles S. of the high road from Pauri to Almora and 2 miles S. of the village of Syouli on the Chifalghat river. Observed in 1864-65. ( <i>Dewalgarh and Chándpur, Garhwál</i> ). | 30 8 36.44  | 79 2 24.67                | 8204                                | ...                        | 2      | ...                                  | 477                          |
| Barpatta                                | h.s. Just south of Badrináth Temple on the road to the Mána pass on the right bank of the Vishnuganga river just above its junction with the Riehganga; in Painkhanda Talla <i>patti</i> . Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                       | 30 44 35.51 | 79 29 38.33               | 10244                               | ...                        | 1      | ...                                  | 948                          |



## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bázkúli                                 | h.s. On a site so named on the road to Badrináth, $\frac{1}{4}$ mile S. of the Sanjanka bridge across the Saraswatiganga river; in Painkhanda Talla <i>patti</i> . Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                    | 30 50 15.09 | 79 29 4.99                | 13006                               | ...                        | 2      | Feet<br>...                                         | 941,<br>942                  |
| Bhairkharak                             | h.s. On a high hill on the boundary between the <i>pattis</i> of Parkandi and Nágpur Bichla, $3\frac{1}{2}$ miles E. by S. of Makhu village, $2\frac{1}{2}$ miles N.N.W. of Kaleir and 2 miles S.W. of the Tungnáth temple. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                  | 30 28 10.02 | 79 11 21.70               | 10105                               | ...                        | 2      | ...                                                 | 506,<br>507                  |
| Bisuri                                  | h.s. On a hill of that name in Káliphat Malla <i>patti</i> , $3\frac{1}{2}$ miles S.S.E. of Gaundar on the Biera river, 2 miles W. by N. of the Nágpur Malla <i>patti</i> boundary, 5 miles E. by S. of Nála village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                        | 30 33 18.23 | 79 12 31.74               | 13150                               | ...                        | 2      | ...                                                 | 501,<br>502                  |
| Bujantoni                               | h.s. On a peak so named in Painkhanda Malla <i>patti</i> , $1\frac{1}{2}$ miles E.S.E. of the Dhauli river and the road to Niti, $1\frac{1}{2}$ miles S.E. of the hamlet of Pangerasu Gwár, 2 miles E.N.E. of Samangaita, and 3 miles E.N.E. of Bhalgaon and Suki villages. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                           | 30 32 20.86 | 79 46 36.88               | 13321                               | ...                        | 2      | ...                                                 | 954                          |
| Bujgala                                 | h.s. On a high rocky range forming the boundary between the <i>pattis</i> of Nandak and Khun; $3\frac{1}{2}$ miles W. of the road from Nandprayág to Baijuáth, 2 miles E. of Churkhun. Observed in 1867. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                       | 30 13 5.23  | 79 23 10.43               | 9291                                | ...                        | 2      | ...                                                 | 436                          |
| Bunga                                   | h.s. On a high hill about $\frac{1}{4}$ mile N. of the Kosa, a branch of the Dhauli river, 1 mile N. of Kosa village, $1\frac{1}{2}$ miles W. by N. of Malari village on the other side of the Dhauli river, $1\frac{1}{2}$ miles S. by W. of Margam village on the north of the road to Niti and $2\frac{1}{2}$ miles W. of Kosa glacier. Observed in 1869-70. ( <i>Pauri, Garhwál</i> ). | 30 41 32.05 | 79 51 48.88               | 14210                               | ...                        | 2      | ...                                                 | 959                          |
| Chára                                   | h.s. On a hill of that name $\frac{1}{4}$ mile S.E. of the junction of the Naotogiganga and Saraswatiganga rivers and the road to Badrináth, in Painkhanda Talla <i>patti</i> . Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                       | 30 49 44.45 | 79 29 57.33               | 14410                               | ...                        | 1      | ...                                                 | 938                          |
| Charpáni                                | h.s. On a hill so called forming part of the boundary between the <i>pattis</i> of Dasoli Talla and Dasoli Malla, $2\frac{1}{2}$ miles N.E. of the Nandágni river and the road to Baijuáth, $1\frac{1}{2}$ miles N. by E. of Khumána village, 2 miles E.S.E. of Mothm and 1 mile S.S.W. of Pagnna. Observed in 1867. ( <i>Dasoli, Garhwál</i> ).                                           | 30 18 10.71 | 79 25 20.80               | 8397                                | ...                        | 2      | ...                                                 | 538,<br>539                  |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in compass-sides of triangles | Number of Triangles |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                      |                     |
| Chauri Binek                            | <i>h.s.</i> On the crest of a hill so named in Painkhanda Malla <i>patti</i> , 1½ miles W. of Markura Gwár village on the Dhauli river and of the road to Niti, 1 mile W.S.W. of Naung village and 1½ miles N.N.W. of the Gari encamping ground. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                         | 30 35 17.64 | 79 45 14.94               | 13635                               | ...                        | 2      | ...                                                  | 955,<br>956         |
| Chbatar                                 | <i>h.s.</i> On a hill of that name in Painkhanda Talla <i>patti</i> , 1½ miles N.E. of Gar village on the Dhauli river, 4½ miles E.S.E. of Vishnuprayág. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                 | 30 31 25.31 | 79 38 25.05               | 12669                               | ...                        | 2      | ...                                                  | 950                 |
| Chilarimar                              | <i>h.s.</i> On a hill so named in Nágpur Biehla <i>patti</i> , 1½ miles N. of Bhaigson on the high road to Srinagar by the Alaknanda river, ¼ mile S.E. of Kandin W., one of a group of villages, 3 miles N.E. of Bhatwari village and 2½ miles N.W. of Ráwalnagar on the Srinagar-Almora road. Observed in 1867. ( <i>Nágpur, Garhwál</i> ). | 30 19 31.54 | 79 7 34.33                | 5836                                | ...                        | 1      | ...                                                  | 528,<br>529         |
| Chorkharak                              | <i>h.s.</i> On a hill so named in Pindarpár <i>patti</i> , 2 miles E. by N. of Kurár, 1½ miles W. by N. of Bamanbera, and 2½ miles W. by N. of Kandin on the road to Baijnáth. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                                                                                                  | 30 5 37.35  | 79 33 35.89               | 8915                                | ...                        | 1      | ...                                                  | 430                 |
| Chotakána                               | <i>h.s.</i> On a hill so named in Painkhanda Malla <i>patti</i> , 1½ miles N. of the Juma Gwár encamping ground on the road to Niti by the Dhauli river, 1½ miles S.S.W. of Jelam village and ¼ mile N.E. of the Juma Gar stream. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                        | 30 37 57.97 | 79 48 13.46               | 13546                               | ...                        | 2      | ...                                                  | 967                 |
| Chutwapipal                             | <i>h.s.</i> Also called Dhianmalgarh. Is on a hill about ½ mile W. by N. of the rope bridge over the Alaknanda river, and ¼ mile south of the large village of Panai. Observed in 1867-68. ( <i>Dewalgarh, Garhwál</i> ).                                                                                                                     | 30 16 26.06 | 79 9 35.06                | 4008                                | ...                        | 1      | ...                                                  | 526,<br>527         |
| Dalsinga                                | <i>h.s.</i> On the east spur of a hill in Káliphat Talla <i>patti</i> , ¼ mile N.N.W. of Dalsinga village, 1 mile N.W. of Bhatwari village on the road to Kedarnáth near the Kálinganga river, 1 mile S.W. of Biroun and ¼ mile N. of Arkhaend. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                 | 30 26 21.79 | 79 3 13.33                | ...                                 | ...                        | ...    | ...                                                  | 619                 |
| Dámjan                                  | <i>h.s.</i> On a hill so named in Painkhanda Malla <i>patti</i> , 1½ miles N.E. of the Dhauli river, 1½ miles N. of Niti and ¼ mile E. of Bam-láe, a deserted village on the road from Joshimath across the Márcháuk pass. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                               | 30 47 50.54 | 79 50 50.65               | 15590                               | ...                        | 2      | ...                                                  | 963                 |

## DEGREE SHEET 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in commonsides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                    |                              |
| Dankarak                                | h.s. On a hill so named on the Garhwál-Kumaun boundary, 1½ miles W.N.W. of Paimia, 2 miles N. by W. of Talla Kalaon, 2½ miles N. by E. of Sirkot and 1 mile E. of the road from Karnprayág to Baijnáth. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                 | 30 0 16.85  | 79 35 20.27               | 7357                                | ...                        | 2      | Feet<br>...                                        | 908,<br>909                  |
| Daukuri                                 | h.s. On a high rocky cliff so named, ¼ mile S.W. of the high road to Pindari, 2 miles S. of the Pindar river, 1½ miles E.N.E. of Karmi and 2 miles N. by W. of Peti village; a path from the main road leads past the station. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).          | 30 3 51.99  | 79 54 41.04               | 10542                               | ...                        | 2      | ...                                                | 1073,<br>1074,<br>1075       |
| Deangan                                 | h.s. On a high hill so named in Dasoli Talla patti, 2½ miles S.S.W. of Gari village on the Birganga river, 2½ miles N.W. of Pagana, 2 miles N.E. of Bairon and 5 miles E.N.E. of Nandprayág on the Alaknanda. Observed in 1867. ( <i>Dasoli, Garhwál</i> ).                          | 30 20 54.74 | 79 24 9.29                | 10448                               | ...                        | 2      | ...                                                | 439                          |
| Deobarna                                | h.s. On a rocky cliff so named in Dánpur Malla patti, 1 mile W. by N. of Sorag, 1 mile N.N.E. of the road to Pindari and the river Pindar, 1½ miles E. of Badiakot and 1½ miles N.E. of Kilbava. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                        | 30 6 38.53  | 79 51 59.28               | 9736                                | ...                        | 2      | ...                                                | 918                          |
| Deodekni                                | h.s. On a hill so called, one of a range forming the boundary between the patti of Nágpur Bichla and Nágpur Malla, 1½ miles E. of Kalseir village, 2 miles W. by S. of Khala on the Badrináth road and 1½ miles N.E. of Naoli village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ). | 30 26 29.17 | 79 14 32.89               | 9562                                | ...                        | 1      | ...                                                | 447                          |
| Dhangmalkund                            | h.s. On a hill so named 1½ miles E.N.E. of Gari on the Birganga river, 2½ miles S.E. of Batula village on the road to Badrináth and 1½ miles N. of Sainji. Observed in 1867. ( <i>Dasoli, Garhwál</i> ).                                                                             | 30 23 24.01 | 79 26 30.25               | 8125                                | ...                        | 3      | ...                                                | 542,<br>543                  |
| Dhiola                                  | h.s. On a high rocky hill in Dánpur Malla patti, ¼ mile E. of the Bhaiganga river, 1 mile W. of Kilbava village, 1½ miles N.W. of Hilman on the road to Pindari and 1½ miles S.W. of Badiakot. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                          | 30 5 55.77  | 79 49 23.91               | 9518                                | ...                        | 1      | ...                                                | 916,<br>917                  |
| Dhuan                                   | h.s. On a spur about 3 miles S.E. of Bangaon village; a road from Srinagar passes about a mile south of the station. Observed in 1861-62. ( <i>Tehri-Garhwál</i> ).                                                                                                                  | 30 13 13.18 | 79 4 38.08                | 9864                                | ...                        | 2      | ...                                                | 307,<br>308                  |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile of triangle | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                    |                              |
| Dolu                                    | h.s. On the spur of a hill, $\frac{1}{4}$ mile S.E. of the Dhauri river and $1\frac{1}{2}$ miles S.W. of Pethulá on the Bilikank river. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                             | 30 52 59.38 | 79 51 38.03               | 15395                               | ...                        | 2      | Feet<br>...<br>972,<br>973         |                              |
| Domban                                  | h.s. On a hill so named in Painkhanda Talla patti, $2\frac{1}{2}$ miles S. of the Dhauri river and the road to Niti, 3 miles S.W. of Runi at the junction of the Rishiganga and Dhauri rivers and $3\frac{1}{2}$ miles S.E. of Tapoban on the road to Baijnáth. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).     | 30 27 2.83  | 79 39 36.99               | 12561                               | ...                        | 2      | ...<br>951                         |                              |
| Dudatoli                                | h.s. On a high rocky range forming the boundary between the patti of Choprakot and Lobha; 3 miles W. by N. of the village of Mahargaoon, 4 miles W.S.W. of Sirkot and 6 miles west of Gwár village near the bifurcation of the road from Almora to Pauri and Baijnáth. Observed in 1865-66. ( <i>Chánpur, Garhwál</i> ). | 30 3 32.82  | 79 11 41.92               | 10163                               | ...                        | 2      | ...<br>467                         |                              |
| Ganeshganga                             | h.s. On the spur of a hill, in Painkhanda Malla patti, $\frac{1}{4}$ mile E. of the Ganesh river, $1\frac{1}{2}$ miles S.W. of the Garhwál-Hundes boundary and $\frac{1}{2}$ mile E. of the road to Joshimath. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                      | 30 54 29.73 | 79 52 4.52                | 15901                               | ...                        | 2      | ...<br>976,<br>977                 |                              |
| Gaurikund                               | Hill Staff On a hill $1\frac{1}{2}$ miles N. by W. of the village of that name on the Mandakini river and $3\frac{1}{2}$ miles N.E. of Trijugi Narain village in Maikhanda patti. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                       | 30 40 27.2  | 79 1 24.0                 | ...                                 | ...                        | ...    | ...<br>1218,<br>1219               |                              |
| Ghandál                                 | Tea Factory Southern chimney on the roof of bungalow, $1\frac{1}{2}$ miles N.N.W. of Silkot Tea Factory. Observed in 1866. ( <i>Chánpur, Garhwál</i> ).                                                                                                                                                                  | 30 3 51     | 79 14 9                   | ...                                 | ...                        | ...    | ...<br>...                         |                              |
| Ghuddhar                                | h.s. On a hill on the boundary between the patti of Painkhanda and Dasoli Talla, 1 mile E. by N. of Salla, 1 mile N. by E. of Kamiar and $1\frac{1}{2}$ miles E. of Pipalkoti on the road to Badrináth and the Alaknanda river. Observed in 1867. ( <i>Dasoli, Garhwál</i> ).                                            | 30 25 49.84 | 79 27 17.32               | 8099                                | ...                        | 2      | ...<br>544,<br>545                 |                              |
| Goting                                  | h.s. On the spur of a hill $\frac{1}{2}$ mile W. of the junction of the Dámjan and Dhauri rivers and of the road to Joshimath and $\frac{1}{2}$ mile N.E. of the deserted site of Kras, in Painkhanda Malla patti. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                  | 30 49 51.55 | 79 47 55.03               | 15688                               | ...                        | 2      | ...<br>968,<br>969                 |                              |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                           |                                     | Position                   | Height |                                                     |                              |
| Gwáldam No. 1 h.s.                      | On the road from Baijnáth to Karnprayág, $\frac{3}{4}$ mile S. of the Gwáldam Tea Factory and 2 miles S. of Koti village on the Pindar river; in Pindarwar <i>patti</i> . Observed in 1867-68. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                         | 30 0 13' 16"  | 79 34 13' 78"             | 6352                                | ...                        | 2      | ...                                                 | 894                          |
| Gwáldam No. 2 h.s.                      | On sundial pillar of Gwáldam Bungalow about $\frac{1}{4}$ mile W.N.W. of Gwáldam No. 1 h.s. Observed in 1868-69. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 0 18' 06"  | 79 34 0' 95"              | 6339                                | ...                        | 2      | ...                                                 | 919                          |
| Gwáldam No. 3 h.s.                      | In the Gwáldam Tea Factory on the road to Baijnáth, $1\frac{1}{4}$ miles S.S.E. of the Pindar river, $\frac{3}{4}$ mile S. of Parsau, 1 mile S.S.E. of Chiringa and 3 miles S. by W. of Bathleshwar temple. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                          | 30 0 48' 80"  | 79 34 7' 15"              | 5885                                | ...                        | 2      | ...                                                 | 921                          |
| Gwanagarh H.s.                          | Is situated in the <i>patti</i> of Kandarayún, about 2 miles to the north-west of the village of Dobsi on the Dhanpur range and about 2 miles south-east of the village of Dhanpur, the road between the two villages passes about 300 yards to the east of the station and a little below it. A platform is built at the station with a <i>paku</i> isolated pillar 30 inches in height from the original surface of the ground and 36 inches in diameter with an upper and lower mark-stone 30 inches apart. Observed in 1864-65. ( <i>Dawalgarh, Garhwál</i> ). | 30 12 52' 78" | 79 5 21' 39"              | 9825                                | ...                        | 2      | ...                                                 | 284                          |
| Harap h.s.                              | On a hill so named on the Kumaun-Garhwál boundary, $1\frac{1}{4}$ miles S. of the Baijnáth-Pindari road and the Pindar river, 1 mile S.S.W. of Wodúr and $3\frac{1}{4}$ miles S.E. of Bathleshwar temple at the junction of the Káliganga and Pindar rivers. Observed in 1868. ( <i>Dánpur and Badhan, Kumaun and Garhwál</i> ).                                                                                                                                                                                                                                   | 30 1 3' 99"   | 79 37 30' 78"             | 7835                                | ...                        | 2      | ...                                                 | 788                          |
| Jangi No. 1 h.s.                        | On one of the hills forming the Kálsáisa range, 1 mile E. of Káimat on the Káli river, $1\frac{1}{4}$ miles W.S.W. of Nála and $\frac{1}{4}$ mile N.N.W. of Jangi village, all in the <i>patti</i> of Káliphat Malla. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                | 30 33 42' 20" | 79 6 16' 07"              | 7311                                | ...                        | 1      | ...                                                 | 530                          |
| Jangi No. 2 h.s.                        | A peak on the Kálsáisa range, $\frac{1}{4}$ mile S. by W. of Jangi No. 1 h.s., $\frac{3}{4}$ mile E. of the junction of the Káli with the Mandakini river and 1 mile N. of the junction of the Bora and Mandakini rivers. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                            | 30 33 6' 91"  | 79 5 49' 18"              | 6177                                | ...                        | 1      | ...                                                 | 531                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DATA DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to triangulation |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                            |
| Jatropáni                               | H.S. Is situated in the <i>patti</i> of Pindarpar at the head of the Sol valley, Garhwál; about 12 miles to the N.E. of the village of Kolpuri and 8 miles west of Wan in the same <i>patti</i> and about 12 miles east of Bheti in Nandak <i>patti</i> . Khanil is a well known peak about 1½ miles to the south of the station, and the hill on which the station is situated, is known as Rikri Gudri in Garhwál and Dhunga Bukial in Kumaun. The station consists of a platform 14 feet square with a paka isolated pillar 30 inches high having 2 mark-stones 24 inches apart, the lower one being on an outcropping rock 6 inches above the general height of the hill. Observed in 1864-65. ( <i>Badhan, Garhwál</i> ). | 30 12 17.40 | 79 33 55.09               | 13357                               | ...                        | 2      | Feet<br>...                                         | 288,<br>289                |
| Joshimath                               | h.s. Near the travellers' bungalow on the Karn-prayág road just west of the temple of Joshimath and ¼ mile S.W. of the junction of the Vishnuganga and the Dhuli rivers in Painkhanda Tulla <i>patti</i> . Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 33 23.80 | 79 33 56.33               | 6105                                | ...                        | 2      | ...                                                 | 982                        |
| Kainur                                  | Dák Bungalow Pillar on apex of roof to N.E. Observed in 1865. ( <i>Pauri, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 1 5      | 79 3 37                   | ...                                 | ...                        | ...    | ...                                                 | ...                        |
| Kainur                                  | h.s. Is on a spur ¼ mile N.E. of the Kainur Dák Bungalow and on the high road from Srinagar to Almora. Observed in 1865-66. ( <i>Chánpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 1 12.56  | 79 3 45.80                | 6631                                | ...                        | 2      | ...                                                 | 561,<br>562                |
| Kálásila                                | h.s. On a hill forming part of the Kálásila ridge, in Káliphat Malla <i>patti</i> , 2 miles N.W. of Biera river, 2 miles W. of Ránei village, 1½ miles N.N.W. of Nála and 1½ miles E. by N. of Dhani village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 35 26.17 | 79 6 38.17                | 9548                                | ...                        | 2      | ...                                                 | 449                        |
| Kandára                                 | h.s. On a hill, in Dasoli <i>patti</i> , ½ mile N. of the village of that name, ½ mile S.W. of the Nandágni river, 1 mile S.E. of the Alaknanda river and the Badrináth road and 2½ miles S. of Nandprayág at the junction of the two rivers. Observed in 1867. ( <i>Dasoli, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 18 2.73  | 79 19 11.06               | 5159                                | ...                        | 3      | ...                                                 | 536,<br>537                |
| Kankhul                                 | h.s. On a hill ¼ mile N. of the village of that name, on the boundary of the <i>pattis</i> of Dasoli Talla and Kapiri, 3 miles E. of Karnprayág at the junction of the Pindar and Alaknanda rivers and 2 miles S.E. of Khal on the Badrináth road. Observed in 1867. ( <i>Dasoli and Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 15 38.20 | 79 16 4.86                | 6609                                | ...                        | 2      | ...                                                 | 547,<br>548                |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |                           |                                     | Position                   | Height |                                                     |                              |
| Kankra No. 1 h.s.                       | Is situated in the <i>patti</i> of Pindarwar, Garhwál. The hill itself is better known by the name of Kakur Khet. An old platform about 12 inches high with a mark-stone and three other stones for the legs of the stand to rest on was found: the same mark-stone was retained and a platform 14 feet square surrounding a puka pillar 30 inches high and 36 inches in diameter with two mark-stones, one at the upper surface and the other 15 inches from the lower mark was built over it. Observed in 1864-65. ( <i>Badhan and Chánpur, Garhwál</i> ). | 30 2 58' 30"  | 79 23 46' 52"             | 10068                               | ...                        | 2      | Feet<br>...                                         | 286                          |
| Kankra No. 2 h.s.                       | On a high range forming the boundary between Badhan and Chánpur parganas; 2½ miles S.S.E. of Khuinoli village in Pindarwar <i>patti</i> , 3 miles S.W. of Nabhol and 4½ miles S.W. of the high road from Almorá to Baijnáth. Observed in 1866-66. ( <i>Badhan and Chánpur, Garhwál</i> ).                                                                                                                                                                                                                                                                    | 30 2 41' 57"  | 79 23 12' 20"             | 9968                                | ...                        | 3      | ...                                                 | 583,<br>584                  |
| Khabakhál h.s.                          | On a peak so named, 2½ miles N.W. of Mundauli village, on the road to Baijnáth, 3½ miles S.S.W. of Wan on the same road and 2½ miles N. by W. of Aráni. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                        | 30 9 31' 24"  | 79 35 42' 51"             | 11141                               | ...                        | 2      | ...                                                 | 906,<br>907                  |
| Khal-ka-dánda h.s.                      | On a hill so called, one of a range forming the boundary of the <i>pattis</i> of Nágpur Malla and Nágpur Bichla, 1½ miles E. by S. of Gurm, 2 miles W.S.W. of Kandui, 2 miles N.N.W. of Ropa and 5 miles W. of Chamoli on the Alaknanda river and the road to Badrináth. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                       | 30 24 28' 85" | 79 15 13' 05"             | 9098                                | ...                        | 3      | ...                                                 | 446                          |
| Khamsimtoli Hill Staff                  | On a range of hills of that name, 1½ miles S.E. of Gaurikund on the Mandakini river in the <i>patti</i> of Káliphat Malla. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                  | 30 38 35' 2"  | 79 3 23' 8"               | 11810                               | ...                        | 1      | ...                                                 | 1216,<br>1217                |
| Kharbasia No. 1 h.s.                    | At the S.W. end of a range of hills, in the <i>patti</i> of Paínkhanda Malla, 1 mile E. of Dhauli river and the road from Joshimath to Gártok; 1½ miles S. by W. of Kharbasia encamping ground and 1½ miles N. E. of the junction of the Dámjau and Dhauli rivers. Observed in 1871-72. ( <i>Paínkhanda, Garhwál</i> ).                                                                                                                                                                                                                                      | 30 51 2' 14"  | 79 49 54' 90"             | 16166                               | ...                        | 2      | ...                                                 | 970                          |
| Kharbasia No. 2 h.s.                    | On a hill in the <i>patti</i> of Paínkhanda Malla, 1½ miles W. of the encamping ground of that name on the Dhauli river and the road to Gártok and 2 miles S.S.E. of the Chango peak. Observed in 1871-72. ( <i>Paínkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                   | 30 52 43' 43" | 79 50 26' 27"             | 15107                               | ...                        | 2      | ...                                                 | 971                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | References of Triangles |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|-------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |                           |                                     | Position                   | Height |                                                      |                         |
| Kharik                                  | h.s. On a hill so named in the <i>patti</i> of Dánpur Malla, 1 mile S. by W. of Baghor, $\frac{1}{2}$ mile N. by W. of Toli and 1 mile W. of Dunna. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                             | 30 1 11' 71"  | 79 51 5' 23"              | 7720                                | ...                        | 1      | Feet ...                                             | 1088                    |
| Khatersami                              | Hill Mark On a high hill so named, one of a range forming the boundary between the <i>pattis</i> of Káliphat Talla and Nágpur Talla, $1\frac{1}{2}$ miles S.S.E. of Jangi, 2 miles S.W. of Barab on the road to Kedarnáth, $1\frac{1}{2}$ miles N.N.E. of Soneri and 2 miles E. of Bhatwari. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                                | 30 23 9' 7"   | 79 6 0' 7"                | 8480                                | ...                        | 1      | ...                                                  | 517, 518                |
| Khatersami                              | h.s. On a hill range forming the boundary of the <i>pattis</i> of Nágpur Talla and Nágpur Bichla and $\frac{1}{2}$ mile W. of Khatersami village; 2 miles N. of Agar, $1\frac{1}{2}$ miles E. by N. of Soneri village and $2\frac{1}{2}$ miles S.W. of Barab on the road to Kedarnáth. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                                      | 30 22 22' 89" | 79 6 23' 46"              | 7937                                | ...                        | 1      | ...                                                  | 520                     |
| Kiunglung                               | h.s. On a hill in the <i>patti</i> of Painkhanda Malla, 1 mile W. of the encamping ground of Kiunglung on the road to Gártok, $\frac{1}{2}$ mile N. of Panohi on the Ganesh river and $2\frac{1}{2}$ miles S.W. of the Garhwál-Hundes boundary. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                         | 30 56 39' 53" | 79 50 39' 35"             | 16779                               | ...                        | 2      | ...                                                  | 978, 979                |
| Kotidánda                               | h.s. Also called Chitra Kanta. Is situated on a hill so called in the <i>patti</i> of Dasoli Talla, 2 miles S.W. of the Birganga river and 3 miles S. of the junction of this with the Alaknanda river; 3 miles S.E. of Butlia bázár on the road to Badrináth, 2 miles E.S.E. of Lansí village, $2\frac{1}{2}$ miles S. by W. of Biri and $2\frac{1}{2}$ miles E. by S. of Manjoti village. Observed in 1869-70. ( <i>Nágpur, Garhwál</i> ). | 30 22 18' 09" | 79 23 23' 88"             | 10073                               | ...                        | 2      | ...                                                  | 922                     |
| Kúdalpáta                               | Hill Staff On a bill of that name, in the <i>patti</i> of Painkhanda Talla, $\frac{1}{2}$ mile W. of the Saraswatiganga river and the road to Badrináth, $2\frac{1}{2}$ miles N.N.W. of Múna village at the junction of the Alaknanda and Saraswatiganga rivers. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                        | 30 48 20' 0"  | 79 28 57' 2"              | 15404                               | ...                        | 3      | ...                                                  | 926, 937                |
| Kundhár                                 | h.s. On a hill in the <i>patti</i> of Painkhanda Talla, 3 miles N.E. of Vishnuprnyág on the road to Badrináth at the junction of the Dhauri and Vishnuganga rivers and $3\frac{1}{2}$ miles S.E. of Ghat village. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                       | 30 35 4' 17"  | 79 37 0' 20"              | 12308                               | ...                        | 2      | ...                                                  | 927                     |



DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kurkuti                                 | h.s. Also called Giwa]. Is situated on a cliff overlooking the Dhauli and Girthi rivers, close to and N. E. of the village of Kurkuti in Painkhanda Malla <i>patti</i> ; $\frac{1}{2}$ mile N. of the road to Nili, $1\frac{1}{2}$ miles N.N.W. of Malári village and $\frac{1}{2}$ mile S.W. of the Kotim encamping ground. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ). | 30 42 29.22 | 79 52 45.26               | ...                                 | ...                        | ...    | Feet                                                | 985, 986                     |
| Kurkutidhár                             | h.s. On a hill so named in Painkhanda Malla <i>patti</i> , $2\frac{1}{2}$ miles N. W. of the village of Kurkuti, $1\frac{1}{2}$ miles N.E. of the Niti road and the Dhauli river and $1\frac{1}{2}$ miles E. by S. of Bámpa village. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                         | 30 44 4.18  | 79 51 19.43               | 15065                               | ...                        | 2      | ...                                                 | 960, 961                     |
| Langpiar                                | h.s. On a cliff overlooking the Dhauli river and just E. of the road to Gártok, 2 miles N.W. of Niti village and 3 miles N.N.W. of Gamsáli village on the road to Joshimath in Painkhanda Malla <i>patti</i> . Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                               | 30 47 42.51 | 79 48 41.58               | 12756                               | ...                        | 2      | ...                                                 | 965                          |
| Láta                                    | h.s. On a hill of that name in Painkhanda Talla <i>patti</i> , $\frac{2}{3}$ mile N. of the Rishiganga, $1\frac{1}{2}$ miles S.E. of the Dhauli river and $1\frac{1}{2}$ miles S.E. of Láta village and temple. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                              | 30 28 51.08 | 79 43 41.20               | 12624                               | ...                        | 2      | ...                                                 | 952                          |
| Lingara                                 | h.s. On a hill of that name in Painkhanda Talla <i>patti</i> , 1 mile S.S.W. of Diwani on the Vishnuganga river and the road to Badrinath, and $1\frac{1}{2}$ miles W.N.W. of Rám-bagar village. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                             | 30 39 53.60 | 79 30 2.64                | 12482                               | ...                        | 2      | ...                                                 | 929                          |
| Lobakhand                               | h.s. On a hill so named on the boundary of the <i>pattis</i> of Káliphat Talla and Phutgarh, $2\frac{1}{2}$ miles W. of the Káliganga river and the road to Kedarnáth, $1\frac{1}{2}$ miles W. of Biroun, $1\frac{1}{2}$ miles N. of Kimána and $1\frac{1}{2}$ miles E. by N. of Siur village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                      | 30 26 51.81 | 79 2 4.55                 | 7166                                | ...                        | 1      | ...                                                 | 515, 516                     |
| Madmaheshwar Hill Staff                 | On Madmaheshwar Dhar about $\frac{1}{2}$ mile W. by S. of the well-known temple of that name, 2 miles N.E. of Bintoli village near the junction of the Madmaheshwar with the Biara river. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                        | 30 37 57.5  | 79 12 44.7                | 11474                               | ...                        | 2      | ...                                                 | 1214, 1215                   |
| Mandani                                 | h.s. On a hill of that name in Káliphat Malla <i>patti</i> , $2\frac{1}{2}$ miles N.W. of the confluence of the Biara and Madmaheshwar rivers, 2 miles N.N.W. of Makora village, $3\frac{1}{2}$ miles W. of the Madmaheshwar temple and $1\frac{1}{2}$ miles E.N.E. of Kanva village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                               | 30 37 51.17 | 79 9 40.43                | 12269                               | ...                        | 2      | ...                                                 | 808                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                      | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BARS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangles |             |
|-----------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|-------------------------------|-------------|
|                                         |             |                                                                                                                                                                                                                                                                                                  |                           |                                     | Position                   | Height |                                                      |                               |             |
| Manil                                   | h.s.        | On a high hill so named, in Pindarpár <i>patti</i> , 1½ miles S.W. of Dangari village on the road to Nandprayág, 2 miles N. by E. of Dewalgwár on the Pindar river and 2 miles N.W. of Main. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                                       | 30 7 17.42                | 79 28 46.31                         | 88.49                      | ...    | 2                                                    | Feet<br>...                   | 431         |
| Mansuna                                 | h.s.        | On a hill in Káliphat Malla <i>patti</i> close to and N.W. of the small village of Mansuna, ¼ mile S. of the junction of the Biern and Chitdara rivers, ¼ mile S. by E. of Kam village, ¼ mile N. of Giriya village and 1 mile S. of Nála village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ). | 30 33 5.79                | 79 7 30.45                          | 48.57                      | ...    | 2                                                    | ...                           | 592,<br>593 |
| Menadugri                               | h.s.        | On the S.E. spur of a hill which runs out to the junction of the Alaknanda and Saraswatiganga rivers, in Painkhanda Talla <i>patti</i> , 1½ miles N.W. of Mana village and ¼ mile W. of the road to Badrináth. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                              | 30 47 3.64                | 79 29 7.90                          | 138.15                     | ...    | 2                                                    | ...                           | 988         |
| Mohankhál                               | h.s.        | On a hill so named, on the boundary between the <i>pattis</i> of Káliphat Talla and Nágpur Bichla, ¼ mile S.W. of the road to Kedarnáth, 1 mile W. by N. of Thala, 1 mile S.S.W. of Kanjyáni and 1½ miles S.S.E. of Barab. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                         | 30 22 49.58               | 79 8 36.28                          | 73.73                      | ...    | 1                                                    | ...                           | 513,<br>514 |
| Músápáni                                | h.s.        | On the spur of a hill so named, in Painkhanda Talla <i>patti</i> , 1 mile S.W. of the deserted village site of that name; ¾ mile W. of the road to Badrináth and the Saraswatiganga river. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                  | 30 49 8.34                | 79 28 37.75                         | 160.15                     | ...    | 2                                                    | ...                           | 986         |
| Nagnáth                                 | No. 1 h.s.  | On a hill so called, in Nágpur Malla <i>patti</i> , 1½ miles S.S.W. of Kandui, 2 miles N.W. of Bacher, 1½ miles N. of Ropa village and 2½ miles N.N.W. of Ghorsal on the road to Badrináth. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                        | 30 23 56.73               | 79 16 19.23                         | 87.31                      | ...    | 2                                                    | ...                           | 448         |
| Nagnáth                                 | No. 2 h.s.  | On a high hill so called, in Nágpur Bichla <i>patti</i> , close to and E. of the road from Kedarnáth to Karnprayág, 1 mile S.S.W. of Gugali village, 1 mile N. by E. of Kunjasao, 2½ miles N.N.E. of Sarmola and 4½ miles N. of Karnprayág. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).        | 30 19 24.74               | 79 12 48.81                         | 70.38                      | ...    | 3                                                    | ...                           | 485         |
| Nagnáth                                 | No. 3 h.s.  | On a hill ¼ mile N. of Bacher, 1 mile S.W. of the Balasuti stream, 2 miles S. of Kandui, and 2 miles S.W. of Patli on the Alaknanda river and on the road to Badrináth. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                            | 30 23 35.63               | 79 17 44.11                         | 64.71                      | ...    | 2                                                    | ...                           | 546         |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| Nainidevi No. 1 h.s.                    | On a hill so called being one of a range forming the boundary between the <i>pattis</i> of Nāgpur Talla and Nāgpur Bichla, 3 miles N. of Bhatwari village on the Alaknanda river and ½ mile W. of Agar village. Observed in 1867. ( <i>Nāgpur, Garhwāl</i> ).                                                                                        | 30 20 33.83 | 79 5 16.93                | 7858                                | ...                        | 3      | Feet<br>...                                         | 484                          |
| Nainidevi No. 2 h.s.                    | On a hill so called forming the boundary of the <i>pattis</i> of Nāgpur Talla and Nāgpur Bichla, 2½ miles N. by E. of Bhatwari village on the Alaknanda river, 1½ miles N.E. of Kunjan and ¼ mile S. of Agar. Observed in 1867. ( <i>Nāgpur, Garhwāl</i> ).                                                                                          | 30 19 52.40 | 79 5 52.62                | 7211                                | ...                        | 1      | ...                                                 | 521,<br>522                  |
| Nainidevi No. 3 h.s.                    | On a hill in Nāgpur Talla <i>patti</i> , ¼ mile W. of Kinri, ½ mile N.E. of Lodula, ¼ mile N. of Bajjan, and 2½ miles N. of Bairagna village on the river Alaknanda and the road from Srīngar to Almora. Observed in 1867-68. ( <i>Nāgpur, Garhwāl</i> ).                                                                                            | 30 20 42.78 | 79 3 40.02                | ...                                 | ...                        | ...    | ...                                                 | 523,<br>524                  |
| Nauāli h.s.                             | On a hill so named in Pindarpār <i>patti</i> , 3 miles N. of Kothiara village on the Pindar river and of the road to Pindari, 5½ miles E. by N. of Bathleshwar temple, 2½ miles N. of Chaur and 3¼ miles E. by S. of Sawār village; a path from Kail, ¼ mile N. of Bathleshwar, passes by the station. Observed in 1868. ( <i>Badhan, Garhwāl</i> ). | 30 4 18.43  | 79 40 15.46               | 10452                               | ...                        | 2      | ...                                                 | 433                          |
| Neolpanga h.s.                          | On a hill of that name in Nāgpur Malla <i>patti</i> , 1 mile N.N.W. of Kadra village and Diur Tāl on the road to Badrināth, ½ mile E.S.E. of Sagar, and 1 mile E. by N. of Gangolgaon. Observed in 1867. ( <i>Nāgpur, Garhwāl</i> ).                                                                                                                 | 30 26 10.86 | 79 20 10.63               | 7962                                | ...                        | 2      | ...                                                 | 445                          |
| Ninidhār h.s.                           | On the spur of a hill between the two branches of the road to Bajnāth, 1½ miles S. of the Pindar river, 1 mile S.W. of Parsau and 1 mile S. of Chiringa village in Pindarwār <i>patti</i> . Observed in 1868-69. ( <i>Badhan, Garhwāl</i> ).                                                                                                         | 30 0 40.31  | 79 33 39.58               | 6220                                | ...                        | 1      | ...                                                 | 920                          |
| Niti No. 1 h.s.                         | On a peak so named at the head of the Dhauli river on the Garhwāl-Hundes boundary, ¼ mile N.W. of the Niti pass and 1½ miles S. of the Shanki river. Observed in 1871-72. ( <i>Painkhanda and Hundes, Garhwāl</i> ).                                                                                                                                 | 30 58 10.78 | 79 52 15.82               | 17387                               | ...                        | 2      | ...                                                 | 980                          |
| Niti No. 2 h.s.                         | On the Garhwāl-Hundes boundary, ¼ mile S.S.E. of the Niti pass on the road to Gārtok. Observed in 1871-72. ( <i>Painkhanda and Hundes, Garhwāl</i> ).                                                                                                                                                                                                | 30 57 35.42 | 79 52 45.40               | 17064                               | ...                        | 2      | ...                                                 | 981                          |
| Niti No. 3 h.s.                         | About 200 feet N.E. of Niti No. 2. Observed in 1871-72. ( <i>Painkhanda and Hundes, Garhwāl</i> ).                                                                                                                                                                                                                                                   | 30 57 36.80 | 79 52 46.35               | 17057                               | ...                        | 2      | ...                                                 | 987                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                    | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies by miles of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                |               |                           |                                     | Position                   | Height |                                     |                              |
| Pajiana                                 | h.s. On a high peak close to the village of that name, 1 mile W. of Gaonli village on the Rámanga river, 1 mile S. of Utharkanda and 1¼ miles E. of the Silkot Tea Factory in Lobna <i>patti</i> . Observed in 1865-66. ( <i>Chánpur, Garhwál</i> ).                                                                           | 30 2 43' 41"  | 79 16 0' 58"              | 6380                                | ...                        | 2      | ...                                 | 602, 603                     |
| Pándab Chauki                           | Hill Staff On a hill so named, 1 mile N.E. of Pandkeshwar village on the Vishnganga river and the road to Vishnuprayág, ¾ mile W. of the Bhyundárganga stream in Painkhanda Talla <i>patti</i> . Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                          | 30 38 27' 3"  | 79 33 50' 7"              | ...                                 | ...                        | ...    | ...                                 | 948, 949                     |
| Pandubri                                | h.s. On a hill forming the trijunction of the <i>pattis</i> of Dhanpur, Kandársyún and Tili Chánpur, the first two in Dewalgarh, and the last in the Chánpur pargana: ¼ mile N. of the road from Panri, ¼ mile S. of Dhanpur and 2 miles N.E. of Tila village. Observed in 1865-66. ( <i>Dewalgarh and Chánpur, Garhwál</i> ). | 30 12 39' 41" | 79 6 9' 72"               | 9860                                | ...                        | 1      | ...                                 | 559, 560                     |
| Panjikhál                               | h.s. About 20 feet to the right and about 8 feet above the road from Chifalghat to Kainr. Observed in 1865-66. ( <i>Chánpur, Garhwál</i> ).                                                                                                                                                                                    | 30 2 59' 04"  | 79 1 6' 85"               | 7901                                | ...                        | 1      | ...                                 | 572                          |
| Panjing                                 | h.s. On a high peak 1 mile N. of the high road from Sringar to Almora, 1¼ miles N.E. of the Panjikhál pass, 1¼ miles N.W. of the small village of Naini and 2¼ miles S.S.W. of Sounti. Observed in 1864-65. ( <i>Chánpur, Garhwál</i> ).                                                                                       | 30 3 41' 25"  | 79 1 58' 10"              | 8810                                | ...                        | 2      | ...                                 | 475                          |
| Panothal                                | h.s. On a hill so called on the boundary of Kumana and Garhwál, 1 mile S. of the Pindar river, 1¼ miles N.E. of Lamchna, 1¼ miles S. by E. of Jhadina and 2¼ miles S.W. of Melkhet on the road to Pindari. Observed in 1869. ( <i>Badhan and Dánpur, Garhwál</i> ).                                                            | 30 0 9' 16"   | 79 43 45' 51"             | 8262                                | ...                        | 2      | ...                                 | 914, 915                     |
| Pariapál                                | h.s. On a hill of that name ¼ mile S. of the Alaknanda river, 1¼ miles W. by S. of Mína village at the junction of the Saruswatiganga with the Alaknanda and 1 mile W. by N. of the road to Badrináth, in Painkhanda Talla <i>patti</i> . Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                 | 30 45 55' 82" | 79 28 31' 55"             | 14126                               | ...                        | 2      | ...                                 | 931                          |
| Pátálpáni                               | h.s. On a spur of a hill in Painkhanda Malla <i>patti</i> , ¼ mile N.E. of the road from Joshimath, ¼ mile N.W. of the Dhanli river. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                      | 30 53 31' 97" | 79 50 44' 61"             | 15490                               | ...                        | 2      | ...                                 | 974, 975                     |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Patari                                  | h.s. On a hill of that name, 1½ miles E. of Diwani on the Vishnuganga river and of the road from Vishnuprayág to Badrináth, 1½ miles E.S.E. of Binakholi at the junction of the Kbiranganga with the Vishnuganga. Observed in 1867. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 40 39.60 | 79 32 5.26                | 12895                               | ...                        | 2      | Feet<br>...                                         | 928                          |
| Patori                                  | h.s. On a hill in Karakot <i>patti</i> , 1½ miles N.E. of Ris, 2 miles S.E. of Chirkhuu and 3½ miles N.W. of the road from Almora to Nandprayág and 3 miles N.E. of Nalgaon on the road from Karuprayág to Baijnáth. Observed in 1867. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 12 13.54 | 79 23 0.60                | 8493                                | ...                        | 2      | ...                                                 | 534,<br>535                  |
| Paundala                                | h.s. On a hill of that name, on the Tehri-Garhwál boundary, 2 miles S.W. of Tyari, 2½ miles N.W. of Khara village and 3½ miles S.S.W. of Jáma village. Observed in 1867. ( <i>Garhwál and Tehri-Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 31 57.43 | 79 0 41.29                | 10461                               | ...                        | 2      | ...                                                 | 508,<br>509                  |
| Pilkhuata                               | h.s. On a hill of that name, in Painkhanda Talla <i>patti</i> , ¼ mile W. of the Kúari pass on the road to Joshimath, 2 miles S.W. of the Kulara encamping ground and 1½ miles N. of Dombiti camp. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 26 53.22 | 79 33 45.69               | 12789                               | ...                        | 2      | ...                                                 | 923,<br>924                  |
| Pularanda                               | h.s. On a hill of that name, in Painkhanda Malla <i>patti</i> , 1 mile S.W. of the stream from the Bagini glacier and 1½ miles S.E. of confluence of this stream and the Dhauli river; ¼ mile S.E. of the hamlet of Kaga and 1½ miles E. of Jáma Gwár encamping ground on the Niti road. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30 36 16.37 | 79 50 7.32                | 12843                               | ...                        | 1      | ...                                                 | 958                          |
| Ragshi                                  | It. S. Is situated in the <i>patti</i> of Káliphat about 5 miles to the N.E. of the village of Machkandi about 6 miles south-east of Makko and about the same distance north-west of Kalsir. Tungnáth temple is about 4½ miles in a direct line to the N.E. of the station. The hill is well known to all the villagers in Káliphat <i>patti</i> owing to a large rock cropping out of the hill side, a few hundred yards below the station to the north-east, which is an object of adoration. There are three approaches to the station, one from each of the villages named above. There is a platform at the station 14 feet square surrounding a paka pillar, 31 inches in diameter, with three mark-stones placed at vertical intervals of 15 inches; the lowest being on a level with the original surface of the ground. Observed in 1864-65. ( <i>Nágpur, Garhwál</i> ). | 30 26 47.83 | 79 10 1.76                | 10091                               | ...                        | 2      | ...                                                 | 287                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to triangulation |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                            |
| Ramchana                                | h.s. On a flat-topped hill so named, 1½ miles E. by N. of Kounjani village, 2 miles W. of the Alaknanda river and of the road to Badrináth, 1½ miles N. of Jaisal and 2 miles N.E. of Dungari. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 26 32·28 | 79 23 49·96               | 9670                                | ...                        | 2      | Feet<br>...                                         | 442                        |
| Rámkuta                                 | h.s. On the crest of a hill of that name, in Painkhanda Malla <i>patti</i> , 1½ miles W. by S. of Niti on the Dhaulí river and of the road to Joshimath and 1½ miles N.N.W. of Gamsáli village. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 46 20·78 | 79 49 18·00               | 15253                               | ...                        | 2      | ...                                                 | 964                        |
| Ranoun                                  | h.s. On a small hill in Nágpur Bichla <i>patti</i> , ¼ mile S.E. of the village of Ranoun, ¼ mile E. of Bhatnagar on the Alaknanda river, ¼ mile W.N.W. of Sugí on the road to Kedarnáth and 3 miles W.N.W. of Karnprayág at the junction of the Pindar and the Alaknanda rivers. Observed in 1867-68. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 17 17·48 | 79 10 41·04               | 3433                                | ...                        | 2      | ...                                                 | 525                        |
| Sathdunga                               | h.s. On a hill in Painkhanda Malla <i>patti</i> , 1 mile E. of the junction of the Dhaulí and Girthi rivers, 1½ miles N.N.E. of Malári village and 1½ miles E. by S. of Kurkoti village. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 42 13·14 | 79 54 8·43                | 12516                               | ...                        | 2      | ...                                                 | 988,<br>994                |
| Shikáni                                 | H.S. Is situated in Pindarpár <i>patti</i> , on the ridge forming the boundary between Garhwál and Kumaun; it is about 12 miles east of Khata in Pindarpár <i>patti</i> and about 6 miles north of Jagtana in Kutiur <i>patti</i> , Kumaun. The station can be approached from either of these villages, the hill on which the station is, has 3 knolls, on the centre one of which is the station: there is a small shrine on the eastern one, there is no water nearer than 2 miles. To mark the station there is a platform 14 feet square having an isolated pillar 30 inches high with two mark-stones 18 inches apart, the lower one of which is on a rock cropping out 12 inches above the surface of the hill. Observed in 1865-66. ( <i>Dáspur and Badhan, Kumaun and Garhwál</i> ). | 30 1 19·42  | 79 48 49·50               | 10068                               | ...                        | 2      | ...                                                 | 291,<br>292                |
| Sidhár                                  | h.s. On a hill of that name on the boundary of Painkhanda Malla and Painkhanda Talla <i>pattis</i> , 1½ miles N.W. of the Dhaulí river and of the road to Niti, about 1½ miles W. by S. of the villages of Suki and Bhalgaon and 1½ miles N.N.E. of the hamlet of Jogju Gwár. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 30 56·91 | 79 41 57·13               | 13647                               | ...                        | 2      | ...                                                 | 963                        |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| Sikhánág                                | h.s. On a hill so named, in the <i>patti</i> of Pindarpár, 1 mile E. of the Kailganga river and $\frac{1}{4}$ mile N. of the Pindar river and of the road to Pindari; 1 mile S. of Sawár, $1\frac{1}{2}$ miles E. of Hát and $\frac{1}{4}$ mile N. by W. of Melmunda. Observed in 1869. ( <i>Badhan, Garhwál</i> ).                                                           | 30 3 37.13  | 79 36 28.34               | 7307                                | ...                        | 2      | ...                                                 | 912, 913                     |
| Silkot                                  | Tea Factory S.E. chimney on the roof of bungalow. The factory is $2\frac{1}{2}$ miles W. of Lobha Dák Bungalow which is on the road from and 29 miles N. of Ránikhet. Observed in 1865-66. ( <i>Pauri, Garhwál</i> ).                                                                                                                                                         | 30 2 48     | 79 14 30                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Silong                                  | h.s. On the range forming the boundary between the <i>pattis</i> of Sirgúr and Sili Chándpur, $\frac{1}{2}$ mile N.N.W. of Baniula village, $1\frac{1}{2}$ miles S. by W. of Chulu, $1\frac{1}{2}$ miles W. by N. of Kanwalgau village and $2\frac{1}{2}$ miles S. of Bagoli village on the road from Karnprayág to Baijnáth. Observed in 1867. ( <i>Chándpur, Garhwál</i> ). | 30 9 35.21  | 79 18 23.31               | 7236                                | ...                        | 2      | ...                                                 | 437                          |
| Sisákhábi                               | h.s. On a hill so named, in Pindarpár <i>patti</i> , $1\frac{1}{2}$ miles W.N.W. of Bathleshwar temple, $1\frac{1}{2}$ miles W. of Hát on the road to Gum Rurri from Baijnáth, $\frac{3}{4}$ mile E. by N. of Gothinda, $\frac{3}{4}$ mile W. of Athu, 1 mile N.E. of Tundari village. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                          | 30 4 1.68   | 79 33 37.29               | 7677                                | ...                        | 1      | ...                                                 | 910, 911                     |
| Soagpa                                  | h.s. Also called Sapkidang h.s. Is situated on a hill so named in Painkhanda Talla <i>patti</i> , $\frac{1}{4}$ mile W. of the Saraswatiganga river and of the road to Badrináth, $\frac{1}{4}$ mile N.N.W. of the deserted site of Bázkulí. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                             | 30 50 16.75 | 79 28 42.64               | 13505                               | ...                        | 2      | ...                                                 | 940                          |
| Suilidánda                              | h.s. On the range forming the boundary between the <i>pattis</i> of Sirgúr and Sili Chándpur, $\frac{1}{2}$ mile N.E. of the Dowalikhál pass on the Almora-Pauri road, $1\frac{1}{2}$ miles S.E. of Malsi and $1\frac{1}{2}$ miles W. by N. of Kimoli on the road to Baijnáth. Observed in 1865-66. ( <i>Chándpur, Garhwál</i> ).                                             | 30 6 38.46  | 79 17 53.62               | 8937                                | ...                        | 2      | ...                                                 | 567, 568                     |
| Supi                                    | h.s. On some flat ground between the north and south blocks of the village of Supi, in Dánpur Mulla <i>patti</i> , $\frac{3}{4}$ mile W. of Sarju river, $\frac{3}{4}$ mile S.S.W. of Tarsa and $1\frac{1}{2}$ miles N. by W. of Gasi village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                   | 30 4 14.55  | 79 58 18.92               | 6877                                | ...                        | 1      | ...                                                 | 1082                         |
| Susála                                  | h.s. On the spur of a hill so named, in Painkhanda Talla <i>patti</i> , $\frac{1}{4}$ mile N. of Máná village at the junction of the Saraswatiganga with the Alaknanda and $\frac{1}{4}$ mile E. of the road to Badrináth. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                               | 30 46 30.27 | 79 30 3.87                | 11631                               | ...                        | 1      | ...                                                 | 944, 945                     |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference of triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|-----------------------------|--------|------------------------------------------------------|------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                       |               |                           |                                     | Position                    | Height |                                                      |                        |
| Talanti                                 | h.s. On a hill so named, in Pindarpár patti, $\frac{1}{2}$ mile S.W. of Khabakhál peak, $2\frac{1}{2}$ miles N.W. of Mandauli, on the road to Baijnáth and 3 miles N.E. of Ratgaon village. Observed in 1868. ( <i>Badhan, Garhwál</i> ).                                                                                                                                                             | 30 9 8' 40"   | 79 35 4' 48"              | 10884                               | ...                         | 1      | ...                                                  | 492                    |
| Tapon                                   | No. 1 h.s. Also called Kimana No. 1. On the spur of a hill, in Painkhanda Talla patti, $\frac{1}{2}$ mile W. of the village of Tapon on the Alaknanda river, $\frac{1}{2}$ mile N. of Duil, $1\frac{1}{4}$ miles N. of Tangni Talla on the road to Joshimath and $\frac{1}{2}$ mile N.W. of the junction of the Alaknanda and the Pátálganga rivers. Observed in 1869-70. ( <i>Nágpur, Garhwál</i> ). | 30 29 45' 18" | 79 27 53' 05"             | ...                                 | ...                         | ...    | ...                                                  | 946                    |
| Tapon                                   | No. 2 h.s. Also called Kimana No. 2. On a hill on the boundary of the patti of Argam and Nágpur Malla, $1\frac{1}{4}$ miles N.W. of Tapon village, $2\frac{1}{2}$ miles E.S.E. of Kulangot village, $2\frac{1}{2}$ miles S. of Dhyura village and 2 miles W. of the road from Karnprayág to Joshimath. Observed in 1869-70. ( <i>Nágpur, Garhwál</i> ).                                               | 30 30 7' 04"  | 79 27 26' 53"             | ...                                 | ...                         | ...    | ...                                                  | 947                    |
| Tháli                                   | h.s. On a hill so named, in Painkhanda Talla patti, $\frac{1}{2}$ mile S. by W. of Kharak, $1\frac{1}{2}$ miles W.N.W. of Tangási on the main road to Joshimath and $4\frac{1}{2}$ miles S. of Joshimath near the confluence of the Dhauli and Alaknanda rivers. Observed in 1869-70. ( <i>Painkhanda, Garhwál</i> ).                                                                                 | 30 29 31' 18" | 79 34 37' 00"             | 12458                               | ...                         | 2      | ...                                                  | 985, 969               |
| Tikdhár                                 | h.s. On a hill of that name, in Painkhanda Talla patti, $\frac{1}{2}$ mile E. of the road to Badrináth and the Vishnuganga river; $1\frac{1}{2}$ miles S.S.E. of Badrináth temple and $1\frac{1}{2}$ miles N. of Pandor village. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                                 | 30 43 16' 93" | 79 30 22' 84"             | 12209                               | ...                         | 2      | ...                                                  | 930                    |
| Tingri                                  | h.s. On a hill so named, in Káliphat Malla patti, $1\frac{1}{2}$ miles N. of Patwangi on the Chibdára river, 1 mile N.E. of Bandni village, $2\frac{1}{2}$ miles S.E. of Ránsi village and $2\frac{1}{2}$ miles E. of Nála village. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                     | 30 33 50' 34" | 79 10 15' 28"             | 10684                               | ...                         | 2      | ...                                                  | 601, 605               |
| Tungnáth                                | h.s. About $\frac{1}{2}$ mile E. of Tungnáth temple, $\frac{1}{2}$ mile N. of the road to Chaunoli, $3\frac{1}{4}$ miles N. of Kaisir, 5 miles E. of Makhu and 4 miles N.W. of Khala. Observed in 1867. ( <i>Nágpur, Garhwál</i> ).                                                                                                                                                                   | 30 29 11' 43" | 79 13 22' 13"             | 12072                               | ...                         | 3      | ...                                                  | 444                    |
| Ukhimath                                | House Northern entrance to Rawal's now house. On road along the E. bank of the Mandakini, and 18 miles N.E. of Rudarprayág which is on the confluence of Mandakini and Alaknanda rivers. Observed in 1867. ( <i>Pauri, Garhwál</i> ).                                                                                                                                                                 | 30 31 2       | 79 5 47                   | ...                                 | ...                         | ...    | ...                                                  | ...                    |



## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point           | Description                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per minute in common sides of triangles | Reference Number of Triangle |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-------------------------------------------------------|------------------------------|
|                                                   |                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                       |                              |
| Uniakarak                                         | h.s. On a hill in Painkhanda Talla <i>pattis</i> , $\frac{1}{2}$ mile S. of the Khaliaganga river, 1 mile E. of the Saraswati river and the road to Badrináth, and 1 mile N.E. of Mána village. Observed in 1871-72. ( <i>Painkhanda, Garhwál</i> ).                                                                                                 | 30 46 50.23 | 79 30 52.19               | 14904                               | ...                        | 2      | ...                                                   | 932                          |
| Urkhiali                                          | h.s. On the northern boundary of Kapiri <i>patti</i> , 1 mile N. of Jesara village, $1\frac{1}{2}$ miles E. of Khál Dungri; 3 miles E.N.E. of Simli village at the branching of the road from Karuprayág to Baijnáth and to Alinora. Observed in 1867. ( <i>Badhan, Garhwál</i> ).                                                                   | 30 14 31.46 | 79 18 19.29               | 7683                                | ...                        | 2      | ...                                                   | 438                          |
| Vishnugarh                                        | h.s. On a hill on the boundary of Painkhanda Talla and Argam <i>pattis</i> , $2\frac{1}{2}$ miles S.S.W. of Pándukeshwar village on the Vishnuganga river and the road to Badrináth, $2\frac{1}{2}$ miles W. of Ghát on the same road, and $4\frac{1}{2}$ miles N.N.W. of Joshimath. Observed in 1869-70. ( <i>Painkhanda and Nágpur, Garhwál</i> ). | 30 36 15.43 | 79 31 36.67               | 12338                               | ...                        | 2      | ...                                                   | 926                          |
| $\frac{\text{Pk. 1}}{53 \text{ N}}$               | ... Snowy peak. Observed in 1853-54.                                                                                                                                                                                                                                                                                                                 | 30 59 42    | 79 5 45                   | ...                                 | 2                          | ...    | ...                                                   | ...                          |
| $\frac{\text{Pk. 2}}{53 \text{ N}}$               | ... Snowy peak. Observed in 1853-54.                                                                                                                                                                                                                                                                                                                 | 30 58 37    | 79 5 44                   | 21350                               | 3                          | 1      | 0.3                                                   | ...                          |
| $\frac{\text{Pk. 3}}{53 \text{ N}}$               | ... Observed in 1853-54.                                                                                                                                                                                                                                                                                                                             | 30 56 27    | 79 0 1                    | 21360                               | 3                          | 1      | 1.1                                                   | ...                          |
| $\frac{\text{Pk. 4}}{53 \text{ N}}$               | ... Snowy peak; rock in midst of snow and a little below the top. Observed in 1867.                                                                                                                                                                                                                                                                  | 30 48 39    | 79 4 46                   | ...                                 | 3                          | ...    | 0.4                                                   | ...                          |
| $\frac{\text{Pk. 5}}{53 \text{ N}}$               | ... Snowy peak. Observed in 1871.                                                                                                                                                                                                                                                                                                                    | 30 48 38    | 79 13 34                  | 22050                               | 3                          | 3      | 2.6                                                   | ...                          |
| $\frac{\text{Pk. 6}}{53 \text{ N}}$               | ... Snowy peak. Observed in 1867.                                                                                                                                                                                                                                                                                                                    | 30 48 22    | 79 2 12                   | 21580                               | 3                          | 2      | 0.4                                                   | ...                          |
| $\frac{\text{Pk. 7}}{53 \text{ N}}$ (Kodarnath)   | Observed in 1860-51.                                                                                                                                                                                                                                                                                                                                 | 30 47 53.0  | 79 4 7.0                  | 22770                               | 5                          | 6      | 0.0                                                   | ...                          |
| $\frac{\text{Pk. 8}}{53 \text{ N}}$ (Kharchakund) | Peak. Observed in 1867.                                                                                                                                                                                                                                                                                                                              | 30 46 46    | 79 7 47                   | 21695                               | 3                          | 1      | 4.6                                                   | ...                          |
| $\frac{\text{Pk. 9}}{53 \text{ N}}$               | ... Needle peak north of Badrináth. Observed in 1841-42.                                                                                                                                                                                                                                                                                             | 30 46 44.4  | 79 14 30.7                | 22326                               | 3                          | 1      | 0.4                                                   | ...                          |
| $\frac{\text{Pk. 10}}{53 \text{ N}}$              | ... Snowy peak. Observed in 1867.                                                                                                                                                                                                                                                                                                                    | 30 46 15    | 79 7 29                   | ...                                 | 3                          | ...    | 0.6                                                   | ...                          |
| $\frac{\text{Pk. 11}}{53 \text{ N}}$              | ... Snowy peak. Observed in 1867.                                                                                                                                                                                                                                                                                                                    | 30 43 58    | 79 14 37                  | ...                                 | 3                          | ...    | 0.1                                                   | ...                          |
| $\frac{\text{Pk. 12}}{53 \text{ N}}$              | ... Snowy peak. Observed in 1867.                                                                                                                                                                                                                                                                                                                    | 30 38 29    | 79 14 55                  | ...                                 | 4                          | ...    | 0.9                                                   | ...                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancy per mille of triangle | Difference of Number of Triangle |
|-----------------------------------------|--------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------|----------------------------------|
|                                         |                                      |             |                           |                                     | Position                   | Height |                                   |                                  |
| <u>Pk.13</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1867.    | 30 33 42    | 79 14 42                  | ...                                 | 3                          | ...    | Feet<br>2'1                       | ...                              |
| <u>Pk.14</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 53 20    | 79 26 38                  | 18860                               | 3                          | 2      | 0'6                               | ...                              |
| <u>Pk.15</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 51 49    | 79 29 53                  | 17430                               | 3                          | 2      | 2'2                               | ...                              |
| <u>Pk.16</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 50 58    | 79 27 33                  | 17460                               | 3                          | 1      | 8'7                               | ...                              |
| <u>Pk.17</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 50 43    | 79 24 41                  | ...                                 | 3                          | ...    | 1'5                               | ...                              |
| <u>Pk.18</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 50 32    | 79 22 46                  | 20840                               | 2                          | 2      | ...                               | ...                              |
| <u>Pk.19</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 50 31    | 79 27 19                  | 18400                               | 3                          | 3      | 2'2                               | ...                              |
| <u>Pk.20</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 50 30    | 79 25 35                  | ...                                 | 3                          | ...    | 0'6                               | ...                              |
| <u>Pk.21</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 48 42    | 79 27 32                  | ...                                 | 3                          | ...    | 5'4                               | ...                              |
| <u>Pk.22</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 48 19    | 79 29 6                   | ...                                 | 3                          | ...    | 5'3                               | ...                              |
| <u>Pk.23</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 46 33    | 79 20 52                  | 20040                               | 3                          | 2      | 3'4                               | ...                              |
| <u>Pk.24</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 46 10    | 79 20 45                  | 21230                               | 3                          | 1      | 2'4                               | ...                              |
| <u>Pk.25</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 45 25    | 79 26 25                  | 19570                               | 3                          | 2      | 0'3                               | ...                              |
| <u>Pk.26</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1871.    | 30 45 1     | 79 17 25                  | 23420                               | 3                          | 2      | 0'3                               | ...                              |
| <u>Pk.27</u><br><u>53 N</u> (Badrinath) | Observed in 1849-50.                 | 30 44 15'7  | 79 16 52'3                | 23190                               | 5                          | 5      | 0'1                               | ...                              |
| <u>Pk.28</u><br><u>53 N</u> (Nilakanta) | Observed in 1849-50.                 | 30 43 51'7  | 79 24 28'3                | 21640                               | 3                          | 3      | 1'0                               | ...                              |
| <u>Pk.29</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1867.    | 30 43 26    | 79 16 33                  | 22880                               | 3                          | 3      | 1'2                               | ...                              |
| <u>Pk.30</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1860-51. | 30 43 22'0  | 79 15 44'2                | 22485                               | 2                          | 2      | ...                               | ...                              |
| <u>Pk.31</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1869.    | 30 43 3     | 79 27 41                  | ...                                 | 3                          | ...    | 2'4                               | ...                              |
| <u>Pk.32</u><br><u>53 N</u>             | ... Snowy peak. Observed in 1867.    | 30 43 0     | 79 17 59                  | ...                                 | 4                          | ...    | 0'1                               | ...                              |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 33</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 40 21    | 79 19 57                  | ...                                 | 3                          | ...    | <i>Feet</i><br>4'7                                  | ...                          |
| <u>Pk. 34</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 39 19    | 79 22 11                  | ...                                 | 3                          | ...    | 1'0                                                 | ...                          |
| <u>Pk. 35</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 38 52    | 79 22 31                  | ...                                 | 3                          | ...    | 1'3                                                 | ...                          |
| <u>Pk. 36</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 38 7     | 79 21 25                  | ...                                 | 3                          | ...    | 3'2                                                 | ...                          |
| <u>Pk. 37</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869. | 30 37 35    | 79 29 6                   | ...                                 | 3                          | ...    | 2'6                                                 | ...                          |
| <u>Pk. 38</u><br><u>53 N</u>            | ... Peak. Observed in 1867.       | 30 36 34    | 79 16 54                  | ...                                 | 3                          | ...    | 1'8                                                 | ...                          |
| <u>Pk. 39</u><br><u>53 N</u>            | ... Peak. Observed in 1867.       | 30 35 25    | 79 18 29                  | 16320                               | 3                          | 1      | 0'7                                                 | ...                          |
| <u>Pk. 40</u><br><u>53 N</u>            | ... Peak. Observed in 1867.       | 30 34 32    | 79 15 4                   | ...                                 | 3                          | ...    | 3'8                                                 | ...                          |
| <u>Pk. 41</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 34 9     | 79 18 5                   | 15950                               | 3                          | 2      | 0'7                                                 | ...                          |
| <u>Pk. 42</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 33 39    | 79 17 47                  | 15700                               | 3                          | 2      | 2'8                                                 | ...                          |
| <u>Pk. 43</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1867. | 30 33 18    | 79 18 8                   | ...                                 | 3                          | ...    | 0'6                                                 | ...                          |
| <u>Pk. 44</u><br><u>53 N</u>            | ... Peak. Observed in 1867.       | 30 32 34    | 79 18 29                  | ...                                 | 3                          | ...    | 1'1                                                 | ...                          |
| <u>Pk. 45</u><br><u>53 N</u>            | ... Peak. Observed in 1867.       | 30 29 50    | 79 19 28                  | ...                                 | 3                          | ...    | 0'8                                                 | ...                          |
| <u>Pk. 46</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871. | 30 58 16    | 79 43 15                  | 21430                               | 4                          | 2      | 2'1                                                 | ...                          |
| <u>Pk. 47</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871. | 30 58 16    | 79 42 7                   | 21310                               | 3                          | 1      | 2'4                                                 | ...                          |
| <u>Pk. 48</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1877. | 30 57 3     | 79 34 10                  | ...                                 | 4                          | ...    | 0'5                                                 | ...                          |
| <u>Pk. 49</u><br><u>53 N</u> (Kamet)    | ... Observed in 1849-50.          | 30 55 13'2  | 79 35 36'7                | 25447                               | 2                          | 6      | ...                                                 | ...                          |
| <u>Pk. 50</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869. | 30 52 52    | 79 36 57                  | 23860                               | 6                          | 2      | 0'2                                                 | ...                          |
| <u>Pk. 51</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869. | 30 51 34    | 79 31 17                  | 18960                               | 3                          | 2      | 1'7                                                 | ...                          |
| <u>Pk. 52</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871. | 30 49 8     | 79 31 55                  | 18150                               | 4                          | 1      | 0'7                                                 | ...                          |

DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                         | Latitude N.       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies Per cent of triangles | Reference Number of Triangles |
|-----------------------------------------|-----------------------------------------------------|-------------------|---------------------------|-------------------------------------|--------------------------------|--------|-------------------------------------|-------------------------------|
|                                         |                                                     |                   |                           |                                     | Position                       | Height |                                     |                               |
| <u>Pk. 53</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871.                   | 0 ' "<br>30 48 43 | 0 ' "<br>79 33 24         | 19490                               | 3                              | 1      | Feet<br>2'9                         | ...                           |
| <u>Pk. 54</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871.                   | 30 48 43          | 79 35 5                   | 20460                               | 3                              | 2      | 0'2                                 | ...                           |
| <u>Pk. 55</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871.                   | 30 46 54          | 79 34 58                  | 18820                               | 3                              | 2      | 1'0                                 | ...                           |
| <u>Pk. 56</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871.                   | 30 45 11          | 79 42 31                  | 20100                               | 3                              | 2      | 3'1                                 | ...                           |
| <u>Pk. 57</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 44 49          | 79 35 4                   | ...                                 | 3                              | ...    | 1'5                                 | ...                           |
| <u>Pk. 58</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1871.                   | 30 44 32          | 79 31 46                  | 17710                               | 3                              | 2      | 1'2                                 | ...                           |
| <u>Pk. 59</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 44 21          | 79 33 22                  | ...                                 | 3                              | ...    | 0'7                                 | ...                           |
| <u>Pk. 60</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 44 5           | 79 32 15                  | ...                                 | 3                              | ...    | 2'2                                 | ...                           |
| <u>Pk. 61</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 43 4           | 79 44 26                  | ...                                 | 3                              | ...    | 0'3                                 | ...                           |
| <u>Pk. 62</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 42 9           | 79 41 49                  | 21750                               | 3                              | 1      | 1'8                                 | ...                           |
| <u>Pk. 63</u><br><u>53 N</u>            | ... Observed in 1849-50                             | 30 41 6'2         | 79 42 25'5                | 22070                               | 2                              | 2      | ...                                 | ...                           |
| <u>Pk. 64</u><br><u>53 N</u>            | ... Peak. Observed in 1869.                         | 30 38 33          | 79 39 23                  | ...                                 | 3                              | ...    | 0'1                                 | ...                           |
| <u>Pk. 65</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1864-65.                | 30 38 28          | 79 43 6                   | 19210                               | 3                              | 3      | 0'6                                 | ...                           |
| <u>Pk. 66</u><br><u>53 N</u>            | ... Peak. Observed in 1869.                         | 30 37 33          | 79 43 41                  | 18970                               | 3                              | 2      | 2'5                                 | ...                           |
| <u>Pk. 67</u><br><u>53 N</u>            | ... Snowy peak; top of precipice. Observed in 1869. | 30 36 47          | 79 31 13                  | ...                                 | 3                              | ...    | 0'6                                 | ...                           |
| <u>Pk. 68</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1864-65.                | 30 35 56          | 79 41 57                  | 19290                               | 4                              | 4      | 0'7                                 | ...                           |
| <u>Pk. 69</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 33 32          | 79 42 49                  | 15160                               | 3                              | 1      | 3'9                                 | ...                           |
| <u>Pk. 70</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 33 17          | 79 43 30                  | ...                                 | 3                              | ...    | 3'0                                 | ...                           |
| <u>Pk. 71</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 32 55          | 79 41 37                  | ...                                 | 3                              | ...    | 2'7                                 | ...                           |
| <u>Pk. 72</u><br><u>53 N</u>            | ... Snowy peak. Observed in 1869.                   | 30 25 36          | 79 44 52                  | ...                                 | 3                              | ...    | 0'5                                 | ...                           |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 73</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869. | 30 25 27    | 79 35 36                  | ...                                 | 3                          | ...    | Feet<br>0'1                                         | ...                          |
| <u>Pk. 74</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869. | 30 25 15    | 79 40 6                   | 17020                               | 3                          | 2      | 1'1                                                 | ...                          |
| <u>Pk. 75</u><br><u>53 N</u> ...        | Observed in 1849-50.          | 30 22 9'5   | 79 43 12'9                | 19893                               | 2                          | 2      | ...                                                 | ...                          |
| <u>Pk. 76</u><br><u>53 N</u> (Nandakun) | Observed in 1849-50.          | 30 20 55'9  | 79 43 8'5                 | 20700                               | 2                          | 2      | ...                                                 | ...                          |
| <u>Pk. 77</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 58 41    | 79 48 6                   | 19780                               | 3                          | 2      | 4'0                                                 | ...                          |
| <u>Pk. 78</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 58 3     | 79 48 13                  | 19430                               | 3                          | 1      | 0'7                                                 | ...                          |
| <u>Pk. 79</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 55 3     | 79 47 57                  | ...                                 | 3                          | ...    | 2'2                                                 | ...                          |
| <u>Pk. 80</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 54 0     | 79 47 53                  | 20220                               | 3                          | 2      | 2'1                                                 | ...                          |
| <u>Pk. 81</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 53 12    | 79 48 15                  | ...                                 | 3                          | ...    | 0'1                                                 | ...                          |
| <u>Pk. 82</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 52 55    | 79 55 51                  | 19270                               | 3                          | 2      | 6'8                                                 | ...                          |
| <u>Pk. 83</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 52 24    | 79 48 44                  | 18810                               | 3                          | 2      | 1'1                                                 | ...                          |
| <u>Pk. 84</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 50 15    | 79 46 21                  | 17820                               | 3                          | 2      | 7'7                                                 | ...                          |
| <u>Pk. 85</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 49 56    | 79 54 42                  | 19520                               | 3                          | 2      | 0'4                                                 | ...                          |
| <u>Pk. 86</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 49 4     | 79 53 37                  | 19230                               | 3                          | 2      | 22'0                                                | ...                          |
| <u>Pk. 87</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 48 37    | 79 46 28                  | 17720                               | 3                          | 2      | 0'4                                                 | ...                          |
| <u>Pk. 88</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 47 41    | 79 52 51                  | 18880                               | 3                          | 2      | 23'4                                                | ...                          |
| <u>Pk. 89</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869. | 30 45 54    | 79 49 54                  | ...                                 | 3                          | ...    | 1'1                                                 | ...                          |
| <u>Pk. 90</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869. | 30 45 19    | 79 58 6                   | ...                                 | 3                          | ...    | 1'6                                                 | ...                          |
| <u>Pk. 91</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1871. | 30 45 12    | 79 52 58                  | 17200                               | 3                          | 2      | 1'4                                                 | ...                          |
| <u>Pk. 92</u><br><u>53 N</u> ...        | Peak. Observed in 1869.       | 30 44 38    | 79 52 46                  | ...                                 | 3                          | ...    | 3'1                                                 | ...                          |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mille in angles of triangles | Number of Triangles |
|-----------------------------------------|----------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|------------------------------------------------|---------------------|
|                                         |                                  |             |                           |                                     | Position                       | Height |                                                |                     |
| <u>Pk.93</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1869.    | 30 44 25    | 79 47 38                  | 19240                               | 3                              | 2      | Feet<br>4.5                                    | ...                 |
| <u>Pk.94</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1869.    | 30 43 37    | 79 47 59                  | ...                                 | 3                              | ...    | 4.2                                            | ...                 |
| <u>Pk.95</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1869.    | 30 39 21    | 79 47 28                  | ...                                 | 3                              | ...    | 2.6                                            | ...                 |
| <u>Pk.96</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1869.    | 30 39 21    | 79 56 0                   | 19340                               | 3                              | 2      | 8.7                                            | ...                 |
| <u>Pk.97</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1869.    | 30 38 32    | 79 55 58                  | 20280                               | 3                              | 1      | 1.2                                            | ...                 |
| <u>Pk.98</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1864-65. | 30 37 51    | 79 57 12                  | 20750                               | 4                              | 5      | 0.1                                            | ...                 |
| <u>Pk.99</u><br><u>53 N</u> ...         | Snowy peak. Observed in 1864-65. | 30 36 20    | 79 58 2                   | 21340                               | 4                              | 5      | 0.2                                            | ...                 |
| <u>Pk.100</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 34 55    | 79 50 3                   | 16590                               | 3                              | 1      | 0.6                                            | ...                 |
| <u>Pk.101</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 32 55    | 79 54 49                  | ...                                 | 3                              | ...    | 0.1                                            | ...                 |
| <u>Pk.102</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 32 23    | 79 47 36                  | 15700                               | 3                              | 1      | 1.9                                            | ...                 |
| <u>Pk.103</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 31 59    | 79 54 47                  | 21290                               | 3                              | 1      | 1.6                                            | ...                 |
| <u>Pk.104</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1874.    | 30 31 58    | 79 59 56                  | 22940                               | 3                              | 3      | 0.9                                            | ...                 |
| <u>Pk.105</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 31 58    | 79 48 31                  | 16190                               | 3                              | 2      | 1.4                                            | ...                 |
| <u>Pk.106</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 31 45    | 79 53 55                  | ...                                 | 3                              | ...    | 9.7                                            | ...                 |
| <u>Pk.107</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 31 42    | 79 58 6                   | ...                                 | 3                              | ...    | 1.4                                            | ...                 |
| <u>Pk.108</u><br><u>53 N</u> (Dunagiri) | Observed in 1849-50.             | 30 30 56.5  | 79 52 3.7                 | 23184                               | 4                              | 4      | 0.0                                            | ...                 |
| <u>Pk.109</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1864-65. | 30 30 13    | 79 56 33                  | 22740                               | 4                              | 4      | 0.0                                            | ...                 |
| <u>Pk.110</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1864-65. | 30 29 59    | 79 55 38                  | 22520                               | 2                              | 2      | ...                                            | ...                 |
| <u>Pk.111</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1869.    | 30 28 41    | 79 50 28                  | ...                                 | 3                              | ...    | 0.5                                            | ...                 |
| <u>Pk.112</u><br><u>53 N</u> ...        | Snowy peak. Observed in 1864.    | 30 28 1     | 79 55 36                  | 21000                               | 3                              | 3      | 0.3                                            | ...                 |

## DEGREE SHEET No. 53 N, between Lats. 30° - 31° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                      | Latitude N.    | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------|----------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                  |                |                           |                                     | Position                   | Height |                                                     |                              |
| Pk.113<br>53 N                          | ... Snowy peak. Observed in 1869.                | ° ' " 30 22 39 | ° ' " 79 47 19            | 20840                               | 3                          | 1      | Feet<br>4' 4"                                       | ...                          |
| Pk.114<br>53 N                          | ... Snowy peak. Observed in 1850-51.             | 30 22 34.3     | 79 58 18.5                | 25563                               | 3                          | 3      | 0' 9"                                               | ...                          |
| Pk.115<br>53 N (Nanda Devi)             | Observed in 1841-42.                             | 30 22 31.6     | 79 58 22.3                | 25645                               | 3                          | 9      | 0' 1"                                               | ...                          |
| Pk.116<br>53 N                          | ... Snowy peak. Observed in 1848-49.             | 30 21 58.2     | 79 59 54.2                | 24391                               | 3                          | 3      | 0' 4"                                               | ...                          |
| Pk.117<br>53 N (Trisul West)            | Observed in 1849-50.                             | 30 18 42.7     | 79 46 40.1                | 23360                               | 4                          | 7      | 0' 0"                                               | ...                          |
| Pk.118<br>53 N                          | ... Snowy peak. Observed in 1874.                | 30 18 8        | 79 58 46                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk.119<br>53 N                          | ... Snowy peak. Observed in 1864-65.             | 30 17 24       | 79 49 46                  | 22490                               | 3                          | 3      | 0' 6"                                               | ...                          |
| Pk.120<br>53 N                          | ... Snowy peak. Observed in 1865.                | 30 17 23       | 79 57 23                  | 21860                               | 4                          | 5      | 0' 0"                                               | ...                          |
| Pk.121<br>53 N (Trisul East)            | Snowy peak. Observed in 1848-49.                 | 30 16 14.2     | 79 52 23.8                | 22320                               | 5                          | 4      | 0' 0"                                               | ...                          |
| Pk.122<br>53 N                          | ... Peak. Observed in 1869.                      | 30 15 16       | 79 57 20                  | 19430                               | 4                          | 2      | 0' 3"                                               | ...                          |
| Pk.123<br>53 N                          | ... Peak. Observed in 1869.                      | 30 13 43       | 79 57 9                   | ...                                 | 4                          | ...    | 0' 3"                                               | ...                          |
| Pk.124<br>53 N                          | ... Snowy peak. Observed in 1864-65.             | 30 13 30       | 79 49 20                  | 20010                               | 3                          | 3      | 0' 8"                                               | ...                          |
| Pk.125<br>53 N                          | ... Snowy peak. Observed in 1864-65.             | 30 12 6        | 79 50 48                  | 18520                               | 4                          | 3      | 0' 1"                                               | ...                          |
| Pk.126<br>53 N                          | ... Peak. Observed in 1869.                      | 30 11 55       | 79 57 45                  | 16050                               | 4                          | 2      | 1' 2"                                               | ...                          |
| Pk.127<br>53 N                          | ... Peak. Observed in 1869.                      | 30 11 42       | 79 58 25                  | 15090                               | 4                          | 2      | 2' 2"                                               | ...                          |
| Pk.128<br>53 N                          | ... Peak. Observed in 1869.                      | 30 11 18       | 79 53 10                  | 16000                               | 3                          | 2      | 0' 3"                                               | ...                          |
| Pk.129<br>53 N                          | ... Peak. Observed in 1869.                      | 30 10 39       | 79 57 14                  | ...                                 | 3                          | ...    | 0' 5"                                               | ...                          |
| Pk.130<br>53 N                          | ... Peak. Also called Doldung. Observed in 1869. | 30 8 20        | 79 56 48                  | ...                                 | 3                          | ...    | 1' 5"                                               | ...                          |
| Pk.131<br>53 N                          | ... Peak. Observed in 1869.                      | 30 7 36        | 79 58 50                  | 11360                               | 3                          | F      | 0' 4"                                               | ...                          |
| Pk.132<br>53 N                          | ... Temple on peak. Observed in 1869.            | 30 4 30        | 79 56 43                  | ...                                 | 3                          | ...    | 1' 9"                                               | ...                          |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°.

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                | Longitude E of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Meridian | Height in feet |
|-----------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|--------------------|----------------|
|                                         |             |                                                                                                                                                                                                                                                                                                            |                          |                                     | Position                   | Height |                                                     |                    |                |
| Adgaon                                  | h.s.        | On a low spur, $\frac{1}{2}$ mile N.W. of the Rám-nagar road and Rám-ganga river, 1 mile N.W. of Masi and $\frac{1}{2}$ mile E.N.E. of Simu. Observed in 1865-66. ( <i>Pati-Pachau, Kumaun</i> ).                                                                                                          | 29 49 58.24              | 79 16 29.62                         | 3568                       | ...    | 2                                                   | ...                | 596, 597       |
| Aiartoli                                | No. 1 h.s.  | On the south spur of a hill above the village of Aiartoli, 2 miles N. by E. of Baijnáth on the Gumti river, $\frac{1}{2}$ mile S. by W. of Ajula and $\frac{1}{2}$ mile N.E. of the high road to Karnprayág in Malla Katur patti. Observed in 1865-66. ( <i>Dánpur, Kumaun</i> ).                          | 29 56 16.90              | 79 37 21.62                         | ...                        | ...    | ...                                                 | ...                | 799            |
| Aiartoli                                | No. 2 h.s.  | On the S. end of a hill $\frac{1}{4}$ mile S.S.W. of the village of Aiartoli, $\frac{1}{4}$ mile E. of the road from Karnprayág, 1 mile N.E. of Kajuli on the Gumti river and $1\frac{1}{2}$ miles N. of Baijnáth. Observed in 1865-66. ( <i>Dánpur, Kumaun</i> ).                                         | 29 55 49.20              | 79 37 4.50                          | ...                        | ...    | ...                                                 | ...                | 802, 803       |
| Aiartoli                                | Tea Factory | Southern chimney. Observed in 1865-66. ( <i>Naini Tál</i> ).                                                                                                                                                                                                                                               | 29 55 53                 | 79 37 29                            | ...                        | ...    | ...                                                 | ...                | ...            |
| Airideo                                 | h.s.        | On a high range of hills in Barakirau patti, $2\frac{1}{4}$ miles W. of the Kosi river and the road to Budrináth, $2\frac{1}{4}$ miles N. of Kupola and 4 miles E.N.E. of Baguna village. Observed in 1872-73. ( <i>Báramandal, Kumaun</i> ).                                                              | 29 44 16.13              | 79 34 37.02                         | 6924                       | ...    | 5                                                   | ...                | 606            |
| Akwa                                    | h.s.        | On a hill in Barakirau patti, $2\frac{1}{4}$ miles S. of Lingwári village, 3 miles E.N.E. of Gurura on the Kosi river and 3 miles N. of Baisargaon village. Observed in 1865-66. ( <i>Báramandal, Kumaun</i> ).                                                                                            | 29 50 16.84              | 79 39 18.34                         | 7057                       | ...    | 3                                                   | ...                | 784            |
| Almora, Beckett's Staff                 | h.s.        | On the Bágesar road, 2 miles N.N.E. of the Almora Church, and just N. of the forking of the roads, $\frac{1}{2}$ mile E. of Panakhola village in Talla Syúnara patti. Observed in 1866. ( <i>Báramandal, Kumaun</i> ).                                                                                     | 29 36 50.02              | 79 39 48.54                         | ...                        | ...    | ...                                                 | ...                | 900, 901       |
| Almora                                  | Church      | Observed in 1866-67. ( <i>Báramandal, Kumaun</i> ).                                                                                                                                                                                                                                                        | 29 35 17                 | 79 38 52                            | 5493                       | ...    | ...                                                 | ...                | ...            |
| Almora, Gorkhigarbi                     | h.s.        | On a flat ridge lying E. and W. just N. of the town of Almora, $1\frac{1}{4}$ miles E. of the Kosi river, close W. of Panakhola village, $1\frac{1}{4}$ miles N. of the Almora Church and 1 mile S. by W. of Naikhola village on the Almora-Bágesar road. Observed in 1866. ( <i>Báramandal, Kumaun</i> ). | 29 36 42.43              | 79 38 40.54                         | ...                        | ...    | ...                                                 | ...                | 898            |



DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                     |                              |
| Almora                                  | h.s. On General Parson's house, about a furlong S.W. of the church in Almora, at the S. end of the town in the <i>patti</i> of Talia Syūnra. Observed in 1866. ( <i>Bāramandal, Kumaun</i> ).                                                      | 29 35 12.88 | 79 38 46.50               | 5499                                | ...                        | 2      | Feet<br>...                                         | 897                          |
| Almora, Monument Staff                  | h.s. On the Baijnāth road, 2 miles N. of the Almora church and 1½ miles E. of the Kosi river. Observed in 1866. ( <i>Dāramandal, Kumaun</i> ).                                                                                                     | 29 36 51.93 | 79 39 16.50               | ...                                 | ...                        | ...    | ...                                                 | 899                          |
| Almora                                  | Prison S.W. corner. Observed in 1866-67. ( <i>Bāramandal, Kumaun</i> ).                                                                                                                                                                            | 29 36 23    | 79 40 4                   | 5437                                | ...                        | ...    | ...                                                 | ...                          |
| Alna                                    | h.s. Near the village of that name, 1 mile W. by N. of Tailiāat on the Gumti, 1½ miles E.N.E. of Kortuliari and 1 mile S.S.W. of Kajuli in the <i>patti</i> of Malla Katur. Observed in 1867-68. ( <i>Dānpur, Kumaun</i> ).                        | 29 54 36.36 | 79 35 43.51               | 4816                                | ...                        | 2      | ...                                                 | 786                          |
| Arkholi                                 | No. 1 h.s. At the S. end of a hill, 2½ miles N. of the Gumti river, 3½ miles N.E. of Baijnāth temple and 2½ miles E. of Aiantoli village in Malla Katur <i>patti</i> . Observed in 1866. ( <i>Dānpur, Kumaun</i> ).                                | 29 55 53.67 | 79 40 5.02                | ...                                 | ...                        | ...    | ...                                                 | 809, 810                     |
| Arkholi                                 | No. 2 h.s. On the crest of a range, ½ mile S.W. of the Lahor river, 2½ miles E. of Ajula village in Malla Katur <i>patti</i> . Observed in 1866. ( <i>Dānpur, Kumaun</i> ).                                                                        | 29 57 3.81  | 79 40 27.97               | ...                                 | ...                        | ...    | ...                                                 | 811, 812                     |
| Badandhura                              | h.s. On a hill so named, on the boundary of Pahārkotah and Kosenā <i>pattis</i> , 1½ miles N.N.W. of Bhagni and 4 miles N.E. of Bannugaon village. Observed in 1867-68. ( <i>Kotah, Kumaun</i> ).                                                  | 29 29 20.92 | 79 18 34.44               | 8404                                | ...                        | 3      | ...                                                 | 649                          |
| Badantoli                               | h.s. On a hill of that name, on the range forming the boundary between Dhaniakot and Pahārkotah <i>pattis</i> , 1½ miles N. of Sonr, 4 miles W.S.W. of Dhaniakot and 3½ miles E. of Bhagni village. Observed in 1867-68. ( <i>Kotah, Kumaun</i> ). | 29 28 39.96 | 79 22 50.39               | 8606                                | ...                        | 4      | ...                                                 | 651                          |
| Bāgesar                                 | h.s. Immediately S.E. of the village of Bāgesar at the junction of the Gumti and Sarju rivers, on the main road to Askot from Dwārāhat and Kurnpryāg. Observed in 1867-68. ( <i>Gangoli, Kumaun</i> ).                                             | 29 50 16.42 | 79 46 38.39               | 3199                                | ...                        | 2      | ...                                                 | 888                          |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                            | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangulation |
|-----------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------------------|
|                                         |             |                                                                                                                                                                                                                                                                                                        |                           |                                     | Position                   | Height |                                                     |                                   |
| Baijnáth                                | h. s.       | On a small hill, $\frac{1}{2}$ mile N.E. of the temple of Baijnáth on the Gumti river and the road from Karnprayág, $1\frac{1}{2}$ miles S.E. of Kajuli and $1\frac{1}{2}$ miles W. by S. of Chanoli village. Observed in 1866-66. ( <i>Dánpur, Kumaun</i> )                                           | 29 54 44' 37"             | 79 37 29' 34"                       | ...                        | ...    | ...                                                 | 800                               |
| Balkot                                  | h. s.       | Is situated among a group of small villages in the <i>patti</i> of Rangor, the principal of which are Danya 1 mile W. by N. and Belukh $\frac{1}{2}$ mile S.E. of the station. Observed in 1868-69. ( <i>Changarkha, Kumaun</i> ).                                                                     | 29 33 38' 80"             | 79 56 24' 33"                       | 6104                       | ...    | 4                                                   | 765                               |
| Bandani                                 | h. s.       | On a hill so named on the road from Almora to Lohághát, $1\frac{1}{2}$ miles W.N.W. of a dáik bungalow, $1\frac{1}{2}$ miles N.W. of Túleri and 1 mile S.S.W. of Malta village in the <i>patti</i> of Uchyur. Observed in 1868-69. ( <i>Bárámandal, Kumaun</i> ).                                      | 29 33 18' 27"             | 79 42 5' 54"                        | 6735                       | ...    | 4                                                   | 761                               |
| Bandarjuri                              | No. 1 h. s. | On the W. end of a hill so named, in Bhabarkotah <i>patti</i> , $1\frac{1}{2}$ miles N. of Bandarjuri village on the road to Rám Nagar, $1\frac{1}{2}$ miles N.E. of Belparao and $\frac{1}{2}$ mile E. of the road from Belparao to Khairabad village. Observed in 1867-68. ( <i>Kotah, Kumaun</i> ). | 29 19 26' 73"             | 79 13 49' 78"                       | 1778                       | ...    | 2                                                   | 719, 720                          |
| Bandarjuri                              | No. 2 h. s. | On the spur of a hill, $\frac{1}{2}$ mile S.S.E. of Bandarjuri No. 1 h. s., 1 mile N.N.E. of Bandarjuri village on the road to Rám Nagar, 1 mile N.W. of Mudden Bhel and 2 miles E. of Belparao village. Observed in 1867-68. ( <i>Kotah, Kumaun</i> ).                                                | 29 18 48' 70"             | 79 14 10' 13"                       | 1396                       | ...    | 1                                                   | 728, 729                          |
| Bánskhera                               | No. 1 s.    | On the road on the E. bank of the Gola <i>nadi</i> , just west of the village of Bánskhera, 2 miles S. of the Káladhungi-Barmdeo road, $\frac{1}{2}$ mile N.N.W. of Ratanpur and $1\frac{1}{2}$ miles S.W. of Laehampur. Observed in 1871-72-73. ( <i>Chakháta, Kumaun</i> ).                          | 29 10 3' 98"              | 79 34 28' 21"                       | 1167                       | ...    | 2                                                   | 819, 820                          |
| Bánskhera                               | No. 2 s.    | On the road on the E. bank of the Gola <i>nadi</i> , $\frac{1}{2}$ mile N.N.E. of Mudanpur village and $\frac{1}{2}$ mile S. of Ratanpur village, the southern one of that name. Observed in 1871-72-73. ( <i>Chakháta, Kumaun</i> ).                                                                  | 29 8 58' 34"              | 79 35 5' 70"                        | ...                        | ...    | ...                                                 | 821                               |
| Bariar                                  | h. s.       | On a hill close to the village of that name in Rangor <i>patti</i> , $\frac{1}{2}$ mile N. of the Panar river and 2 miles N.N.W. of Raigaon village in Hagerban <i>patti</i> . Observed in 1868-69. ( <i>Káti Kumaun, Kumaun</i> ).                                                                    | 29 29 46' 31"             | 79 59 19' 65"                       | 3433                       | ...    | 1                                                   | 863, 864                          |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| Barwadhang                              | h.s. On the west extremity of an isolated hill of that name in Bhabarkotah <i>patti</i> , close N.E. of the high road from Káladhungi to Rám Nagar. $\frac{3}{4}$ mile N. of Banghad, $\frac{3}{4}$ mile S.E. of Chuki and $\frac{1}{4}$ mile S.E. of the village of Barwadhang. Observed in 1867-68. ( <i>Kotah, Kumaun</i> ). | 29 20 47.48 | 79 9 30.74                | 1204                                | ...                        | 2      | Feet<br>...                                         | 718                          |
| Bashikanág                              | h.s. On a hill lying E. and W. in Athgaon <i>patti</i> , $1\frac{1}{4}$ miles E.N.E. of Bhainskhet village, $2\frac{1}{4}$ miles S.S.E. of Simkuna and 3 miles S. of the Sanudiar Bungalow on the road to Askot. Observed in 1867-68. ( <i>Gangoli, Kumaun</i> ).                                                               | 29 45 59.49 | 79 55 58.67               | 6890                                | ...                        | 2      | ...                                                 | 793                          |
| Baurkháta                               | s. On the road from Moradabad to Lalkua, $\frac{1}{4}$ mile W. of the Baur <i>nadi</i> , 1 mile N.E. of the Kumaun-Rohilkhand boundary and $1\frac{1}{2}$ miles E. of the Dhula ruins. Observed in 1871-72. ( <i>Kotah, Kumaun</i> ).                                                                                           | 29 11 28.20 | 79 16 14.91               | 848                                 | ...                        | 1      | ...                                                 | 754                          |
| Belpáni                                 | h.s. At the southern extremity of the hills which lie north of the Káladhungi-Barmdeo road, $\frac{3}{4}$ mile N.W. of the deserted site of Belpáni village, midway between the Garjwa and Belpáni streamlets and 3 miles N. of the Kumaun boundary. Observed in 1872. ( <i>Dhianirau Bhabar, Kumaun</i> ).                     | 29 4 7.70   | 79 54 28.54               | 1630                                | ...                        | 1      | ...                                                 | 826                          |
| Bhadargarhi                             | h.s. On a hill so named in Bhabarkotah <i>patti</i> , $1\frac{1}{4}$ miles N.N.W. of Kiarion village, 1 mile N.E. of Bhadargarhi-ka-Chaor and 3 miles E. by S. of Rám Nagar. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                        | 29 22 55.04 | 79 10 47.84               | 2093                                | ...                        | 7      | ...                                                 | 625                          |
| Bhadkot                                 | h.s. On a high hill forming the boundary between Giwar and Kairakira <i>pattis</i> , $2\frac{1}{4}$ miles E.N.E. of the Dunagiri Tea Factory and $3\frac{1}{4}$ miles N. of Bhatauron the Dwarahát road. Observed in 1866-66. ( <i>Bhramandal, Kumaun</i> ).                                                                    | 29 49 58.81 | 79 30 20.59               | 9086                                | ...                        | 4      | ...                                                 | 605                          |
| Bhakra                                  | s. On the Kumaun-Rohilkhand boundary, $\frac{1}{4}$ mile S. of the main channel of the Bhakra <i>nadi</i> , 2 miles S.E. of the road from Barakhera to Haldwáni and $1\frac{1}{4}$ miles S.E. of the village of Ropakhata. Observed in 1872. ( <i>Kumaun, Rohilkhand</i> ).                                                     | 29 6 31.11  | 79 20 40.28               | 770                                 | ...                        | 1      | ...                                                 | 758                          |
| Bhaon                                   | Temple Observed in 1865. ( <i>Talla Salán, Garhwál</i> ).                                                                                                                                                                                                                                                                       | 29 38 43    | 79 6 4                    | ...                                 | ...                        | ...    | ...                                                 | ...                          |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                       |
| Bhím Tál                                | h.s. On a hill $\frac{1}{4}$ mile W. of the Bhím Tál Lake and the road to Naini Tál which skirts it, $\frac{1}{4}$ mile N. of Jhimtwal, 1 mile E. by N. of Siloti and 2 miles S. by E. of Mahvagaon. The station consists of a plain mark-stone on the top of a bare hill at the northern end of the ridge which runs roughly north and south. Observed in 1871-72. ( <i>Chhakháta, Kumaun</i> ).                                                                                                                                                                                                                                             | 29 20 34.71 | 79 32 54.54               | 5816                                | ...                        | 5      | Feet<br>...                                         | 638                   |
| Bialakhan                               | h.s. On a hill on the boundary of Kakálayún and Shalt <i>pattis</i> , $\frac{1}{2}$ mile S.E. of Máchur, 1 $\frac{1}{2}$ miles N. of Deekan and 1 $\frac{1}{2}$ miles E. of Tolyún village. Newalgaon is on the road to Mási, distant 2 $\frac{1}{2}$ miles N.W. Observed in 1867-68. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                         | 29 35 23.43 | 79 14 9.16                | ...                                 | ...                        | ...    | ...                                                 | 622                   |
| Bijaon                                  | h.s. On a hill $\frac{1}{4}$ mile N.E. of the village of Mángoli on the main road from Káldhúngi to Naini Tál just above the dák bungalow, 1 $\frac{1}{2}$ miles S.W. of Bijaon and 1 mile E. by N. of Nalani village. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                            | 29 21 10.81 | 79 23 56.32               | 5105                                | ...                        | 2      | ...                                                 | 634                   |
| Biloti                                  | h.s. On a hill in Chhakháta <i>pattis</i> , $\frac{1}{4}$ mile W.S.W. of Biloti village, 2 $\frac{1}{2}$ miles S.W. of Ranibágh Dák Bungalow on the Naini Tál road, $\frac{1}{2}$ mile N.E. of Bhordioni village and 1 $\frac{1}{2}$ miles E.S.E. of Hairigaon village. Observed in 1868. ( <i>Chhakháta, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                       | 29 16 49.08 | 79 30 29.35               | 4831                                | ...                        | 1      | ...                                                 | 637                   |
| Binek                                   | h.s. On the summit of a high ridge running from Naini Tál to the north and forming the boundary between Dhaniakot and Pahárkotah <i>pattis</i> , 2 $\frac{1}{2}$ miles W. by N. of Badlakot village, 1 $\frac{1}{2}$ miles S.W. of Darjoli, 2 miles N.E. of Marar village and 1 $\frac{1}{2}$ miles N.W. from the Pallulin-Almora road. It is about 10 or 12 miles from Naini Tál by foot-path which starts from under Deopathar and winds round by the east to the north of Chima and then follows the spur till it arrives at the foot of Binek. The station consists of a plain mark-stone. Observed in 1871-72. ( <i>Kotah, Kumaun</i> ). | 29 26 56.30 | 79 25 15.34               | 8181                                | ...                        | 4      | ...                                                 | 615                   |
| Binsar                                  | h.s. On a high rocky ridge forming the boundary between Chaugarkha and Bárámandal parganas, $\frac{1}{2}$ mile E. of the road from Almora to Bágesar, 2 $\frac{1}{2}$ miles S. of Pauchdeo and 3 $\frac{1}{2}$ miles N. of Palion. Observed in 1868. ( <i>Bárámandal and Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                            | 29 42 25.61 | 79 45 16.73               | 7912                                | ...                        | 3      | ...                                                 | 567,<br>568           |
| Birchua                                 | h.s. On a high hill forming the trijunction of Badhan, Páli and Dánpur parganas, 3 $\frac{1}{2}$ miles S.W. of Megri on the Gunthi river, 3 $\frac{1}{2}$ miles S.S.W. of Majkot and 4 $\frac{1}{2}$ miles N.W. of Kortuliari village. Observed in 1867-68. ( <i>Badhan, Páli and Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                       | 29 55 59.13 | 79 30 11.83               | 8043                                | ...                        | 3      | ...                                                 | 865,<br>866           |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| Birond, VIII                            | ( <i>Vide page 9—1.</i> )                                                                                                                                                                                                                                                                        | 29 15 14.15 | 79 42 57.00               | 6967                                | ...                        | 2      | ...                                                 | 11, 12                       |
| Birond                                  | h.s. Also called Tume. On a hill 1½ miles N.E. of the Kurai-ki-gadh stream, 1¼ miles S.E. of the Gola river at its junction with the Kulsu river, 3 miles S. of Babiâr village and 2½ miles S.W. of Barhou village in Chaugurh <i>patti</i> . Observed in 1871-72. ( <i>Dhianirau, Kumaun</i> ). | 29 15 10.81 | 79 41 28.94               | 5968                                | ...                        | 2      | ...                                                 | 828, 829                     |
| Bisonta                                 | s. On flat ground 2 miles N.N.W. of Bisontakhata village on the road from Moradabad to Lalkua, 1 mile W. of the Bhakra nadi. Observed in 1872. ( <i>Kotah, Kumaun</i> ).                                                                                                                         | 29 10 51.74 | 79 21 14.42               | 871                                 | ...                        | 1      | ...                                                 | 756                          |
| Bulek                                   | h.s. On a hill in Dhûraphat <i>patti</i> , ¼ mile S. by W. of the small village of that name; 1 mile N.E. of Rutora on the Kosi river. Observed in 1867. ( <i>Phaldakot, Kumaun</i> ).                                                                                                           | 29 33 30.75 | 79 25 15.02               | 5929                                | ...                        | 1      | ...                                                 | 697                          |
| Chanoli                                 | h.s. At the south base of a hill adjoining the village of Chanoli, ¼ mile N. of the Gumti river and the road to Karnprayâg and 2 miles E.N.E. of Baijnâth Temple on the Gumti. Observed in 1866. ( <i>Dânpur, Kumaun</i> ).                                                                      | 29 54 52.80 | 79 38 49.63               | ...                                 | ...                        | ...    | ...                                                 | 813, 814                     |
| Chilkia                                 | s. One mile S.E. of Chilkia village on the Kashipur-Râmnagar road, between Jakakagja and Gobra vilages, ¼ mile S. of the former and N. of the latter and 3 miles south by west of Râmnagar town. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                     | 29 21 17.00 | 79 6 44.68                | 1024                                | ...                        | 1      | ...                                                 | 685                          |
| Chilpokra                               | h.s. On a hill 2 miles S. by W. of the Joli Dâk Bungalow on the road to Naini Tâl, ¼ mile W. of Morabgaon, 1½ miles E. by N. of Androligaon and 1¼ miles N.N.E. of Hairigaon. Observed in 1867-68. ( <i>Châkhâta, Kumaun</i> ).                                                                  | 29 18 8.94  | 79 30 0.40                | 5367                                | ...                        | 5      | ...                                                 | 734, 735                     |
| Chinal                                  | h.s. On a hill so named in Bhabarkotah <i>patti</i> , 2 miles S.W. of the road from Râmnagar to Rânikhet and 2½ miles W.N.W. of Dikoli village on the same road. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                     | 29 28 51.59 | 79 6 39.33                | 2801                                | ...                        | 3      | ...                                                 | 620                          |
| Chinar                                  | h.s. On a hill so named in Pahârkotah <i>patti</i> , ¼ mile N.N.W. of the Naini Tâl church, 3 miles E. of Adhaura vilage and 2½ miles S.S.W. of Budlakot. Observed in 1872-73. ( <i>Kotah, Kumaun</i> ).                                                                                         | 29 24 13.65 | 79 26 34.49               | 8563                                | ...                        | 1      | ...                                                 | 744, 745                     |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAIS DETERMINING |        | Discrepancy between heights in miles of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                   |                              |
| Choprakot                               | h.s. On a range of hills running N. and S., $\frac{1}{2}$ mile N. of Patoni, 1 mile W. of Dadoli, $1\frac{1}{4}$ miles E. by S. of Bangdhār Dak Bungalow on the road to Kainur. Observed in 1865-66. ( <i>Chāndpur, Garhwāl</i> ).                                                                     | 29 57 42.98 | 79 11 31.46               | 6481                                | ...                        | 2      | ...                                               | 575, 576                     |
| Chorgalia                               | h.s. On a hill so named, $1\frac{1}{4}$ miles S.W. of the Nandhar river, $2\frac{1}{4}$ miles N.E. of Chorgalia village on the road to Haldwāni and $1\frac{1}{2}$ miles W.S.W. of Khonani village. Observed in 1871-72. ( <i>Dhianirau-Bhabar, Kumaun</i> ).                                          | 29 8 43.25  | 79 44 8.57                | 3213                                | ...                        | 2      | ...                                               | 771                          |
| Chorgalia                               | s. To the W. of the village of Chorgalia and S. of the road to Haldwāni, $1\frac{1}{4}$ miles N. of Mulla Chorgalia and $1\frac{1}{4}$ miles N.E. of Sela Bhabar village. Observed in 1872. ( <i>Dhianirau-Bhabar, Kumaun</i> ).                                                                       | 29 7 18.60  | 79 42 2.94                | 1023                                | ...                        | 1      | ...                                               | 624                          |
| Choursan                                | No. 1 h.s. On a hill close to a tributary of the Gumti river, $1\frac{1}{2}$ miles E. by N. of Kajūli village, $\frac{1}{4}$ mile S.E. of Airtoli Tea Factory, $1\frac{1}{4}$ miles N.W. of Chanoli and $1\frac{1}{2}$ miles N.E. of the Baijnāth Temple. Observed in 1866. ( <i>Dānpur, Kumaun</i> ). | 29 55 40.09 | 79 37 58.36               | ...                                 | ...                        | ...    | ...                                               | 801                          |
| Choursan                                | No. 2 h.s. On a flat-topped hill, $\frac{1}{4}$ mile south of Bipana Bungalow, $\frac{1}{2}$ mile S.S.W. of the village of Matai, 1 mile N. of Chanoli and $1\frac{1}{2}$ miles E.S.E. of Airtoli village in Malla Katur patti. Observed in 1866. ( <i>Dānpur, Kumaun</i> ).                           | 29 55 36.18 | 79 38 48.09               | ...                                 | ...                        | ...    | ...                                               | 604                          |
| Choursan                                | No. 3 h.s. About $\frac{1}{4}$ mile N. of Choursan No. 2 h.s. Observed in 1866. ( <i>Dānpur, Kumaun</i> ).                                                                                                                                                                                             | 29 55 56.37 | 79 38 50.96               | ...                                 | ...                        | ...    | ...                                               | 607                          |
| Choursan                                | No. 4 h.s. On a hill in Malla Katur patti, $\frac{1}{4}$ mile N.N.W. of the village of Matai, $1\frac{1}{4}$ miles E. of Ajula and $3\frac{1}{2}$ miles N.N.E. of Baijnāth Temple on the Gumti. Observed in 1866. ( <i>Dānpur, Kumaun</i> ).                                                           | 29 56 59.44 | 79 39 17.16               | ...                                 | ...                        | ...    | ...                                               | 608                          |
| Dabharakot                              | h.s. On a hill so named lying midway between the Nuihal and Bāmganga rivers which are $\frac{1}{4}$ mile W. and E. respectively of the station, $\frac{1}{4}$ mile S. by E. of Dabhara village, 1 mile N.N.W. of Janallo in Shalt patti. Observed in 1865-66. ( <i>Pali Pachau, Kumaun</i> ).          | 29 38 30.63 | 79 12 32.09               | 4028                                | ...                        | 1      | ...                                               | 592, 593                     |
| Daj                                     | h.s. On a high peak, $1\frac{1}{4}$ miles N. of Kanālgadh on a branch of the Sarju river, 3 miles S.E. of Samāti and $\frac{1}{4}$ miles S.W. of Jaglana village in Talla Katur patti. Observed in 1867-68. ( <i>Dānpur, Kumaun</i> ).                                                                 | 29 57 5.76  | 79 47 29.32               | 7311                                | ...                        | 2      | ...                                               | 789                          |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                     |                              |
| Dang No. 1 h.s.                         | On the boundary of Shalt and Kakulasán <i>pattis</i> , 1 mile N. of the adjoining villages of Jak and Dang, 1 mile S.E. of Tarrari and 1½ miles E. of the Rámanga river and the road to Masi. Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                                                       | 29 37 38.77 | 79 15 2.56                | 5547                                | ...                        | 3      | ...                                                 | 459                          |
| Dang No. 2 h.s.                         | Close to Dang No. 1 h.s. Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                                                                                                                                                                                                                            | 29 37 40.35 | 79 14 59.32               | 5524                                | ...                        | 3      | ...                                                 | 590, 591                     |
| Debára h.s.                             | On the boundary of Badhan and Páli <i>par-ganas</i> , 3¼ miles W. of Majkot, 3 miles W.S.W. of Kanjali, 1½ miles N. of Arkola village and 4 miles N.E. of the Rámanga river. Observed in 1867. ( <i>Badhan-Páli, Kumaun</i> ).                                                                                                                                                           | 29 58 40.37 | 79 28 4.98                | 8068                                | ...                        | 1      | ...                                                 | 585                          |
| Dedhurra h.s.                           | On a hill so named, 1¼ miles W. by S. of Chigora village, 1¼ miles S.W. of Bilwakhni on the road to Naini Tál, 1¼ miles N. of Nalidul village and 3 miles W. of Joli Dák Bungalow. Observed in 1868. ( <i>Chakháta, Kumaun</i> ).                                                                                                                                                        | 29 19 59.60 | 79 27 38.84               | 5429                                | ...                        | 2      | ...                                                 | 636                          |
| Deokánk s.                              | On tree in Deokánk Bangar, 1¼ miles E. of the road to Haldwáni, ¾ mile S.E. of Nandpur village and 1¼ miles S. by E. of Pipalpokra <i>chauki</i> and mill. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                   | 29 13 9.45  | 79 27 27.07               | 1237                                | ...                        | 2      | ...                                                 | 712                          |
| Deopathar h.s.                          | On a hill so called, 1¼ miles W. of Naini Tál Lake and ¼ mile W. by S. of the Naini Tál church. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                                                                              | 29 23 34.79 | 79 26 5.97                | 7987                                | ...                        | 3      | ...                                                 | 654                          |
| Deothal h.s.                            | On a hill so named, 1¼ miles N. by E. of Kulari village and 2½ miles N.W. of Surung. The station consists of a plain mark on the top of a very commanding hill from which a good view can be obtained on all sides. There are the ruins of a <i>pakári</i> temple close to the mark-stone about 2 or 3 paces to the north. Observed in 1871-72. ( <i>Mehruri and Dhanirzu, Kumaun</i> ). | 29 21 40.44 | 79 41 8.33                | 7954                                | ...                        | 2      | ...                                                 | 642                          |
| Devidhurra Temple                       | Observed in 1868. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                        | 29 24 56    | 79 52 3                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per million of triangles | Reference Number of Triangles | Number of Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------|-------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                        |                               |                     |
| Devi-ka-bhawan                          | h.s. On a hill so called on the boundary of Pali-Pachau and Dhaniakot <i>parganas</i> , on the road from Rám Nagar to Almora, 1 mile N.N.E. of Sinsári, 1 mile S.W. of Bina and 1½ miles N.E. of Binakot. Observed in 1867. ( <i>Dhaniakot and Pali-Pachau, Kumaun</i> ).                                                                                                       | 29 36 0.65  | 79 21 19.46               | 6352                                | ...                        | 1      | Feet                                   | ...                           | 691, 692            |
| Dhanik                                  | h.s. On a flat-topped hill in Pabárkotah <i>patti</i> , at the forking of 2 roads from Naini Tál to Káladhungi and to Haldu Bajania, 1½ miles E. of Thapila village, 1 mile N. of Mangoli Dák Bungalow and 1½ miles N.W. of the Nihal river. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                        | 29 21 55.93 | 79 24 18.07               | 6020                                | ...                        | 3      | ...                                    | ...                           | 639                 |
| Dhulia                                  | s. On the Rohilkhand-Kumaun boundary, close south of the temple in the ruined village of Dhulia, ¾ mile S.S.W. of Raiwála on the high road to Moradabad and 1½ miles W. of the Baur <i>nadi</i> . Observed in 1872. ( <i>Rohilkhand and Kumaun</i> ).                                                                                                                           | 29 11 21.70 | 79 14 55.38               | 810                                 | ...                        | 1      | ...                                    | ...                           | 755                 |
| Dhulwa                                  | h.s. On a rocky peak so called, 2½ miles S.W. of the deserted village of Sultauchol on the road to Rám Nagar and 5 miles W. of Chakman village on the left bank of the Kosi river. Observed in 1867. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                  | 29 30 58.96 | 79 1 33.68                | 3423                                | ...                        | 3      | ...                                    | ...                           | 628                 |
| Dhungalgarh                             | h.s. On a hill so called, in Bhabarkotah <i>patti</i> ¼ mile E. of the village of Dhungalgaon, 2½ miles W.N.W. of Mohan on the Kosi river and 2 miles N. of the road to Rám Nagar from Patli Dún. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                   | 29 33 40.89 | 79 4 23.72                | 3550                                | ...                        | 2      | ...                                    | ...                           | 629                 |
| Diba-ka-chir                            | h.s. On the pass so called, on the high road from Pauri to Rám Nagar and on the boundary of Gujari and Khatli <i>pattis</i> , 2½ miles S.E. of Kohiri, 1½ miles N. of Kuchár and 4 miles S.W. of Thakulsári. The station is about 20 feet to the right of the road from Kainur to Chilkia and about 6 or 7 feet above it. Observed in 1866-66. ( <i>Malla Salán, Garhwál</i> ). | 29 46 55.00 | 79 2 9.34                 | 6734                                | ...                        | 1      | ...                                    | ...                           | 604                 |
| Dogari                                  | s. At the junction of the Laibar with two other mountain streams, ¼ mile S. of the high road from Káladhungi to Barndeo, ¾ mile S.W. of Dogari <i>chauki</i> and 1 mile N. of Marwa village near the Kumaun boundary. Observed in 1872. ( <i>Dhanirau-Bhabar, Kumaun</i> ).                                                                                                     | 29 2 38.19  | 79 56 8.44                | 765                                 | ...                        | 2      | ...                                    | ...                           | 827                 |
| Durga                                   | Temple On the boundary between Rungor and Salam Malla <i>pattis</i> near Durka, 5 miles E. of Sanga which is approached by road from Almora, 10 miles N.W. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                     | 29 32 15    | 79 51 38                  | ...                                 | ...                        | ...    | ...                                    | ...                           | ...                 |



DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| Gadura                                  | h.s. On a hill in Tallirau <i>patti</i> , $\frac{1}{4}$ mile S. of Gadura village, $\frac{1}{2}$ mile E. of Chalthia, $\frac{1}{2}$ mile E.N.E. of Mariauli and $1\frac{1}{2}$ miles N.E. of the Ladhia river. Observed in 1869. ( <i>Kali Kumaun, Kumaun</i> ).                                                                                                                                                       | 29 17 46.94 | 79 54 58.44               | 5548                                | ...                        | 1      | ...                                                 | 852, 853                     |
| Gadwalbonga                             | h.s. On a rocky hill, $2\frac{1}{2}$ miles S.W. of Gotiár on the Gunti river, 3 miles N.W. of Kortuliari, 4 miles S.S.E. of Majkot and $3\frac{1}{2}$ miles S.W. of the road to Karnpruyóg. Observed in 1867-68. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                            | 29 55 40.14 | 79 32 7.98                | 6957                                | ...                        | 2      | ...                                                 | 891                          |
| Gagar                                   | h.s. On a hill so named at the junction of Talla Mehruri, Rámgarh and Chhakháta <i>pattis</i> , $\frac{1}{2}$ mile S.E. of the road to Almora, 1 mile N.N.W. of Kun village and 2 miles S. of the Rámgarh Dák Bungalow. The station consists of a plain mark-stone on a high peak east of Naini Tál and immediately overlooking Bhim Tál Lake. Observed in 1871-72. ( <i>Mehruri, Chhakháta and Rámgarh, Kumaun</i> ). | 29 24 39.12 | 79 33 7.57                | 7852                                | ...                        | 2      | ...                                                 | 646                          |
| Gaia                                    | h.s. On a hill, 1 mile S. of the Kosi river and $\frac{1}{2}$ mile W. of the Naini Tál-Almora road, $1\frac{1}{2}$ miles E. of Chopra village and $1\frac{1}{2}$ miles S.E. of Chounali. Observed in 1867. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                              | 29 32 30.88 | 79 37 5.21                | 5068                                | ...                        | 2      | ...                                                 | 612                          |
| Gaibantni                               | h.s. On the boundary of Dhaundyalsyán and Chhuitun <i>pattis</i> of Malla Salán and Cháandpur <i>parganas</i> of Garhwál, $1\frac{1}{2}$ miles E.N.E. of Kumalya, $\frac{1}{2}$ mile W. by S. of Bhuirgnon and $1\frac{1}{2}$ miles N. of the high road from Pauri to Almora. Observed in 1865-66. ( <i>Malla Salán and Cháandpur, Garhwál</i> ).                                                                      | 29 54 51.27 | 79 7 21.03                | 6889                                | ...                        | 2      | ...                                                 | 577, 578                     |
| Gaibua-ka-tait                          | h.s. At the south end of a hill to the N. of the Rámngar-Káladhungi road, $\frac{1}{2}$ mile W.N.W. of Belparao village, 1 mile E.N.E. of Bagia and 2 miles S.E. by E. of Gaibua-ka-tait village. Observed in 1868. ( <i>Katá, Kumaun</i> ).                                                                                                                                                                           | 29 18 59.33 | 79 11 45.90               | 1389                                | ...                        | 3      | ...                                                 | 727                          |
| Garanáth                                | h.s. On the boundary of Chaugarkha and Bárámandal <i>parganas</i> , $2\frac{1}{2}$ miles S.E. of Karkoshwar temple on the road to Bagesar, $2\frac{1}{2}$ miles N.W. of the road to Almora and $3\frac{1}{2}$ miles E. by N. of the Kosi river. Observed in 1868. ( <i>Chaugarkha and Bárámandal, Kumaun</i> ).                                                                                                        | 29 46 4.09  | 79 41 39.19               | 6947                                | ...                        | 3      | ...                                                 | 860, 870                     |
| Garapu                                  | s. On the Kumaun-Rohilkhand boundary close by the road from Moradabad to Káladhungi, $\frac{1}{2}$ mile W. of the Kurar <i>nadi</i> , 2 miles N.W. of the Buur <i>nadi</i> and $3\frac{1}{2}$ miles W. of Bijapur village. Observed in 1872. ( <i>Rohilkhand and Kumaun</i> ).                                                                                                                                         | 29 14 30.13 | 79 16 20.77               | 962                                 | ...                        | 2      | ...                                                 | 751                          |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                       | Height |                                                     |                              |
| Garril                                  | h.s. In Riuni <i>patti</i> , $\frac{1}{2}$ mile N.W. of Malla Runi village on the Ránikhet road, $1\frac{1}{2}$ miles S.S.W. of Mohatgaon on the road to Pauri and $2\frac{1}{2}$ miles E.S.E. of Mainola on the Gagus river. Observed in 1867. ( <i>Bárámandal, Kumaun</i> ).                                                                                               | 29 41 13.51 | 79 29 53.61               | 5692                                | ...                            | 2      | Feet ...                                            | 699, 700                     |
| Gatgar                                  | h.s. On a hill so named in Pahárikotah <i>patti</i> , $\frac{1}{2}$ mile E. of Kotah Dán boundary, $1\frac{1}{2}$ miles S. of Dhapila village, $1\frac{1}{2}$ miles N. of Chanchulla village, which is $\frac{1}{2}$ mile S. of the road to Káladhungi and 4 miles E.N.E. of Káladhungi. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                         | 29 17 38.88 | 79 24 48.35               | 2987                                | ...                            | 2      | ...                                                 | 685                          |
| Ghajar                                  | s. On the Rohilkhand-Kumaun boundary, $\frac{1}{2}$ mile N.W. of the road from Rudarpur to Haldwáni, 3 miles S. of Bhura village and $1\frac{1}{2}$ miles S.W. of Tanda chauki. Observed in 1872. ( <i>Rohilkhand and Kumaun</i> ).                                                                                                                                          | 29 3 19.54  | 79 24 47.77               | 763                                 | ...                            | 1      | ...                                                 | 760                          |
| Ghuksa                                  | h.s. On a hill of that name on the boundary of Chhabbis Damola and Chhakháta <i>pattis</i> , and $\frac{1}{2}$ mile S. of the road to Naini Tál. The station consists of a plain mark-stone on a prominent hill that overlooks Bhim Tál. It is almost immediately above the village of Banana to the south. Observed in 1871-72. ( <i>Chhakháta and Dhianirau, Kumaun</i> ). | 29 19 3.14  | 79 37 42.39               | 6409                                | ...                            | 3      | ...                                                 | 639                          |
| Godi                                    | h.s. On a small hill in Giwár <i>patti</i> , $\frac{1}{2}$ mile S. by E. of Pechoun on the Rámanga river, 1 mile E. by N. of Baskaniun on the high road from Karnprayág to Ránikhet, $\frac{1}{2}$ mile S.W. of Umsari, $\frac{1}{2}$ mile N.E. of Gwali, 1 mile E.S.E. of Banlgaon and 2 miles E. by N. of Bhatkot. Observed in 1865-66. ( <i>Páli-Pachoun, Kumaun</i> ).   | 29 52 34.28 | 79 22 56.54               | ...                                 | ...                            | ...    | ...                                                 | 599                          |
| Gopálkot                                | h.s. On the boundary of Giwár and Borákirau <i>pattis</i> , $1\frac{1}{2}$ miles W. of Pingnáthi temple, $2\frac{1}{2}$ miles W. of Kháthi village, 4 miles N. of Lodh on the Dwárahát road and $4\frac{1}{2}$ miles N.N.E. of Bhataur on the Gagus river. Observed in 1867-68. ( <i>Bárámandal, Kumaun</i> ).                                                               | 29 50 52.15 | 79 31 19.04               | 9050                                | ...                            | 2      | ...                                                 | 785                          |
| Gorkhagarhi                             | h.s. On a hill in Borákirau <i>patti</i> , $1\frac{1}{2}$ miles E. by N. of Tálgaon or Sinkhola, $1\frac{1}{2}$ miles S. of Karkeshwar temple on the road to Bhágsar and 2 miles E.N.E. of the Kosi. Observed in 1868. ( <i>Bárámandal, Kumaun</i> ).                                                                                                                        | 29 46 21.13 | 79 39 56.33               | 6845                                | ...                            | 2      | ...                                                 | 871, 872                     |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                     |                              |
| Gujarkot-ki-garh                        | h.s. On a hill so called on the boundary of Pali-Pachau and Kotah <i>parganas</i> , $\frac{1}{2}$ mile N. of Talar village, $\frac{1}{4}$ mile S. of the Rámnnagar-Masi road, 1 mile S.E. of Dangura and $1\frac{1}{2}$ miles S. of the Rámnganga river. Observed in 1868. ( <i>Pali-Pachau and Kotah, Kumaun</i> ).     | 29 34 39.65 | 79 9 55.49                | 5212                                | ...                        | 2      | Feet<br>...                                         | 619                          |
| Gujarugarh                              | h.s. On the boundary of Gujara and Khatli <i>pattis</i> , $2\frac{1}{2}$ miles S. by E. of Thakulsári, 2 miles N. by E. of Kinath and $3\frac{1}{4}$ miles E. of the high road from Pauri to Rámnnagar. Observed in 1865-66. ( <i>Malla Salán, Garhwál</i> ).                                                            | 29 46 53.03 | 79 5 23.91                | 7970                                | ...                        | 2      | ...                                                 | 455                          |
| Gugináth                                | h.s. On a hill in Pahárkotah <i>patti</i> , 2 miles S.E. from the Kesi river and the road from Rámnnagar to Almora, $2\frac{1}{2}$ miles N. of Laiti, 4 miles N.N.W. of Bamangon and 3 miles E. by S. of Okaldunga on the high road to Rámnnagar. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                            | 29 30 12.11 | 79 15 4.51                | 5941                                | ...                        | 2      | ...                                                 | 621                          |
| Gurana                                  | h.s. On a hill 2 miles S.W. of Halkána on the road to Askot, $3\frac{1}{4}$ miles N.E. of the Budhergadhi stream at its junction with the Sarju river and $5\frac{1}{2}$ miles E.S.E. of Bagesar in Kamsher <i>patti</i> . Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                 | 29 48 28.04 | 79 51 51.59               | 6306                                | ...                        | 2      | ...                                                 | 792                          |
| Gurudeodhura                            | h.s. On a hill of the range called Deognra-kandla which divides Bisjla and Mallirao <i>pattis</i> , $1\frac{1}{2}$ miles E. of Tusrar village, $2\frac{1}{2}$ miles S.W. of Sunkota, $1\frac{1}{4}$ miles W. of Kukna and $2\frac{1}{4}$ miles N. of Pashian village. Observed in 1871-72. ( <i>Dhianirau, Kumaun</i> ). | 29 20 9.80  | 79 47 42.31               | 7547                                | ...                        | 4      | ...                                                 | 648                          |
| Gwaldekot                               | h.s. On a hill so called in Sálam <i>patti</i> , $\frac{1}{4}$ mile S. of Pharkwal Dúngara, $\frac{1}{4}$ mile N.N.W. of Kharkotah, $1\frac{1}{2}$ miles S.E. of Saagar and $1\frac{1}{4}$ miles E. of Bangrauli. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                       | 29 31 17.14 | 79 48 54.33               | 5138                                | ...                        | 2      | ...                                                 | 859,<br>860                  |
| Hagdau                                  | h.s. In Talla Dánpur <i>patti</i> , $\frac{1}{2}$ mile N. of Jarti, 1 mile W.N.W. of Popoli, 1 mile S. by E. of Gádera and $2\frac{1}{2}$ miles S.E. of Asaan on the Sarju river. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                                                                           | 29 54 45.38 | 79 55 28.61               | 7084                                | ...                        | 5      | ...                                                 | 791                          |
| Haldwáni                                | s. On a house in the centre of the <i>bázár</i> of the Haldwáni town at the crossing of the Bareilly-Naini Tal and the Káldhungi-Barmdeo roads. Observed in 1868. ( <i>Chhakháta, Kumaun</i> ).                                                                                                                          | 29 12 48.10 | 79 31 50.07               | 1426                                | ...                        | 2      | ...                                                 | 716,<br>717                  |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| Haldwani                                | t.s. On flat ground 1 mile W. by S. of Haldwani town, 1 mile E. of Mukhant village and $\frac{1}{2}$ mile S. of the road to Kaladhungi. Observed in 1868. ( <i>Chhakhata, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 29 12 35.67 | 79 30 58.12               | 1387                                | ...                        | 1      | Feet ...                                            | 713                          |
| Harchan                                 | h.s. On a hill so named in Chhakhata <i>patti</i> , $\frac{1}{4}$ mile S.W. of the road to Naini Tal, $\frac{1}{4}$ mile W. of Bhagatura village, $\frac{1}{4}$ miles S.S.E. of Bhuwali and 1 mile N. of the Sikh Tal. Observed in 1808. ( <i>Chhakhata, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 29 22 0.81  | 79 31 47.36               | 5834                                | ...                        | 3      | ... ..                                              | 736, 737                     |
| Hawalbagh Visitor's Bungalow            | Centre of N. chimney, near Hawalbagh, about 5 miles N. of Almora. Observed in 1865-66. ( <i>Baramandal, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 29 38 45    | 79 38 16                  | ...                                 | ...                        | ...    | ... ..                                              | ...                          |
| Hurum                                   | h.s. On the eastern boundary of Kamsher <i>patti</i> , $1\frac{1}{2}$ miles S. by W. of Seri, $1\frac{1}{2}$ miles E. by N. of Pokhri, $2\frac{1}{2}$ miles N.E. of Dafala or Dafala-Shera on the Bagesar-Askot road and 2 miles N.N.E. of the Sanudiar Bungalow on the same road. Observed in 1867-68. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29 50 2.08  | 79 57 2.97                | 6779                                | ...                        | 1      | ... ..                                              | 880, 881                     |
| Jagera                                  | h.s. On a hill, $\frac{1}{4}$ mile W. of Nanniakhet, $\frac{1}{2}$ mile E. by S. of Udvara, $1\frac{1}{2}$ miles E. of road to Pauri and 1 mile W.N.W. of Konnla in Bijot Palla <i>patti</i> . Observed in 1865-66. ( <i>Talla Salan, Garhwál</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 29 42 6.46  | 79 1 43.64                | ...                                 | ...                        | ...    | ... ..                                              | 588, 589                     |
| Jagesar                                 | H.S. Is distant about $1\frac{1}{2}$ miles from Panwanola where there is a bungalow; the road to Pithoragarh passes close under the station distant a few yards and about 1 mile S.E. of Jasir temple. The station was originally built as an auxiliary one of the North-East Longitudinal Series. When visited for the purposes of utilizing the station for secondary work it was found to consist of a platform without pillar. The station was marked by two mark-stones, but on referring the upper to the lower, it was found that it had deflected 1.5 inches in a north-west direction, the distance between two mark-stones being 28.8 inches; the platform was repaired and a paka pillar built 30 inches in height, besides retaining the old lower mark-stone, an intermediate one was let in 15 inches from top mark. Observed in 1842 and 1864-65. ( <i>Chaugarkha, Kumaun</i> ). | 29 39 4.96  | 79 52 8.75                | 7697                                | ...                        | 2      | ... ..                                              | 283                          |
| Jagesar Temple (old)                    | On the Almora-Pithoragarh road, 14 miles N.E. of Almora. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29 39 15    | 79 51 28                  | ...                                 | ...                        | ...    | ... ..                                              | ...                          |
| Jakari                                  | h.s. On the boundary of Talla Dánpur and Talla Katar <i>pattia</i> , 2 miles W. of Photing, $1\frac{1}{2}$ miles E. by S. of Jagtana and 4 miles N. of the Sarju river. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 29 58 25.65 | 79 50 5.99                | 7816                                | ...                        | 3      | ... ..                                              | 874, 875                     |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                             | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                         |              |                           |                                     | Position                   | Height |                                                     |                              |
| Jalkakot                                | h.s. On a hill on the S. of the road from Dwārahāt near the village of Palnra, 1 mile W. of the Someshwar temple and $\frac{1}{2}$ mile E. by S. of Diari village. Observed in 1867-68. ( <i>Bāramandal, Kumaun</i> ).                                                                                                                                                                  | 29 46 49' 76 | 79 35 36' 11              | 5197                                | ...                        | 2      | Feet<br>...                                         | 873                          |
| Jaorasi                                 | No. 1 h.s. On a ridge, 2 miles E. of the Binu river, 1 mile S. of Sangar, $\frac{1}{2}$ mile E. of Ghandala, 2 miles S.W. of the high road from Golana to Jhalon and 3 miles N.W. of the large village of Masi on the road from Chachroti to Dwārahāt. Observed in 1965-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                             | 29 51 31' 31 | 79 15 15' 66              | 6216                                | ...                        | 4      | ...                                                 | 464                          |
| Jaorasi                                 | No. 2 h.s. Close to Jaorasi No. 1 h.s. Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                                                                                                                                                                                                             | 29 51 33' 45 | 79 15 20' 27              | 6191                                | ...                        | 2      | ...                                                 | 504,<br>595                  |
| Jar Pathar                              | h.s. On a hill forming one of the ranges marking the boundary between Dhaniakot and Pabārkotah <i>pattis</i> , $\frac{3}{4}$ mile west of the Naini Tāl Lake. $\frac{1}{2}$ mile S.W. of the main road from Kāladhungi and $\frac{3}{4}$ mile S. of the Naini Tāl church. Observed in 1872. ( <i>Kotah, Kumaun</i> ).                                                                   | 29 23 2' 02  | 79 26 52' 41              | 7716                                | ...                        | 1      | ...                                                 | 738,<br>739                  |
| Jauns                                   | h.s. On the boundary of Badhan and Dānpur <i>parganas</i> adjoining the village of Jauns; $\frac{1}{2}$ mile N.E. of the Gmūti river, 2 miles E.S.E. of Majkot or Manjot and $1\frac{1}{2}$ miles N.N.W. of Megri. Observed in 1867-68. ( <i>Dānpur and Badhan, Kumaun and Garhwāl</i> ).                                                                                               | 29 58 9' 77  | 79 33 0' 59               | 5711                                | ...                        | 2      | ...                                                 | 892,<br>893                  |
| Jiblikhāl                               | h.s. On a hill of that name, $\frac{1}{2}$ mile W. by S. of Domaila, $\frac{3}{4}$ mile W. of the high road to Rānūngar, 1 mile N.W. of Sisayi and a little over $\frac{1}{2}$ mile E. of the Sani or Eastern Nasar river. Observed in 1864-65. ( <i>Talla Salān, Garhwāl</i> ).                                                                                                        | 29 50 25' 16 | 79 1 13' 99               | 5664                                | ...                        | 1      | ...                                                 | 563,<br>564                  |
| Jogi-ka-dānda                           | h.s. On a hill so called on the boundary of Bijlot Palla and Bonji <i>pattis</i> , $1\frac{1}{2}$ miles W. of Jarda village on the Hingwa river, 2 miles W. of the road to Pauri, $1\frac{1}{2}$ miles S. of Kapultanda and $1\frac{1}{2}$ miles E. by N. of Magsūn. Observed in 1865-66. ( <i>Talla Salān, Garhwāl</i> ).                                                              | 29 39 51' 32 | 79 2 52' 50               | 6020                                | ...                        | 4      | ...                                                 | 454                          |
| Kailakhur                               | h.s. At the western edge of a flat hill so named, $\frac{1}{2}$ mile E. of the Kichali <i>nadi</i> , $1\frac{1}{2}$ miles N.W. of the Dabka <i>nadi</i> , $1\frac{1}{2}$ miles S. of the Sira Bani Temple, $2\frac{1}{2}$ miles N.N.W. of Pāvālgarh village and $2\frac{1}{2}$ miles N.N.E. of Kirion village in Dhābarkotah <i>patti</i> . Observed in 1867. ( <i>Kotah, Kumaun</i> ). | 29 23 9' 81  | 79 13 14' 50              | 2399                                | ...                        | 2      | ...                                                 | 631                          |
| Kāladhungi                              | h.s. On the main road close N. of Kāladhungi in the Kotah Dūn. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                                                                                                              | 29 17 5' 35  | 79 20 59' 25              | 1296                                | ...                        | 4      | ...                                                 | 723,<br>724                  |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kalaunkot                               | h.s. $\frac{1}{2}$ mile N. of the Shnāl river, $\frac{3}{4}$ mile S. of the Almora-Pithoragarh road and 3 miles E.N.E. of the town of Almora. Observed in 1867. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                               | 29 36 34.80 | 79 42 34.90               | 5403                                | ...                        | 2      | Feet<br>...                                         | 709,<br>710                  |
| Kāliadhura                              | h.s. A plain mark-stone on the top of a thickly wooded hill and at the trijunction of the <i>pattis</i> of Chaugarh, Bisjola and Talliran, $1\frac{1}{4}$ miles S.E. of Kawa-udiar, 2 miles N.W. of Maura and 2 miles E. of Matiala. It has a commanding view down the valley that runs towards Haldwāni. Observed in 1871-72. ( <i>Dhianirau and Kāli Kumaun, Kumaun</i> ). | 29 17 5.30  | 79 49 30.03               | 7013                                | ...                        | 3      | ...                                                 | 788                          |
| Kalikhān                                | h.s. On a spur $\frac{1}{2}$ mile to the east of the S. end of the Naini Tāl Lake, 1 mile N. of Sharābati village and $1\frac{1}{4}$ miles N.W. of Kuria village. Observed in 1871-72. ( <i>Chhakhāta, Kumaun</i> ).                                                                                                                                                         | 29 22 46.38 | 79 28 18.50               | 6960                                | ...                        | 1      | ...                                                 | 740,<br>741                  |
| Kālimat                                 | No. 1 h.s. On the road to Almora, $1\frac{1}{2}$ miles E. of Hawalbāgh and $\frac{3}{4}$ mile N.E. of Kūtgauli. Observed in 1866. ( <i>Bārāmandal, Kumaun</i> ).                                                                                                                                                                                                             | 29 38 32.23 | 79 39 46.11               | 6412                                | ...                        | 4      | ...                                                 | 608                          |
| Kālimat                                 | No. 2 h.s. Close S.E. of the village of Hawalbāgh, on the road to Almora, 1 mile E. of the confluence of the Kosi and the Nann Kosi rivers; $\frac{1}{4}$ mile N.W. of Kūtgauli and $1\frac{1}{4}$ miles S. of Pakhūra. Observed in 1866. ( <i>Bārāmandal, Kumaun</i> ).                                                                                                     | 29 38 24.52 | 79 38 42.10               | ...                                 | ...                        | ...    | ...                                                 | 902,<br>909                  |
| Kālimat                                 | No. 3 h.s. $\frac{1}{4}$ mile W. by S. of Kālimat No. 2. h.s. Observed in 1866. ( <i>Bārāmandal, Kumaun</i> ).                                                                                                                                                                                                                                                               | 29 38 20.36 | 79 38 23.23               | ...                                 | ...                        | ...    | ...                                                 | 904,<br>905                  |
| Kallagi                                 | h.s. On a hill so named, $\frac{1}{4}$ mile N.E. of the Kāladhugi-Barmdeo road, $2\frac{1}{4}$ miles E.N.E. of Talla Chorgulia village and 3 miles N.E. of Mukhani village. Observed in 1872. ( <i>Chhakhāta and Dhianirau Bhabar, Kumaun</i> ).                                                                                                                             | 29 6 24.60  | 79 44 15.71               | 1815                                | ...                        | 2      | ...                                                 | 825                          |
| Kalwār                                  | h.s. On a hill so named, $1\frac{1}{2}$ miles S.W. of Simalkha village on the Kosi river, 3 miles S. by E. of Unchākot and $2\frac{1}{4}$ miles W. by N. of Dhaniakot. Observed in 1867. ( <i>Dhaniakot, Kumaun</i> ).                                                                                                                                                       | 29 30 7.79  | 79 24 11.21               | 6673                                | ...                        | 3      | ...                                                 | 698,<br>694                  |
| Kandi                                   | h.s. On a hill of that name in Athgaon <i>patti</i> , $2\frac{1}{4}$ miles N. of the road from Pithoragarh to Almora, $1\frac{1}{4}$ miles W.N.W. of Agar, $\frac{1}{4}$ mile S. of Nakot village and 1 mile S.E. of Nandoli. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                                                                  | 29 41 6.71  | 79 58 18.74               | 5354                                | ...                        | 1      | ...                                                 | 1068,<br>1064                |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kanka                                   | h.s. On the hill of that name on the boundary of Mallidoti and Dharaphat <i>pattis</i> , 1½ miles N.E. of the Kosi river and the road to Almora, 1 mile S.E. of Manári, 1¼ miles N.N.W. of Balek and 2 miles N. by E. of Ratora village. Observed in 1867. ( <i>Phaldakot, Kumaun</i> ).                        | 29 34 41.79 | 79 24 50.42               | 6468                                | ...                        | 2      | Feet<br>...                                         | 616                          |
| Kanokhál                                | h.s. This station is about 120 feet to the left of the road from Kainur to Almora <i>via</i> Bangdhár and about 70 feet above the road. The station is visible from both Kainur and Bangdhár Dák Bungalows. Observed in 1865-66. ( <i>Chánpur, Garhwál</i> ).                                                   | 29 59 19.21 | 79 6 32.44                | 7752                                | ...                        | 1      | ...                                                 | 573,<br>574                  |
| Kapoli                                  | h.s. In Talla Dora <i>patti</i> , ¼ mile W. by S. of Dhamern, 1 mile S.S.E. of Nayal and 4½ miles S. of Kaduarai on the high road to Almora. Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                               | 29 45 7.95  | 79 18 16.11               | 5351                                | ...                        | 2      | ...                                                 | 400                          |
| Katbhairon-ki-dhang                     | h.s. On a hill so named in Bhabarkotah <i>patti</i> , 1½ miles N.N.E. of Dbela village, on the road to Kotdwára and 3 miles N.W. of Sawaldá. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                        | 29 26 3.38  | 79 1 27.05                | 2162                                | ...                        | 1      | ...                                                 | 682,<br>683                  |
| Katiadánda                              | h.s. One of the highest points on the Almora-Pithoragarh road, 6¼ miles W. of Naini Bungalow, ¼ mile N. of a group of huts at the head of the Alaknanda river and 1¼ miles N.E. of Panwanola Bungalow. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                         | 29 39 23.38 | 79 50 13.87               | 7631                                | ...                        | 2      | ...                                                 | 895,<br>896                  |
| Kaualek                                 | h.s. On a hill of that name on the S. boundary of Talla Palbilon <i>patti</i> , 3¼ miles S. by E. of Dhajeli village and 1¼ miles W. by S. of Airideo temple. Observed in 1871-72. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                              | 29 7 31.21  | 79 57 30.28               | 3795                                | ...                        | 2      | ...                                                 | 774                          |
| Kausani                                 | h.s. On a hill on the boundary between Dánpur and Bárámandal <i>parganas</i> , close to the tea factory and garden of Kausani, about ¼ mile W. of the road to Karnprayág and ¼ mile S.W. of Balna Tea Garden. Observed in 1868. ( <i>Dánpur and Bárámandal, Kumaun</i> ).                                       | 29 50 52.24 | 79 35 45.05               | ...                                 | ...                        | ...    | ...                                                 | 796                          |
| Khamari-ka-dánda                        | h.s. On a hill so named in Pahárkotah <i>patti</i> , just W. of the road from Káladhungi to Naini Tál and about 2¼ miles N.K. of the Káladhungi Dák Bungalow, 2¼ miles W. of Dhapiá village, 3¼ miles S.E. of Haldu Bujia and 2¼ miles N. by E. of Káladhungi town. Observed in 1868. ( <i>Kotah, Kumaun</i> ). | 29 19 21.43 | 79 22 4.05                | 3222                                | ...                        | 5      | ...                                                 | 721,<br>722                  |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point |              | Description                                                                                                                                                                                                                                                             | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |              |                                                                                                                                                                                                                                                                         |               |                           |                                     | Position                   | Height |                                                     |                              |
| Khamlekgarhi                            | h.s.         | On the Kumaun-Garhwál boundary at the junction of Likhora Chaukot and Chaukot <i>pattis</i> ; 2 miles W. by S. of Nail, 2 miles S.S.W. of Pachpola and 5½ miles W. by S. of Chachroti. Observed in 1865-66. ( <i>Pali-Pachau and Malla Salán, Kumaun and Garhwál</i> ). | 29 47 3' 90"  | 79 7 42' 54"              | 7153                                | ...                        | 2      | Feet<br>...                                         | 456                          |
| Khatlidevitonk No. 1                    | h.s.         | On a range forming the boundary between Iriakot and Khatli <i>pattis</i> ; 2 miles S.S.W. of Kolari, ¼ mile N.W. of the high road to Afzalgarh, 2½ miles N.W. of Kuchár and 2½ miles S.S.E. of Tápá. Observed in 1864-65. ( <i>Malla Salán, Garhwál</i> ).              | 29 47 27' 62" | 79 0 51' 07"              | 8272                                | ...                        | 2      | ...                                                 | 452                          |
| Khatlidevitonk No. 2                    | h.s.         | About 60 feet S.W. of Khatlidevitonk No. 1 h.s. Observed in 1865-66. ( <i>Malla Salán, Garhwál</i> ).                                                                                                                                                                   | 29 47 27' 10" | 79 0 50' 49"              | 8272                                | ...                        | 1      | ...                                                 | 586,<br>587                  |
| Khatsari                                | h.s.         | On the western slope of a hill, ¼ mile E. of Dolari village on the road from Karnprayág to Almora, ¼ mile N. of Ukheti on the Rámanga river and 1½ miles S. by E. of Jámana in Gíwar <i>patti</i> . Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                | 29 53 37' 67" | 79 22 21' 96"             | 4532                                | ...                        | 1      | ...                                                 | 598                          |
| Khobra                                  | s.           | On the Rohilkhand-Kumaun boundary less than ¼ mile N.W. from the Barakhara road and ½ mile S.E. of Khobra Chaur from which the station takes its name. Observed in 1872. ( <i>Rohilkhand and Kumaun</i> ).                                                              | 29 8 2' 19"   | 79 18 54' 50"             | 778                                 | ...                        | 1      | ...                                                 | 757                          |
| Kokru-ka-dánda                          | h.s.         | On a hill so named, 1 mile W. of the Sarju river and the road to Bagesar from which place it is 2 miles N. by W., 1 mile E. by N. of the Gumti river and the road to Baijnáth. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                             | 29 52 3' 86"  | 79 45 45' 74"             | 5518                                | ...                        | 2      | ...                                                 | 790                          |
| Komalt                                  | h.s.         | On a hill so named in Malla Dora <i>patti</i> , ¼ mile S.W. of Asgoi, 1¼ miles N. of Chamni village and ½ mile E. of Paithani. Observed in 1865-66. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                     | 29 43 37' 00" | 79 23 25' 19"             | 4960                                | ...                        | 2      | ...                                                 | 600,<br>601                  |
| Kotah                                   | s.           | On a flat plain ½ mile W. by S. of Pipalchaur, ¼ mile S.E. of Naodha, ¼ mile N.N.W. of Kálianpur and 1 mile W.N.W. of Pathalin: all in the Kotah Dán. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                       | 29 22 43' 38" | 79 17 46' 45"             | 1944                                | ...                        | 1      | ...                                                 | 780,<br>781                  |
| Kotula                                  | Temple (new) | Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                        | 29 38 11      | 79 49 50                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |



## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kuria                                   | s. Near the village of that name, $\frac{1}{4}$ mile S.E. of the branch road to Pipalpokra chanki, $\frac{1}{4}$ miles S.S.W. of the main road from Káladhungi to Haldwáni, $\frac{1}{4}$ mile N.N.W. of Naudpur and $\frac{1}{4}$ mile S.E. of Patili. Observed in 1872. ( <i>Kotah, Kumaun</i> ).                                              | 29 13 49.61 | 79 26 43.65               | 1083                                | ...                        | 2      | Feet<br>...                                         | 752                          |
| Ládháundhura                            | h.s. On a hill of that name on the south boundary of Sibti <i>patti</i> , $1\frac{1}{2}$ miles S.W. of the Knirala <i>nadi</i> . Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                               | 29 15 54.72 | 79 58 33.48               | 7100                                | ...                        | 2      | ...                                                 | 841                          |
| Láldhár                                 | h.s. On a hill so named in Bhabarkotah <i>patti</i> , 1 mile E. of the Sawalde stream, $1\frac{1}{2}$ miles N. of the road from Kotlwára to Rámnagar, $\frac{3}{4}$ mile E. by S. of Ghati-ka-Chaur village, $2\frac{1}{2}$ miles N.E. by E. of Sawalde and $2\frac{1}{2}$ miles W.N.W. of Rámnagar. Observed in 1868. ( <i>Kotah, Kumaun</i> ). | 29 24 52.65 | 79 5 27.26                | 1861                                | ...                        | 2      | ...                                                 | 626                          |
| Lambichaur                              | s. Adjoining the village of that name, $\frac{3}{4}$ mile N.W. of the road to Haldwáni, $\frac{1}{4}$ mile E. of the Bhakra <i>nadi</i> and 1 mile S.W. of Dewa-ka-bangar village. Observed in 1872. ( <i>Kotah, Kumaun</i> ).                                                                                                                   | 29 13 12.75 | 79 24 47.78               | 1035                                | ...                        | 1      | ...                                                 | 753                          |
| Lamdhár                                 | h.s. On a hill so named, $\frac{3}{4}$ mile S.E. of the road to Ránikhet, 1 mile S. by W. of Malla Ráui village on the above road, $1\frac{1}{2}$ miles N.W. of Waroli and $3\frac{1}{2}$ miles N.N.W. of Simoli village. Observed in 1867. ( <i>Báramandal, Kumaun</i> ).                                                                       | 29 39 45.02 | 79 29 53.49               | 6360                                | ...                        | 4      | ...                                                 | 607                          |
| Lobchula                                | h.s. On a hill of that name on the boundary of Dhianirau and Dhianiran Bhabar <i>pargana</i> , 1 mile S. of Doba village, $2\frac{1}{2}$ miles E. by S. of Am and 1 mile S.E. of Lohakhau temple. Observed in 1871-72. ( <i>Dhianirau and Dhianiran Bhabar, Kumaun</i> ).                                                                        | 29 11 35.67 | 79 47 7.30                | 5897                                | ...                        | 2      | ...                                                 | 770                          |
| Luriakanta                              | h.s. Consists of a plain mark-stone situated on the summit of a very rocky precipitous peak, on the ridge running nearly east and west from Naini Tál; it is to the east of Naini Tál and about 3 or 4 miles off. Observed in 1867-68 and 1871-72. ( <i>Dhaniakot and Chakháta, Kumaun</i> ).                                                    | 29 23 52.60 | 79 28 39.44               | 8141                                | ...                        | 4      | ...                                                 | 656                          |
| Macháli                                 | h.s. On a hill of that name S.W. of the village of Talla Khanda, $1\frac{1}{4}$ miles N.N.W. of Ramak and 1 mile S.E. of Pajena village. Observed in 1869. ( <i>Dhianirau, Kumaun</i> ).                                                                                                                                                         | 29 21 21.25 | 79 52 51.48               | 5599                                | ...                        | 2      | ...                                                 | 842,<br>843                  |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Madan Bhir No. 1 h.s.                   | At the S.W. corner of a hill so named, 1 mile N. of the high road to Rám Nagar, $\frac{1}{2}$ mile E. of the Karara Gadh stream, 1 mile W. of Dhuni Gadh stream, 1 mile N. of Kamola village and 3 miles W. by N. of Káladhungi. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                               | 29 17 47.35 | 79 18 55.50               | 1647                                | ...                        | 3      | Feet ...                                            | 693                          |
| Madan Bhir No. 2 h.s.                   | At the S.W. edge of a hill so named in Bhabarkotah <i>patti</i> , 1 mile N.E. by E. of the village of Madan Bhel, 1 mile N. of the high road from Káladhungi to Rám Nagar. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                     | 29 18 27.42 | 79 16 11.06               | 1794                                | ...                        | 1      | ... ..                                              | 725, 726                     |
| Magru-ka-dánda h.s.                     | On a hill in Malla Katur <i>patti</i> , $\frac{1}{2}$ miles W. of the Labor river, 3 miles N.E. of the Gumti river and the road to Bágesar and $\frac{1}{2}$ miles E.S.E. of Ajúla village. Observed in 1867. ( <i>Dánpur, Kumaun</i> ).                                                                                   | 29 55 23.81 | 79 42 11.94               | 6295                                | ...                        | 2      | ... ..                                              | 787                          |
| Mahargaon h.s.                          | On a hill in Chankot <i>patti</i> , $\frac{1}{2}$ mile W. of the village of that name, $\frac{1}{2}$ mile S. of Ghagati and 2 $\frac{1}{2}$ miles W. by S. of the large village of Golana on the high road to Rám Nagar, running along the Binai river. Observed in 1865-66. ( <i>Pali Pachau, Kumaun</i> ).               | 29 53 45.71 | 79 11 18.46               | 5506                                | ...                        | 2      | ... ..                                              | 565, 566                     |
| Mahárudra h.s.                          | On a hill so named forming the trijunction of Talliran, Talla Palbilan and Changarh <i>pattis</i> , $\frac{1}{2}$ miles W. of Tánd, $\frac{1}{2}$ miles S. of Machiad, $\frac{1}{2}$ miles E.S.E. of Salak and 2 $\frac{1}{2}$ miles N.N.E. of Bethlar. Observed in 1871-72. ( <i>Dhianirau and Káli Kumaun, Kumaun</i> ). | 29 12 47.97 | 79 55 43.07               | 6134                                | ...                        | 2      | ... ..                                              | 773                          |
| Maláni h.s.                             | On a hill in Bhabarkotah <i>patti</i> , 2 $\frac{1}{2}$ miles S. of the road from Rám Nagar to Patli Dún and 5 $\frac{1}{2}$ miles W.S.W. of Chakman village on the left bank of the Kosi river. Observed in 1867. ( <i>Kotah, Kumaun</i> ).                                                                               | 29 30 14.14 | 79 1 20.70                | 2851                                | ...                        | 2      | ... ..                                              | 684                          |
| Manbhoderi h.s.                         | On the highest point of a group of hills between the Rám ganga river and Kharogadh stream, $\frac{1}{2}$ miles N.E. of Nangaon on the road to Almora, 2 miles S. of Tergaon and 1 $\frac{1}{2}$ miles E. of Chhani. Observed in 1865-66. ( <i>Pali Pachau, Kumaun</i> ).                                                   | 29 51 7.49  | 79 24 37.44               | 6933                                | ...                        | 2      | ... ..                                              | 463                          |
| Mandhla h.s.                            | On a hill so called in Nayán <i>patti</i> , $\frac{1}{2}$ mile N.E. of Dadholi, 2 $\frac{1}{2}$ miles W. of Masholi on the Rám ganga river and near the road to Masi. Observed in 1865-66. ( <i>Pali Pachau, Kumaun</i> ).                                                                                                 | 29 44 53.24 | 79 11 53.28               | 6215                                | ...                        | 2      | ... ..                                              | 458                          |
| Manura h.s.                             | A plain mark-stone on a ridge that runs down towards the plains to the west of Naini Tál Lake. Observed in 1871-72. ( <i>Chakháta, Kumaun</i> ).                                                                                                                                                                           | 29 21 30.87 | 79 27 33.96               | 6401                                | ...                        | 6      | ... ..                                              | 655                          |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| Mattan Chena                            | h.s. On a rocky cliff $\frac{1}{2}$ mile N.E. of Chanoli, $1\frac{1}{2}$ miles N. of the Gumti river and $2\frac{1}{4}$ miles E.N.E. of Haijnáth Temple at the crossing of the roads from Karnprayág and Bagesar; in Malla Katur <i>patti</i> . Observed in 1866. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                          | 29 55 10.74 | 79 39 25.55               | ...                                 | ...                        | ...    | Feet<br>...                                         | 806                          |
| Motiana                                 | h.s. On a hill on the boundary between Chaugarkha and Baramandál <i>parganas</i> , 1 mile S.S.E. of the road to Bagesar, $\frac{1}{4}$ mile S.E. of Matona village and $\frac{1}{2}$ mile N. of Balt. Observed in 1867. ( <i>Chaugarkha and Baramandal, Kumaun</i> ).                                                                                                                                                                                                                                                                                                 | 29 38 38.32 | 79 41 40.26               | 5838                                | ...                        | 2      | ...                                                 | 711                          |
| Motiopathar                             | h.s. Consists of a plain mark-stone situated on the top of a round hill, the summit of which is bare, the sides of the hill are thickly wooded but not so as to impair the view, except to the east where a wooded ridge at about a mile from the station prevents observations being taken beyond in that direction. The ridge on which the station is situated runs about east and west. There is a very good foot-path within 100 yards or so of the station that leads from Deodhara to Bhim Tál. Observed in 1871-72. ( <i>Mehruri and Chaugarkha, Kumaun</i> ). | 29 27 35.14 | 79 44 23.39               | 7535                                | ...                        | 4      | ...                                                 | 644                          |
| Muktisar                                | h.s. A plain mark-stone situated on a prominent rocky peak which overlooks the Rángarh valley: the hill is thickly wooded, but on the south and west it is a steep precipice. There is a stone house or old temple close to the mark-stone a portion of which it was necessary to pull down before the theodolite could be used. Observed in 1871-72. ( <i>Rángarh and Mehruri, Kumaun</i> ).                                                                                                                                                                         | 29 28 29.50 | 79 38 46.48               | 7699                                | ...                        | 2      | ...                                                 | 645                          |
| Mulákot                                 | h.s. On a hill so named in Chálsi <i>patti</i> , 1 mile S. by W. of Punauli, $\frac{1}{4}$ mile W. of Charri and $\frac{1}{2}$ mile E. by N. of the village from which it is named. Observed in 1868. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                 | 29 26 50.21 | 79 56 16.58               | 5331                                | ...                        | 2      | ...                                                 | 764                          |
| Muttrapuri                              | h.s. On a high flat-topped hill on the boundary of Salem and Lakhnapur <i>pattis</i> , $1\frac{1}{4}$ miles S.E. of Naugon and 2 miles W. of Palauli. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                | 29 33 18.56 | 79 49 34.77               | 6896                                | ...                        | 2      | ...                                                 | 762                          |
| Naini Dák Bungalow                      | Chimney to south eastern end of roof. On the Almora-Pithoragarh road, about 16 miles E. of Almora. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                   | 29 39 12    | 79 55 41                  | 5161                                | ...                        | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point |            | Description                                                                                                                                                                                                                                           | Latitude N. | Longitude E of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |            |                                                                                                                                                                                                                                                       |             |                          |                                     | Position                   | Height |                                                     |                               |
| Naini Tál Lake                          | h.s.       | The mark-stone is 1 foot 4 inches above the water level to the west of the south end of the lake and about 40 paces along the road from the nearest house in the bázár. Observed in 1873-74. ( <i>Chhakháta, Kumaun</i> ).                            | 29 22 48·88 | 79 27 51·67              | 6346                                | ...                        | 2      | Feet ...                                            | 746                           |
| Nandatopa                               | h.s.       | On the range separating Chándpur and Malla Salán <i>parganas</i> , 1½ miles S. of the high road from Kainur to Bangdhar, 2 miles E.N.E. of Thapla and 1½ miles N. of Khayatoli. Observed in 1865-66. ( <i>Malla Salán and Chándpur, Garhwál</i> ).    | 29 57 54·18 | 79 6 15·38               | 8086                                | ...                        | 2      | ...                                                 | 471                           |
| Naokna Boundary Pillar                  |            | In the neighbourhood of Airtoli Tea Factory. Observed in 1866-66. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                          | 29 54 49    | 79 37 50                 | ...                                 | ...                        | ...    | ...                                                 | ...                           |
| Narsing-ka-dánda                        | h.s.       | On a hill so named on the boundary of Asi and Sibti <i>pattis</i> , 2 miles N.N.E. of Chaura village, 1 mile S.S.E. of Tapuipal and 2 miles S.W. of the road from Almora to Champáwat. Observed in 1869. ( <i>Kábi Kumaun, Kumaun</i> ).              | 29 20 57·63 | 79 59 24·03              | 6893                                | ...                        | 1      | ...                                                 | 789                           |
| Naugaon                                 | No. 2 h.s. | At the S. end of a hill lying 1½ miles N.E. of Luchampur on the road from Káldhungi to Barmdeo. Observed in 1872. ( <i>Chhakháta and Dhanirau, Kumaun</i> ).                                                                                          | 29 11 57·35 | 79 36 32·29              | 2255                                | ...                        | 1      | ...                                                 | 823                           |
| Nisania                                 | h.s.       | On a range forming the boundary between Kumaun and Garhwál, 1 mile S. of the Rámanga river, 2½ miles E.N.E. of Janania on the high road from Karnprayág to Almora. Observed in 1865-66. ( <i>Chándpur and Pali Pachau, Garhwál and Kumaun</i> ).      | 29 55 50·59 | 79 23 21·14              | 7071                                | ...                        | 3      | ...                                                 | 465                           |
| Olkúgri                                 | h.s.       | On a hill of that name on the boundary of the <i>pattis</i> of Kutauli Talli and Bichli Mehruri, ¼ mile E. of the road to Almora, ¼ mile N.E. of Bhunial village and 1½ miles N. of Simail. Observed in 1867. ( <i>Katauli and Mehruri, Kumaun</i> ). | 29 29 54·03 | 79 37 10·14              | 6554                                | ...                        | 2      | ...                                                 | 707, 708                      |
| Palikhet                                | h.s.       | On a hill so named on the boundary of Káhalasán and Silora <i>pattis</i> , 1½ miles N.W. of the road to Ránikhet. Observed in 1867. ( <i>Pali Pachau, Kumaun</i> ).                                                                                   | 29 36 56·40 | 79 20 6·61               | 6613                                | ...                        | 4      | ...                                                 | 461                           |
| Paniam                                  | No. 1 h.s. | On a hill so named on the southern boundary of Chhabbia Damola <i>patti</i> , ¾ mile N.W. of Ukaldunga village and 3 miles E. of the road to Naini Tál. Observed in 1871-72. ( <i>Dhanirau, Kumaun</i> ).                                             | 29 14 54·17 | 79 36 28·35              | 4359                                | ...                        | 2      | ...                                                 | 640                           |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                      |                              |
| Paniam No. 2 h.s.                       | Consists of a plain mark-stone on the top of a small hill close to the E. of Okaldungia village on the S.W. boundary of Chhabbis Dumola patti, 1½ miles W.N.W. of Badeth and 3¼ miles E of the road to Naini Tál. Observed in 1871-72. ( <i>Dhianirau, Kumaun</i> ).           | 29 14 17.40 | 79 37 9.63                | 4420                                | ...                        | 2      | ...                                                  | 747,<br>748                  |
| Pansu h.s.                              | On the boundary of Malla Tikhun and Talla Tikhun patti; 1 mile S.W. of the Nana Kosi river, 1 mile N.E. of Dasili village and ¾ mile S.E. of Garhwáli. Observed in 1867. ( <i>Báramandal, Kumaun</i> ).                                                                        | 29 38 16.86 | 79 35 25.92               | 5491                                | ...                        | 2      | ...                                                  | 701,<br>702                  |
| Panwanola Dák Bungalow                  | S.E. gable end of roof. A mile E. of Kotula Temple (new). Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                     | 29 38 35    | 79 48 48                  | 6487                                | ...                        | ...    | ...                                                  | ...                          |
| Pápi h.s.                               | On a hill in Talla Katur patti, ¾ mile W. of the Gumti river, 1 mile E. of Nala and 2¾ miles S.W. of Bágesar. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                                                                                                     | 29 51 13.10 | 79 43 55.40               | 4826                                | ...                        | 2      | ...                                                  | 886,<br>887                  |
| Parkot h.s.                             | On the boundary between Malla Katur and Talla Katur patti. 1½ miles W.S.W. of Nan on the Kundáguth stream and 1½ miles N. by W. of Pandrapáli on the Lahor river. Observed in 1867-68. ( <i>Dánpur, Kumaun</i> ).                                                              | 29 54 55.03 | 79 45 43.29               | 6436                                | ...                        | 1      | ...                                                  | 876,<br>877                  |
| Pathargarhi h.s.                        | On a hill so named on the range separating Kutaoli Talla and Rámgarh patti, 1½ miles W.N.W. of Luciani village, 2 miles S. of Bashgaon and 1½ miles N.E. of Dhanikot. The station consists of a plain mark-stone. Observed in 1871-72. ( <i>Kutaoli and Rámgarh, Kumaun</i> ). | 29 28 22.17 | 79 33 29.51               | 7532                                | ...                        | 2      | ...                                                  | 613                          |
| Páti h.s.                               | On a hill ¼ mile S.W. of the village of that name, ½ mile S. of the road to Lohaghat, ¼ mile N. by W. of Jerli village and 1½ miles E.N.E. of the large village of Garsári. Observed in 1869. ( <i>Káti Kumaun, Kumaun</i> ).                                                  | 29 24 4.49  | 79 56 4.03                | 5538                                | ...                        | 2      | ...                                                  | 850,<br>851                  |
| Patrání h.s.                            | On a hill of that name forming part of Chhakháta and Dhianirau Bhabur parganas, 1½ miles S. by W. of Patrání village. Observed in 1871-72. ( <i>Dhianirau Bhabar and Chhakháta, Kumaun</i> ).                                                                                  | 29 11 49.59 | 79 40 47.51               | 4764                                | ...                        | 2      | ...                                                  | 769                          |
| Pharka Dák Bungalow                     | Western end of the roof. Observed in 1869. ( <i>Káti Kumaun, Kumaun</i> ).                                                                                                                                                                                                     | 29 22 49    | 79 59 27                  | 5855                                | ...                        | ...    | ...                                                  | ...                          |
| Piniág h.s.                             | On a hill on the Dánpur-Gangoli pargana boundary, ¼ mile N. of the village of Deotoli, 1 mile S.S.E. of Jakhni and 2 miles W. by N. of Airári village. Observed in 1867-68. ( <i>Dánpur and Gangoli, Kumaun</i> ).                                                             | 29 51 9.86  | 79 58 28.71               | 7112                                | ...                        | 3      | ...                                                  | 878,<br>879                  |

DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in comparison of triangles | Reference of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|------------------------|
|                                         |                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                   |                        |
| Pinkot                                  | h.s. On a hill in Malla Dora <i>patti</i> , 1½ miles W. of the road from Ránikhet to Dwárahát, ¼ mile S.W. of Khairali, 1 mile E. by S. of Asgoi and 1½ miles N.W. of Darinad on the above road. Observed in 1867. ( <i>Pali-Pachau, Kumaun</i> ).                                  | 29 43 36·80 | 79 24 51·11               | 4772                                | ...                        | 5      | ...                                               | 462                    |
| Rámgarh Dák Bungalow                    | Observed in 1871-72. ( <i>Rámgarh, Kumaun</i> ).                                                                                                                                                                                                                                    | 29 26 8     | 79 33 13                  | ...                                 | ...                        | ...    | ...                                               | ...                    |
| Rámnagar                                | s. Just S. of the town of that name and ¼ mile N. by W. of Pachuli village in Bhabarkotah <i>patti</i> . Observed in 1870-71. ( <i>Kotah, Kumaun</i> ).                                                                                                                             | 29 23 33·79 | 79 7 41·12                | 1199                                | ...                        | 2      | ...                                               | 688                    |
| Rámpur                                  | s. On some flat ground 1½ miles S. by W. of Bamangan village in Kotah Dún, 2 miles N.E. of Sita Bani Temple and 3¼ miles N.W. of Ukali village. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                         | 29 25 36·85 | 79 15 23·59               | 2170                                | ...                        | 1      | ...                                               | 732, 739               |
| Ránikhet Dák Bungalow                   | Chimney on apex of roof to S.W. Observed in 1866. ( <i>Pali-Pachau, Kumaun</i> ).                                                                                                                                                                                                   | 29 38 33    | 79 25 44                  | 5984                                | ...                        | ...    | ...                                               | ...                    |
| Raonsil                                 | h.s. On a hill ¼ mile W. by S. of the village of that name in Chbakháta <i>patti</i> , 1½ miles W. of the Gola river, 2 miles N.E. of Sattanagarhi on the road to Naini Tál and ¼ mile N.W. of Gunalgona village. Observed in 1868. ( <i>Chbakháta, Kumaun</i> ).                   | 29 16 14·48 | 79 35 13·41               | 3834                                | ...                        | 2      | ...                                               | 714, 715               |
| Rariabunga                              | h.s. On a hill of that name in Talla Salán <i>patti</i> , 1 mile N.E. of the Sorphat Bungalow on the road from Lohughát to Almora, 1½ miles S.W. of Malla Bhatara village, 1½ miles W. of Belna village and 1¼ miles S. of Seipat. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ). | 29 27 28·44 | 79 48 5·94                | 6654                                | ...                        | 2      | ...                                               | 768                    |
| Rasalday                                | h.s. On a hill so named on the boundary of Kotah Dún and Pahárkotah <i>pattis</i> , 1¼ miles S.S.E. of the Almora-Rámnagar road and 2½ miles N.W. of Laiti village. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                     | 29 29 44·71 | 79 12 48·63               | 4019                                | ...                        | 4      | ...                                               | 689, 690               |
| Rhansua Devi Temple                     | E. gable end. Near Kajnoli, 12 miles by road from and N.W. of Búgesar, 4 miles S. of Kulán and 9 miles N. of Khairamrakot. Observed in 1865-66. ( <i>Rámgarh, Kumaun</i> ).                                                                                                         | 29 55 23    | 79 36 39                  | ...                                 | ...                        | ...    | ...                                               | ...                    |
| Rhiar                                   | h.s. On a hill of that name in Pahárkotah <i>patti</i> , 1 mile W. by N. of Dola village, 1¼ miles S.E. of Rhiar village and 2½ miles N.W. of Pansigam on the Dubka <i>nadi</i> . Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                       | 29 26 31·82 | 79 17 45·78               | 4834                                | ...                        | 3      | ...                                               | 682                    |

## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                               |              |                           |                                     | Position                   | Height |                                                     |                              |
| Ringoni                                 | h. s. On the high range forming the boundary between Chauhan and Loblu <i>pattis</i> , 2½ miles N. by E. of Dadoli, 2 miles W. N. W. of Rira and 4 miles N. E. of Bangdhar Dāk Bungulow on the Kainur-Almora road. Observed in 1865-66. ( <i>Chāndpur, Garhwāl</i> ).                                                                                                                         | 29 59 44' 74 | 79 13 28' 69              | 8141                                | ...                        | 2      | Feet<br>...                                         | 466                          |
| Rupdeo                                  | h. s. On a hill situated in Karaihi <i>patti</i> midway between two roads from Almora to Bāgesar, which run ¾ mile E. and W. of it, 4 miles S. of Bāgesar, 1¾ miles S. W. of the Surju river. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                | 29 46 47' 92 | 79 46 13' 90              | 5503                                | ...                        | 2      | ...                                                 | 882,<br>883                  |
| Saitaugarhi                             | h. s. On the Garhwāl and Kumaun boundary 1½ miles S. W. of Bhangalwari, 1½ miles S. of road to Pauri and 2¾ miles E. of the Kakrona village on the Sani or E. Nayar river. Observed in 1865-66. ( <i>Malla Salān and Pali-Pachau, Garhwāl and Kumaun</i> ).                                                                                                                                   | 29 52 21' 80 | 79 4 20' 71               | 7242                                | ...                        | 3      | ...                                                 | 470                          |
| Saonchālia, VI                          | ( <i>Vide page 9—L.</i> )                                                                                                                                                                                                                                                                                                                                                                     | 29 30 22' 91 | 79 19 7' 68               | 8501                                | ...                        | 3      | ...                                                 | 8,9                          |
| Sekadānda                               | h. s. A plain mark-stone on a prominent hill at the south end of the ridge in Chaubhainsi <i>patti</i> , ¾ mile E. S. E. of Maitoli village, 1½ miles N. E. of Nai and 1¾ miles W. by N. of Kujeti. Observed in 1871-72. ( <i>Dhanirau, Kumaun</i> ).                                                                                                                                         | 29 44 9' 41  | 79 45 10' 90              | 7195                                | ...                        | 2      | ...                                                 | 749,<br>750                  |
| Sera                                    | h. s. On a hill so named marking the trijunction of Kandar-Khuwa, Chaugau and Dhara-phat <i>pattis</i> , ¾ mile W. of Pajaina, 1 mile E. of the Naini Tāl road and 1½ miles W. of the Kosi river and the Almora-Naini Tāl road. Observed in 1867. ( <i>Phaldakot, Kumaun</i> ).                                                                                                               | 29 32 1' 25  | 79 30 2' 16               | 5573                                | ...                        | 3      | ...                                                 | 614                          |
| Seri                                    | h. s. On the range between the Kosi and Kuch-gadh rivers. Bulek hamlet is 2 miles N. W. on the same range and Bujan hamlet 3 miles S. E. near the junction of the above rivers, and close to the junction of the roads from Rāmnagar and Rānikhet to Naini Tāl. The large village of Simukha on the Kosi is 2½ miles S. S. W. of the station. Observed in 1867. ( <i>Phaldakot, Kumaun</i> ). | 29 32 40' 60 | 79 26 46' 01              | 6200                                | ...                        | 2      | ...                                                 | 695,<br>696                  |
| Sher-ka-dānda                           | h. s. East of the high road to Almora, ¼ mile N. E. of the Naini Tāl Lake, on the boundary of Chhakhāta and Dhauinokot <i>pattis</i> . Observed in 1871-72. ( <i>Dhaniakot and Chhakhāta, Kumaun</i> ).                                                                                                                                                                                       | 29 23 27' 62 | 79 28 12' 59              | 7864                                | ...                        | 1      | ...                                                 | 742,<br>743                  |

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                               |
| Shura                                   | h.s. On a hill so named on the boundary of Malla Tikhun and Talla Syúnara <i>pattis</i> , $\frac{1}{4}$ mile W.N.W. of Barsimi, $\frac{1}{4}$ mile N.N.E. of Madoun, $1\frac{1}{2}$ miles S.S.W. of Nainoula village and $1\frac{1}{2}$ miles W.N.W. of Itola on the Baijnáth road and the Kosi river. Observed in 1867. ( <i>Bárámandal, Kumaun</i> ).           | 29 40 10·83 | 79 36 44·75               | 5205                                | ...                        | 3      | ...                                                 | 705, 706                      |
| Siahi Devi                              | h.s. On a high hill so called in Talla Tikhun <i>patti</i> , 2 miles N. of the Kosi river, $2\frac{1}{2}$ miles S.W. of Dhamas village, 3 miles N.W. of Chaunsuli on the Almora road and $2\frac{1}{2}$ miles E. of Suri village. Observed in 1867. ( <i>Chaugarkha, Kumaun</i> ).                                                                                | 29 34 34·96 | 79 33 27·19               | 7184                                | ...                        | 4      | ...                                                 | 611                           |
| Sidh-ka-dhura                           | h.s. On a hill so named in Sibti <i>patti</i> , $\frac{3}{4}$ mile S. by W. of Chaura village, 1 mile N.W. of Kaimera village and 3 miles W. of the Barmdeo-Almora road. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                        | 29 18 54·49 | 79 58 2·03                | ...                                 | ...                        | ...    | ...                                                 | 854                           |
| Sidhon-ka-thán                          | h.s. On a hill so named 1 mile E. of Rámnagar in Bhábarkotah <i>patti</i> , $1\frac{1}{2}$ miles S. of Talla village, 1 mile N.N.E. of Malla Belghar and 1 mile E.N.E. of Pachuli on the road to Kotdwára. Observed in 1868 ( <i>Kotah, Kumaun</i> ).                                                                                                             | 29 23 23·95 | 79 8 49·04                | 1595                                | ...                        | 2      | ...                                                 | 686, 687                      |
| Sikurkot                                | h.s. On a high hill 2 miles E. by N. of Naugarh, $1\frac{1}{2}$ miles S. of Bamrári and about $5\frac{1}{2}$ miles W.N.W. of Bágesar. Observed in 1868. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                | 29 51 28·42 | 79 41 10·77               | 5948                                | ...                        | 2      | ...                                                 | 884, 885                      |
| Silabasila                              | h.s. On a hill so named in Bhábarkotah <i>patti</i> , $1\frac{1}{2}$ miles N. of Sawalde village on the Rámnagar-Kotdwára road and $1\frac{1}{2}$ miles N.W. of the Sawalde stream. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                   | 29 25 59·30 | 79 3 4·20                 | 2015                                | ...                        | 3      | ...                                                 | 637                           |
| Silingdhár                              | h.s. On the southern extremity of a spur just north of the Gumti river and the road to Bágesar, $\frac{1}{4}$ mile S. by W. of Chanoli village, $1\frac{1}{2}$ miles E. of Baijnáth Temple and 2 miles S.E. of Airtoli in Malla Katar <i>patti</i> . Observed in 1866. ( <i>Dánpur, Kumaun</i> ).                                                                 | 29 54 25·67 | 79 38 33·24               | ...                                 | ...                        | ...    | ...                                                 | 805                           |
| SimatkháI                               | h.s. Also called Karget. On a hill of that name in Shait <i>patti</i> , $\frac{1}{4}$ mile N. of the village of Karget, $\frac{1}{4}$ mile S.E. of Thala village, 1 mile W. of Dewail village, $2\frac{1}{2}$ miles E. by N. of the Rámnagar-Pauri road and $1\frac{1}{2}$ miles N. of the Rámnganga river. Observed in 1865-66. ( <i>Itali-Pachau, Kumaun</i> ). | 29 38 11·94 | 79 8 10·29                | 4717                                | ...                        | 2      | ...                                                 | 457                           |



## DEGREE SHEET No. 53 O, between Lats. 29° - 30° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                     |                              |
| Sonargarhi                              | h. s. Also called Sonargari h. s. On a hill of that name in Syánara Talla <i>patti</i> , $\frac{3}{4}$ mile N.E. of Sukar village on the left bank of the Kosi river, $\frac{3}{4}$ mile S.E. of Saganjyankot and $1\frac{1}{4}$ miles S.S.E. of Pokhari village. Observed in 1867. ( <i>Báramandal, Kumaun</i> ).                                                                                                                                                                                                                                                                                        | 29 41 58.16 | 79 39 15.34               | 5413                                | ...                        | 2      | Feet<br>...                                         | 703,<br>704                  |
| Sungarkhál                              | h. s. On a hill so named in Dolphat <i>patti</i> , $\frac{1}{2}$ mile N.W. of the road to Almora, $1\frac{1}{4}$ miles E.N.E. of Náda and 1 mile S.W. of Dol village and dák bungalow. Observed in 1868. ( <i>Mehruri, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                      | 29 29 14.17 | 79 44 57.00               | 7059                                | ...                        | 1      | ...                                                 | 857,<br>858                  |
| Sungarkot                               | H. s. Also called Rája Thán, situated in Boraro Palla <i>patti</i> , about $1\frac{1}{4}$ miles north of the village of Ajora from which place the ascent is best made. A few feet to the east of the station is a shrine. Water can be obtained from streams at a distance of about $\frac{1}{2}$ mile. The station is marked by a platform 14 feet square, surrounding an isolated paka pillar 36 inches in diameter in which three mark-stones are placed 15 inches apart, the lower one being let into the ground on a level with the surface. Observed in 1864-65-66. ( <i>Báramandal, Kumaun</i> ). | 29 49 12.53 | 79 40 13.17               | 7205                                | ...                        | 2      | ...                                                 | 290                          |
| Taldhár                                 | Temple Spire on roof. Observed in 1865-66. ( <i>Pati Pachaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 29 55 3     | 79 12 6                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Tanda                                   | s. Adjoining the <i>chauki</i> of that name on the Rudarpur-Haldwáni road, $1\frac{1}{4}$ miles N. of the Rohilkhand-Kumaun boundary and 2 miles S.E. of Bhara village. Observed in 1872. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                       | 29 4 25.08  | 79 25 52.73               | 806                                 | ...                        | 1      | ...                                                 | 759                          |
| Thol                                    | h. s. On a hill in Dharaphat <i>patti</i> , $\frac{3}{4}$ mile N. of the Kosi river, $\frac{3}{4}$ mile E. of Khairni village and $1\frac{1}{4}$ miles W. of the Naini Tál-Ránikhet road. Observed in 1867. ( <i>Phaldakot, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                 | 29 31 12.56 | 79 27 47.13               | ...                                 | ...                        | ...    | ...                                                 | 698                          |
| Timlidhár                               | h. s. On a hill so named, $1\frac{1}{4}$ miles S. of the Nandhanr river, 4 miles E.S.E. of Anla-khara and $3\frac{1}{4}$ miles S.S.W. of Durgapal. Observed in 1871-72. ( <i>Dhianirau Bhabar, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                              | 29 7 33.25  | 79 51 44.80               | 3870                                | ...                        | 2      | ...                                                 | 772                          |
| Ttkadánda                               | h. s. On a hill of that name in Pabárkotah <i>patti</i> , $1\frac{1}{4}$ miles S. of the Dabka <i>nadi</i> , $2\frac{1}{4}$ miles N.N.W. of Adhaura village, $3\frac{1}{4}$ miles E.N.E. of Panegam and $3\frac{1}{4}$ miles S.E. of Charra village. Observed in 1868. ( <i>Kotah, Kumaun</i> ).                                                                                                                                                                                                                                                                                                          | 29 25 50.79 | 79 22 23.96               | 7400                                | ...                        | 3      | ...                                                 | 650                          |

## DEGREE SHEET No. 53 P, between Lats. 28° - 29° and Longs. 79° - 80°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies not in feet common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Aliganj Building                       | Flag. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 28 20 24·2  | 79 15 13·8                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Atária, XI                              | ( <i>vide page 10—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 28 38 9·53  | 79 35 15·08               | 657·12†                             | ...                        | ...    | ...                                                 | 15                           |
| Bagwára, VII                            | ( <i>vide page 9—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 28 58 58·24 | 79 19 28·60               | 730                                 | ...                        | 2      | ...                                                 | 10                           |
| Baheri, IX                              | ( <i>vide page 9—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 28 51 53·07 | 79 35 51·38               | 708                                 | ...                        | 2      | ...                                                 | 13                           |
| *Bareilly House                         | Diwán Bahádúr Singh's house in city. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 28 22 13·1  | 79 24 11·0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bareilly Kachahri                      | ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 28 20 8·8   | 79 25 35·5                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dilwári Mound                          | Flag. ( <i>Budaon</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 28 2 47     | 79 24 28                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Donao, XII                              | ( <i>vide page 10—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 28 44 40·46 | 79 45 36·02               | 652                                 | ...                        | 4      | ...                                                 | 16, 17                       |
| *Faridpur Thána                         | Flag. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 28 12 20·7  | 79 32 17·3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Fatehganj, XXXI                        | Is situated on a mound distant about 500 yards S.E. of the town of Fatehganj on the high road from Bareilly to Moradbad; this locality is memorable in the annals of Rohilkhand as the scene of the last struggle made (in 1794) by the Patháns under their leader Nájú Khán against the power of the British: pargana Kuror, district Bareilly.<br>The station consists of a perforated masonry column 9 feet square to a height of 2 feet, and circular thereafter—the diameter at top of shaft being 3 feet—surmounted by a capital of 4 feet diameter: the summit of the column is 37·9 feet above the mark-stone which is imbedded at 2 feet above the level of the ground. In a large enclosure about 200 yards E. of the station are the tombs of the Patháns who fell in the struggle, and a cenotaph erected on the spot by order of Government commemorates their heroism; the mausoleum of their brave leader stands at about 40 yards from the station: the distances and bearings of surrounding villages are:—Unási 0·9 mile W.; Bullia 2·5 miles E.; and Rukumpur 1·3 miles S.E. Observed in 1838-39. ( <i>Bareilly</i> ). | 28 27 28·69 | 79 18 38·69               | 572·12‡                             | ...                        | ...    | ...                                                 | ...                          |
| *Gajnera, XXX                           | Is situated on a mound about 350 yards S. of the village of Gajnera, the eastern extremity of which is washed by the Kailás nadi: pargana Faridpur, district Bareilly.<br>The station consists of a perforated masonry column 9 feet square to a height of 2 feet, and circular thereafter—the diameter at top of shaft being 3 feet—surmounted by a capital of 4 feet diameter: the summit of the column is 38 feet above the mark-stone which is imbedded at 2 feet above the level of the ground. The distances and bearings of surrounding places are:—the town of Bhuta 2·2 miles W.; Suraur village 1·4 miles N.N.E.; and Kharduha 0·8 mile S.E. Observed in 1838-39. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                          | 28 20 2·02  | 79 38 30·93               | 631                                 | ...                        | ...    | ...                                                 | ...                          |
| *Ismailpur House (lamp)                 | ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 28 18 55·96 | 79 14 0·87                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Janjiri, XXIX                          | Is situated on a mound in the village of Janjiri, and is distant 2 miles from the right bank of the Rámanga: pargana Balia, district Bareilly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 28 10 52·01 | 79 24 16·12               | 584                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Rangir Meridional Series.

† Determined by Spirit-Levelling.

‡ This height refers to the mark-stone imbedded at 2 feet above the level of the ground, over which the perforated masonry pillar has been built.

## DEGREE SHEET No. 53 P, between Lats. 28° - 29° and Longs. 79° - 80°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Janjiri, XXIX—(Contd.)                 | The station consists of a perforated masonry column 9 feet square to a height of 2 feet, and circular thereafter—the diameter at top of shaft being 3 feet—surmounted by a capital of 4 feet diameter: the summit of the column is 37·8 feet above the mark-stone which is imbedded at 2 feet above the level of the ground. The distances and bearings of surrounding villages are:—Kiratpur 0·6 mile W. by N.; Turkuni 1·2 miles N.E.; and Himpatpur Beharipur 0·8 mile E. Observed in 1838. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                               | 28 10 52·01 | 79 24 16·12               | 584                                 | ...                        | ...    | ...                                                 | ...                          |
| Kaimkhera, XIV                          | ( <i>vide page 10—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 28 37 25·50 | 79 52 55·95               | 634                                 | ...                        | 3      | ...                                                 | 19                           |
| Kaliánpur, XIII                         | ( <i>vide page 10—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 28 35 11·10 | 79 44 33·75               | 628·84†                             | ...                        | ...    | ...                                                 | 18                           |
| *Kasrak, XXVIII                         | Is situated on the crest of an elevated mound 600 yards S. of the village of Kasrak; pargana Miránpur Katra, district Sháhjahánpur. The station consists of a perforated masonry column 9 feet square to a height of 2 feet, and circular thereafter—the diameter at top of shaft being 3 feet—surmounted by a capital of 4 feet diameter: the summit of the column is 38 feet above the mark-stone which is imbedded at 2 feet above the level of the ground. The high road from Farrukhabad to Bareilly passes about half a mile west of the station; and the distances and bearings of surrounding places are:—the town of Miránpur Katra 1·6 miles S.; Kusak village 1·2 miles N. by W.; and Salupur 0·5 mile N.E. Observed in 1838. ( <i>Sháhjahánpur</i> ). | 28 3 22·65  | 79 39 44·97               | 608                                 | ...                        | ...    | ...                                                 | ...                          |
| *Khera Bajhera                          | s. On mound in village, of the same name, about 1½ miles W. of Bálanpur and 1½ miles E. of Bundia Kalán; pargana Khera Bajhera. ( <i>Sháhjahánpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 28 1 39·16  | 79 32 43·88               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kichha Canal Dyke                       | Flag on dyke near Dhudha village, about 1½ miles E.N.E. of Kichha railway station on the R.K. Railway; Kichha tahsil. Observed in 1860-51. ( <i>Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 28 55 4     | 79 32 37                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Nagaon Náth Mark                        | About ¼ mile S. of the Kumaun-Pilibhit boundary and 1½ miles S.E. of Chatia Got village in Kunmun. Observed in 1872-73. ( <i>Pilibhit and Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 28 59 44·8  | 79 59 52·5                | ...                                 | ...                        | ...    | ...                                                 | 835                          |
| *Parbata                                | s. In village about ¼ mile W.S.W. of Kiratpur, ½ mile S. of Dothoka and 1½ miles E. by N. of Rámpura village; thána and pargana Faridpur. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 28 14 37·25 | 79 27 42·68               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Pilibhit Masjid                         | N. Minar. Observed in 1849-50. ( <i>Pilibhit</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 28 38 9·2   | 79 48 7·5                 | ...                                 | ...                        | ...    | ...                                                 | 1220                         |
| Pilibhit Masjid                         | S. Minar. Observed in 1849-50. ( <i>Pilibhit</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 28 38 8·2   | 79 48 7·5                 | ...                                 | ...                        | ...    | ...                                                 | 1221                         |
| Siegarh, X                              | ( <i>vide page 9—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 28 43 38·07 | 79 18 49·54               | 670                                 | ...                        | 2      | ...                                                 | 14                           |
| U'mra, XV                               | ( <i>vide page 11—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 28 28 39·44 | 79 52 43·93               | 609·97†                             | ...                        | ...    | ...                                                 | 20                           |
| *Unchagaon                              | s. On mound on left bank of the Rámgauga river, about 2 miles W. of Bareilly city, 1½ miles S.S.W. of Bákarganj village and 1½ miles N. by E. of Chaupál; thána Bareilly, pargana Karor. ( <i>Bareilly</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 28 20 30·73 | 79 22 23·09               | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These stations appertain to the Rangir Meridional Series.

† Determined by Spirit-Levelling.

## DEGREE SHEET No. 62 A, between Lats. 31° - 32° and Longs. 80° - 81°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference to triangulation |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                            |
| Dongu No. 1 h.s.                        | Is situated about 3 miles to S.E. of Dongu No. 2 h.s. It is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                          | 31 2 58.65  | 80 12 55.92               | 15797                               | ...                        | 1      | ...                                                 | 1173,<br>1174              |
| Dongu No. 2 h.s.                        | Is situated about 18 miles S.E. of Dába, the well known place in Hundes, the residence of a Jongpan (governor). It is on a partially isolated low hill, the westernmost one of a group of low ridges, known as the Lál Pahúr among the Bhutias of Kumaun and Garhwál and reputed to be the favourite haunt during the summer of the <i>Oris-ammon</i> . It is accessible from the east and north sides. It is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a large cairn of stones about 9 feet in diameter at base and 6 feet high. Observed in 1877. ( <i>Hundes, Tibet</i> ). | 31 4 13.33  | 80 11 32.26               | 15346                               | ...                        | 1      | ...                                                 | 1175                       |
| <u>Pk.1</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1878. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 52 3     | 80 1 35                   | ...                                 | 3                          | ...    | 2'0                                                 | ...                        |
| <u>Pk.2</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 32 39    | 80 8 40                   | ...                                 | 4                          | ...    | 1'7                                                 | ...                        |
| <u>Pk.3</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1871. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 31 40    | 80 9 45                   | 19660                               | 3                          | 2      | 21'9                                                | ...                        |
| <u>Pk.4</u><br><u>62 A</u>              | ... Peak; locally called Linkalok peak. Observed in 1878.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 31 29 58    | 80 10 12                  | ...                                 | 3                          | ...    | 1'8                                                 | ...                        |
| <u>Pk.5</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 28 42    | 80 14 9                   | ...                                 | 3                          | ...    | 3'8                                                 | ...                        |
| <u>Pk.6<sup>1</sup></u><br><u>62 A</u>  | ... Snowy peak. Observed in 1871. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 28 47    | 80 15 16                  | 20500                               | 3                          | 2      | 7'8                                                 | ...                        |
| <u>Pk.6<sup>2</sup></u><br><u>62 A</u>  | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 28 34    | 80 15 9                   | ...                                 | 3                          | ...    | 0'4                                                 | ...                        |
| <u>Pk.7</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 22 12    | 80 22 1                   | ...                                 | 5                          | ...    | 0'7                                                 | ...                        |
| <u>Pk.8</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1871. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 21 15    | 80 19 57                  | 19540                               | 3                          | 2      | 9'0                                                 | ...                        |
| <u>Pk.9</u><br><u>62 A</u>              | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 20 29    | 80 19 2                   | ...                                 | 5                          | ...    | 0'8                                                 | ...                        |
| <u>Pk.10</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 31 20 2     | 80 24 28                  | ...                                 | 3                          | ...    | 4'4                                                 | ...                        |
| <u>Pk.11<sup>1</sup></u><br><u>62 A</u> | ... Snowy sharp peak. Observed in 1877. ( <i>Gar, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 31 41 7     | 80 35 22                  | 20080                               | 3                          | 2      | 3'1                                                 | ...                        |
| <u>Pk.11<sup>2</sup></u><br><u>62 A</u> | ... Snowy sharp peak. Observed in 1877. ( <i>Gar Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 31 41 0     | 80 35 36                  | ...                                 | 3                          | ...    | 4'0                                                 | ...                        |

## DEGREE SHEET No. 62 A, between Lats. 31° - 32° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point  | Description                       | Latitude N.       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|-----------------------------------|-------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                   |                   |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 12</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. | ° ' "<br>31 40 17 | ° ' "<br>80 34 4          | 20000                               | 3                          | 2      | Feet<br>1.6                                         | ...                          |
| <u>Pk. 13<sup>1</sup></u><br><u>62 A</u> | ... Snowy peak. Observed in 1871. | 31 29 10          | 80 45 35                  | 20230                               | 3                          | 2      | 4.2                                                 | ...                          |
| <u>Pk. 13<sup>2</sup></u><br><u>62 A</u> | ... Snowy peak. Observed in 1877. | 31 28 59          | 80 45 23                  | ...                                 | 4                          | ...    | 0.5                                                 | ...                          |
| <u>Pk. 14</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. | 31 17 33          | 80 48 17                  | ...                                 | 5                          | ...    | 0.6                                                 | ...                          |
| <u>Pk. 15</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. | 31 15 26          | 80 48 58                  | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| <u>Pk. 16</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. | 31 15 4           | 80 49 37                  | ...                                 | 3                          | ...    | 0.3                                                 | ...                          |
| <u>Pk. 17</u><br><u>62 A</u>             | ... Snowy peak. Observed in 1877. | 31 14 47          | 80 50 2                   | ...                                 | 3                          | ...    | 6.0                                                 | ...                          |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°.

|         |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                      |       |     |   |             |      |
|---------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|-------|-----|---|-------------|------|
| Athánsi | h.s.       | Is situated 6 miles in a direct line from the village of Madkot in the Johár valley and in a direction N.N.E. from that village. It lies S.S. by east of the village of Patho in the same valley and is about 3 miles in a direct line from it. The only way, which eventually becomes very bad within a mile of the station, is from the village of Madkot along a mountain spur terminating at the village. The approach to the station from Patho is simply execrable and in a great measure unsafe. The station is marked by a $\odot$ cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | ° ' "<br>30 8 34.83 | ° ' "<br>80 18 14.41 | 13343 | ... | 2 | Feet<br>... | 1003 |
| Baidhár | h.s.       | Is on the same spur as Dobadhár h.s. and about $\frac{1}{4}$ mile distant from it in a westerly direction. A track runs along the spur and passes through several villages lying on the left bank of the Goriganga. The station is denoted by a stone embedded in the earth and marked on its surface with a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                             | 30 4 43.83          | 80 17 53.32          | 7426  | ... | 2 | ...         | 1103 |
| Balsi   | No. 1 h.s. | On the highest peak of the range forming the boundary between Johár and Dárma <i>pattis</i> and 2 miles south of the Balsi pass on the road from Johár to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 1 49.11          | 80 28 27.80          | 14980 | ... | 2 | ...         | 1186 |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                          | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancy per mile of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                      |               |                           |                                     | Position                       | Height |                                   |                              |
| Balsi No. 1 h.s. (Contd.)               | Dárma. The best ascent is from the village of Sopla in Dárma <i>patti</i> , about 7 miles east of the station. Observed in 1873-74. (Johár, Kumaun).                                                                                                                                                                                                 | 30 1 49' 11"  | 80 28 27' 80"             | 14980                               | ...                            | 2      | ...                               | 1186                         |
| Balsi No. 2 h.s.                        | Is situated about $\frac{1}{4}$ mile S.E. of Balsi No. 1 h.s. and on the same range lying about 2 miles south of the Balsi pass on the road from Juhár to Dárma. The village of Sopla Dárma <i>patti</i> lies about $6\frac{1}{2}$ miles east. A mark-stone with circle and dot marks the site of observation. Observed in 1873-74. (Johár, Kumaun). | 30 1 33' 80"  | 80 28 42' 18"             | 14961                               | ...                            | 2      | ...                               | 1188                         |
| Bamlás No. 2 h.s.                       | Is situated about 2 miles S.E. of the Uttardhura pass and is only accessible from the south. It is marked by a flat stone imbedded on the surface of the ground having a dot and concentric circles cut upon it. It is protected by a cairn of stones erected over it. Observed in 1877-78. (Malla Johár, Kumaun).                                   | 30 33 33' 18" | 80 11 34' 06"             | 18263                               | ...                            | 3      | ...                               | 1152, 1153                   |
| Bamlás No. 3 h.s.                       | Is situated in a direct line W. of the Uttardhura pass and about $\frac{1}{4}$ mile from it. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1874. (Johár, Kumaun).                                                                | 30 34 29' 04" | 80 10 10' 95"             | 17881                               | ...                            | 2      | ...                               | 1156, 1157                   |
| Bamlás No. 4 h.s.                       | Is situated E.N.E. of the Uttardhura pass and about $\frac{1}{4}$ mile in a direct line from it. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1874. (Johár, Kumaun).                                                            | 30 34 46' 21" | 80 11 1' 87"              | 18250                               | ...                            | 1      | ...                               | 1155                         |
| Bamlás No. 5 h.s.                       | Is situated about $2\frac{1}{2}$ miles to the N.E. of the Uttardhura pass from whence it is accessible. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1877. (Johár, Kumaun).                                                     | 30 35 20' 61" | 80 12 4' 84"              | 19350                               | ...                            | 3      | ...                               | 1158, 1160                   |
| Bampassia h.s.                          | Is situated north-east of Burphu village and nearly 2 miles in a direct line from it. A foot-path leads close up to it from this village. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1874. (Johár, Kumaun).                   | 30 23 33' 06" | 80 11 46' 39"             | 16067                               | ...                            | 2      | ...                               | 1187                         |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |             |             |                           |                                     | Position                   | Height |                                                     |                              |
| Borbalek                                | h.s.        | 30 3 6.96   | 80 39 40.44               | 13368                               | ...                        | 2      | ...                                                 | 1193                         |
| Bhania                                  | h.s.        | 30 2 54.73  | 80 11 15.45               | 11046                               | ...                        | 2      | ...                                                 | 1101                         |
| Bhowara                                 | h.s.        | 30 3 11.20  | 80 17 50.73               | 4021                                | ...                        | 1      | ...                                                 | 1125                         |
| Birjeganj                               | h.s.        | 30 18 20.63 | 80 13 40.46               | ...                                 | ...                        | ...    | ...                                                 | 1131,<br>1132                |
| Buldanga                                | h.s.        | 30 31 1.75  | 80 12 19.37               | 15914                               | ...                        | 1      | ...                                                 | 1151                         |
| Chachaila                               | h.s.        | 30 12 52.12 | 80 50 17.02               | 13954                               | ...                        | 2      | ...                                                 | 1207                         |
| Chaldu                                  | No. 1 h.s.  | 30 46 0.54  | 80 19 51.34               | 17092                               | ...                        | 1      | ...                                                 | 1167                         |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mille of triangles | Reference Number of Triangles |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|--------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                    | Height |                                      |                               |
| Chaldu No. 2 h.s.                       | On some undulating ground, 2½ miles E.N.E. of the Kiogarh (Chaldu) pass and 3½ miles N.W. by N. of the Lochambel-chak encamping ground. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                    | 30 43 32.70 | 80 16 46.97               | 17451                               | ...                         | 1      | Feet ...                             | 1168, 1169                    |
| Chanambaniali No. 1 h.s.                | Is on the same spur as Chanambaniali No. 2 h.s. and about ¼ mile to the north of it. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                           | 30 39 32.19 | 80 20 12.68               | 18305                               | ...                         | 2      | ...                                  | 1164                          |
| Chanambaniali No. 2 h.s.                | On a long flat plateau-like spur about 4½ miles to east and slightly south of Chitichun encamping ground. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                      | 30 39 17.29 | 80 20 13.29               | 18327                               | ...                         | 1      | ...                                  | 1176, 1177                    |
| Chilamkurkur No. 1 h.s.                 | About 3 miles to the south-east of Shibhislam, Tartar summer encampment and mart; it is comparatively on an isolated peak at the south-west end of a long low ridge which trends towards the Sutlej. It can be approached from all directions. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ). | 30 54 39.54 | 80 21 57.54               | 16879                               | ...                         | 2      | ...                                  | 1171                          |
| Chilamkurkur No. 2 h.s.                 | On the same ridge as Chilamkurkur No. 1 h.s. but lower down and about 1½ miles to west of it. It can be approached from the north and east sides. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                              | 30 54 54.03 | 80 20 51.86               | ...                                 | ...                         | ...    | ...                                  | 1180, 1181                    |
| Chitichun No. 1 h.s.                    | On a small peak on a broad undulating plateau. It is situated 1½ miles north and slightly east of Chitichun encamping ground. It is easy of approach from all sides. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                           | 30 36 53.52 | 80 15 10.48               | 19549                               | ...                         | 2      | ...                                  | 1162                          |



## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| Chitichun No. 2 h.s.                    | On a broad and lofty ridge about 2½ miles south-east of Kungri Bingri pass. It is difficult of access and can only be ascended from the north side. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                     | 30 41 16.31 | 80 16 46.10               | 17718                               | ...                        | 2      | Feet<br>...                                         | 1165,<br>1166                |
| Chotri h.s.                             | On a hill so named in Talla Des <i>patti</i> , 2½ miles E. of the Rámanga river, 2 miles W. of the Jakala stream, 2½ miles W.N.W. of the road to Almora, 1½ miles N. by W. of Ranthi village, 2½ miles E.N.E. of Hokara and 2 miles N.E. of Jerthi village. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                         | 30 2 16.07  | 80 7 5.44                 | 9817                                | ...                        | 2      | ...                                                 | 1080,<br>1081                |
| Dánaádhúr h.s.                          | On a spur about 1½ miles above the village of Paparba. The station is accessible from the west, north and south faces of the spur which are grazing grounds. It is denoted by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                              | 30 3 52.84  | 80 15 17.16               | 7121                                | ...                        | 1      | ...                                                 | 1108,<br>1109                |
| Danchar h.s.                            | On a hill so named, 2 miles E. of the Rámanga river, 2½ miles W.N.W. of Bhurting village, 2½ miles S. of Thala Úwár and 3 miles N.E. of Hokara. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                     | 30 3 10.34  | 80 7 10.43                | 11250                               | ...                        | 2      | ...                                                 | 1078,<br>1079                |
| Deolakot h.s.                           | On a small knoll of the spur leading to Hám h.s., 1½ miles W.S.W. of the Goriganga river, at its junction with the Madkani and 2½ miles E. of the road to Almora. The station is marked with a stone embedded in the earth on which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                              | 30 2 49.67  | 80 16 20.93               | 7710                                | ...                        | 1      | ...                                                 | 1104,<br>1105                |
| Dhánei h.s.                             | On the summit of the spur above Dhundhúr on the boundary of Johár Malla and Goriphat <i>pattis</i> , 1½ miles E. of the Rálan river, 4 miles N.E. of Paton village, and 3½ miles E. by N. of Rarár Gár encamping ground. The ascent to the station from the southern side is a most difficult and arduous task, but on the northern face there is no difficulty. The station is denoted by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ). | 30 12 17.33 | 80 17 38.35               | 13784                               | ...                        | 1      | ...                                                 | 1111                         |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                     |                       |
| Dhundhár                                | h.s. On a spur leading to Dhánsi h.s. The station is approached from the village of Bewin Patul, the ascent in many places is difficult. The station is denoted by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                   | 30 11 45.37 | 80 16 47.10               | 11587                               | ...                        | 1      | Feet ...                                            | 1124                  |
| Dobadhár                                | h.s. On the eastern edge of a spur running down from Atháni h.s. and directly above Ringu village. The spur is ascended by a very steep track leading up it from Maddot village. The station is denoted by a stone embedded in the earth, the surface of which is marked with a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ). | 30 4 27.36  | 80 18 14.47               | 7276                                | ...                        | 2      | ...                                                 | 1102                  |
| Doti                                    | h.s. On a hill so called, $\frac{1}{4}$ mile E. of the Káli river, which here forms the boundary between Kumaun and Nepal, $\frac{1}{4}$ mile S. of Kaula Malla, 1 mile N. of Kaula Talla village and $1\frac{1}{2}$ miles S.E. of Napalchyu village in Kumaun. Observed in 1877. ( <i>Nepal</i> ).                                                       | 30 10 8.02  | 80 52 27.96               | 11291                               | ...                        | 1      | ...                                                 | 1204                  |
| Elpadhura                               | h.s. On a hill so named in Byáns <i>patti</i> , 1 mile N. by W. of Budhi village on the Goriganga river, 2 miles W.S.W. of Garbyáng and $2\frac{1}{2}$ miles E. of Chaudans <i>patti</i> boundary. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                            | 30 6 57.45  | 80 49 34.52               | 13372                               | ...                        | 2      | ...                                                 | 1196                  |
| Gagla                                   | Hill Staff On a hill so named 1 mile W. of the Goriganga river, 1 mile N. of Garbyáng village, $1\frac{1}{2}$ miles N.W. of Dharmasála and $1\frac{1}{2}$ miles N.W. of Kaula Talla village. Observed in 1877. ( <i>Johár, Kumaun</i> ).                                                                                                                  | 30 8 21.7   | 80 51 29.8                | 14204                               | ...                        | 2      | ...                                                 | 1201, 1202            |
| Ghátánemin                              | h.s. On the same ridge as that on which Sámi h.s. stands, but $2\frac{1}{2}$ miles to the south of it. The top of the ridge on which it is, is broad and flat. It can be approached from the N.E. and S.W. sides. It is marked and covered over in the same way as Ránikot h.s. Observed in 1877. ( <i>Hundes, Tibet</i> ).                               | 30 47 6.52  | 80 14 11.46               | 18700                               | ...                        | 2      | ...                                                 | 1178, 1179            |
| Girgaon                                 | h.s. On the spur of a hill adjoining the village of that name on the road to Almora, in Talla Des <i>patti</i> , $\frac{1}{4}$ mile E. of Bhainari village and 1 mile E. of Jakala náin. The road from Almora to Milan passes close S.E. of the station. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                      | 30 1 55.94  | 80 10 9.12                | 6570                                | ...                        | 1      | ...                                                 | 1110                  |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |            |
|-----------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|------------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                                     | Position                   | Height |                                                     |                              |            |
| Golpha                                  | h.s.        | On a hill in Goriphat <i>patti</i> , 2 miles S.E. of Bona village. The station is approached by a track running up from Golpha village, distant about 2½ miles. Another road which starts from the village of Bona and leads to the station though longer than the above track, is of easier ascent. The station is denoted by a stone marked with a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                               | 30 2 11.54                | 80 23 57.55                         | 11263                      | ...    | 2                                                   | ...                          | 1004       |
| Golpha                                  | s.          | On the edge of a field about 200 yards S.E. of Golpha village. It is marked by a stone embedded in the earth which has on its surface a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 2 4.85                 | 80 21 32.23                         | 6928                       | ...    | 1                                                   | ...                          | 1123       |
| Gompachin                               | No. 1 h.s.  | About 4 miles S.E. of Chilamkurkur No. 1 h.s. It is also on a comparatively isolated ridge. It can be approached from all sides. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 52 48.67               | 80 25 39.66                         | ...                        | ...    | ...                                                 | ...                          | 1182, 1183 |
| Gompachin                               | No. 2 h.s.  | About 200 yards S.E. of Gompachin No. 1 h.s. and is about 200 feet higher than it. It can be approached from all sides. The station is marked by a circle and dot cut on a stone embedded at the surface of the ground and is protected by a cairn of stones erected over it. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30 52 33.34               | 80 25 47.41                         | 16323                      | ...    | 2                                                   | ...                          | 1184       |
| Húm                                     | h.s.        | Is on the well known peak called Húm or Tamri of the main spur of the Punya range running S.E. down to the Gori river and forming the boundary between Talla Des and Goriphat <i>pattis</i> . The peak lies 4 miles S.W. of Imila, a village of Goriphat <i>patti</i> and the same distance N. of Kota of Talla Des <i>patti</i> . The road leading to the station starts from Chuula village which is in the Johár valley and runs in a southerly direction along a spur till it joins the main spur and then continues along the same till it reaches the station. The Húm pass on the road connecting the two <i>pattis</i> lies 1 mile E. of the station and from the pass the peak is ascended by a good steep track. A mark-stone with a circle and dot marks the place of observation. Observed in 1873-74. ( <i>Johár, Kumaun</i> ). | 30 0 58.16                | 80 15 21.19                         | 10449                      | ...    | 2                                                   | ...                          | 1001       |
| Jalth                                   | h.s.        | Above the road leading to Milam and not far from the village of that name. The station is on a flat, close to the cultivation belonging to the village. It is marked by a concentric circle and dot on a rock. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 5 50.53                | 80 14 58.88                         | 5984                       | ...    | 1                                                   | ...                          | 1114       |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancy per mile of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                   |                              |
| Kálapáni No. 1 h.s.                     | On a hill in Byáns <i>patti</i> , $\frac{1}{4}$ mile N.W. of the Káli river, 1 mile W. by S. of Kálapáni and $\frac{1}{2}$ mile N. of the Nepal boundary where it leaves the Káli river. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                | 30 13 20.43 | 80 54 8.44                | 13434                               | ...                        | 1      | ...                               | 1209                         |
| Kálapáni No. 2 h.s.                     | On a hill in Byáns <i>patti</i> , $\frac{1}{2}$ mile S. of the Káli river, 1 mile E. of Kálapáni camping ground and $\frac{3}{4}$ mile E. by S. of the junction of the Teragadh stream with the Káli river. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                             | 30 13 46.95 | 80 55 56.84               | 14225                               | ...                        | 1      | ...                               | 1210                         |
| Kálapáni No. 3 h.s.                     | On a hill in Byáns <i>patti</i> , $1\frac{1}{4}$ miles N.E. of Kálapáni camping ground and $\frac{1}{2}$ mile N. of the Káli river and the road to the Lipu Lek pass. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                   | 30 14 31.85 | 80 56 27.98               | 13762                               | ...                        | 1      | ...                               | 1211, 1212                   |
| Kaltháni h.s.                           | Close S. of the village of Kaltháni, 1 mile E. of Dhapa and $\frac{1}{4}$ mile E. of Almora-Milam road. The station is denoted by a mark-stone embedded in the earth on which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                        | 30 6 59.66  | 80 15 31.53               | 6374                                | ...                        | 2      | ...                               | 1115                         |
| Kánchego h.s.                           | About 6 miles nearly north of Balchdhura pass. It is on a flattish hill top and easily accessible from the north and east sides. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).            | 30 52 54.75 | 80 11 42.21               | 18071                               | ...                        | 2      | ...                               | 1172                         |
| Khangla h.s.                            | On a hill of that name, $\frac{1}{4}$ mile W. of the Káli river, $\frac{1}{2}$ mile W. by S. of Kaula Talla village, $1\frac{1}{4}$ miles N. by W. of Dharamsála village in Nepal and 2 miles N. by E. of Garhyáng village. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                             | 30 9 9.55   | 80 51 49.72               | 12954                               | ...                        | 1      | ...                               | 1203                         |
| Kiangur h.s.                            | Nearly south of the pass of that name. It rests on a projecting spur overhanging the Girthi river. It can only be approached from the pass. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Johár, Kumaun</i> ). | 30 38 46.27 | 80 9 26.47                | 17680                               | ...                        | 1      | ...                               | 1161                         |
| Kotalgaon h.s.                          | On a hill in Goriphat <i>patti</i> , $\frac{1}{4}$ mile S.S.W. of the village of Kamalko, $\frac{1}{4}$ mile S.W. of the Goriganga stream, $\frac{3}{4}$ mile N.N.W. of Josa and 2 miles E. of Harkot village. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                          | 30 3 1.32   | 80 17 18.18               | 5376                                | ...                        | 2      | ...                               | 1106, 1107                   |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kugri Bingri                            | h.s. About 3 miles to west and slightly south of Chitichun encamping ground from whence alone it is accessible. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                            | 30 39 28.37 | 80 13 17.45               | 19161                               | ...                        | 2      | Feet<br>...                                         | 1163                         |
| Kurmuria                                | h.s. On a hill close S.E. of the village of Bhainpala Gwár and $\frac{1}{4}$ mile N.N.W. of Kurmuria Gwár; on the boundary of Dánpur Malla and Dánpur Bichla <i>pattis</i> , $3\frac{1}{2}$ miles W. of the Rámanga river and $1\frac{1}{2}$ miles E. of Labúr village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                               | 30 4 7.94   | 80 1 37.82                | 10724                               | ...                        | 1      | ...                                                 | 1076,<br>1077                |
| Labúrdhura                              | h.s. On a hill on the boundary of Dánpur Malla and Dánpur Bichla <i>pattis</i> , $\frac{1}{4}$ mile S.E. of Kurmuria Gwár hamlet, $2\frac{1}{4}$ miles E.S.E. of Lahúr and $2\frac{1}{2}$ miles W. by S. of Gogina village on the Goriganga river. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                    | 30 3 27.30  | 80 2 4.95                 | 10765                               | ...                        | 2      | ..                                                  | 1071,<br>1072                |
| Laspa                                   | h.s. About $1\frac{1}{2}$ miles south of the village of that name. There is but one approach which is difficult and very steep all the way, it strikes off to the left and south from a point 500 yards above the village; it keeps this latter direction till very close to the station. The station is marked by a flat stone upon which is cut the usual dot and concentric circle, and is protected further by a cairn of stones. Observed in 1874. ( <i>Johár, Kumaun</i> ).  | 30 15 59.81 | 80 12 3.18                | 14789                               | ...                        | 2      | ...                                                 | 1129                         |
| Mápa-ka-dhura Hill Mark                 | On a high hill 2 miles W.S.W. of the village of Mápa on the Hundes road, $3\frac{1}{2}$ miles W.N.W. of Martoli village. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                               | 30 21 52.3  | 80 8 8.7                  | ...                                 | ...                        | ...    | ...                                                 | 1138                         |
| Martoli                                 | h.s. About $1\frac{1}{2}$ miles in a direct line and S.S.W. of the village of Martoli. The approach to it is from Martoli village. The way is easy till it comes within $\frac{1}{4}$ mile of the station, when it becomes steep, but not impracticable. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | 30 19 16.78 | 80 11 8.96                | 15045                               | ...                        | 2      | ...                                                 | 1130                         |
| Martoli                                 | s. About 200 yards from the village of Martoli and nearly N.N.E. of it. It is close to the main road to Milam village and about 16 feet above the level of the village. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                                                  | 30 20 59.39 | 80 11 42.06               | 11071                               | ...                        | 2      | ...                                                 | 1133,<br>1134                |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|--------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                          |                                     | Position                   | Height |                                                     |                    |
| Mathkot Temple                          | At the junction of the Madkani and Goriganga rivers. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                   | 30 3 10     | 80 17 46                 | ...                                 | ...                        | ...    | Feet                                                | ...                |
| Milam No. 1 h.s.                        | Is situated about 2 miles due north of the village of that name. The approach to it is the same as that to Milam No. 2 h.s. from whence it follows the ridge due north. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                  | 30 28 9.65  | 80 9 5.21                | 17086                               | ...                        | 1      | ...                                                 | 1140               |
| Milam No. 2 h.s.                        | About 1½ miles N. of the village of that name. The approach to it is from a point 1 mile below the large glacier of Milam from whence the way turns due east. This way is easy to within about 600 yards of the station. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | 30 27 10.43 | 80 9 7.38                | 15344                               | ...                        | 1      | ...                                                 | 1141               |
| Milam s.                                | On the southern side of Milam village in Malla <i>Johár pargana</i> . The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1877. ( <i>Johár, Kumaun</i> ).                                                                                                                                                    | 30 26 5.54  | 80 9 4.61                | 11232                               | ...                        | 2      | ...                                                 | 1146<br>1147       |
| Naichu-ka-dhura h.s.                    | Is situated on a long spur or ridge between two rivers which have their confluence with the Goriganga river at or near the villages of Burphu and Tola in the Milam valley. The station is marked by a flat stone embedded on the surface of the ground having a dot and concentric circle on it and is protected by a cairn of stones. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                                | 30 21 39.19 | 80 13 56.86              | ...                                 | ...                        | ...    | ...                                                 | 1135<br>1136       |
| Nirpánia No. 1 h.s.                     | At the southern extremity of a range in Chaudans <i>patti</i> , 1 mile W. of the Káli river, 2 miles S.W. of Thin village in Nepal territory. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                                                                                                                          | 30 1 21.52  | 80 44 22.67              | 11261                               | ...                        | 2      | ...                                                 | 1195               |
| Nirpánia No. 2 h.s.                     | On the highest peak of a hill in Chaudans <i>patti</i> , 2 miles N.W. of the junction of Naijan Gádú with the Káli river, 2½ miles W.N.W. of Thin village in Nepal territory and 2½ miles S. by E. of Malla <i>Dárma patti</i> boundary. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                               | 30 2 57.69  | 80 43 51.12              | 13281                               | ...                        | 2      | ...                                                 | 1196<br>1197       |
| Nisu h.s.                               | On the N.E. spur of a hill, ¼ mile S. of Ronkan village on the Kuti Yangti river, 1 mile W.N.W. of Gunji village and 1 mile N.W. of Napsichyu village. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                                                                                                                 | 30 11 33.55 | 80 50 0.90               | 12563                               | ...                        | 2      | ...                                                 | 1208               |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pánchhu-ka-dhura                        | h.s. Is situated about 3½ miles to the S.W. of the village of Milam and about 1½ miles to the N.W. of the village of Pánchhu in Malla Johár <i>pargana</i> . It is accessible from the east. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1877. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 24 49.91 | 80 7 52.39                | 16282                               | ...                        | 2      | Feet<br>...                                         | 1139                         |
| Porchula                                | h.s. On a spur running eastwards from Húm h.s. The track leading to the station starts from the village of Dona distant about 3 miles N.W. The station is in the centre of a grazing ground: it is denoted by a stone embedded in the earth marked with concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 0 31.08  | 80 18 11.89               | 8100                                | ...                        | 1      | ...                                                 | 1121,<br>1122                |
| Punya                                   | h.s. On the boundary of Goriphat and Talla Deo <i>pattis</i> on the crest of the main watershed separating the Gori river from the Jnkala <i>nadi</i> . It is nearly 5 miles west of the village of Ralti in Mushiari Johár, 1½ miles N. of Satya peak, 1 mile E. of the Jnkala <i>nadi</i> , 2½ miles E. of Thala Thok Gwár hamlet, 3½ miles W. of Shama and 5 miles W. of the road to Almora. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                               | 30 6 12.66  | 80 10 5.51                | 13166                               | ...                        | 2      | ...                                                 | 1002                         |
| Rálam                                   | h.s. On the main watershed which divides Milam from Rálam valley. It is 2½ miles W.S.W. of the village of Rálam, about 3 miles S.E. of Tola village and about 1½ miles S.S.W. of the principal pass over the aforesaid ridge. The approach from the above pass is easy and free from snow during the midsummer and autumn months. The other approach from the Milam valley is also easy and follows the main road leading from the Milam to the Rálam valley for 2 miles till it arrives at the Birjoganj grazing grounds; from thence it diverges a little to the right and goes up the Birjoganj spur until it reaches the main watershed above alluded to. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | 30 17 36.61 | 80 14 57.85               | 16286                               | ...                        | 2      | ...                                                 | 1128                         |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                               |
| Ránikot                                 | h.s. Is situated on a low alluvial knoll about 1½ miles S. by E. of Milam village in Malla Johár <i>pargana</i> and overhangs the fork of the junction of two streams. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                      | 30 25 0.46  | 80 9 28.54                | 11145                               | ...                        | 2      | Feet ...                                            | 1142, 1143                    |
| Rakakota                                | h.s. On the peak so named of Suanhura range, the western slope of which is washed by the Dhaulí river. The site of the village Sua lies 2 miles N. and Panga, a village of Chaudans <i>patti</i> , is about 2 miles S.E. There are two ascents, one from Dhaulí passing through Sua and the other from Panga. A mark-stone with the usual circle and dot denotes the place of observation. Observed in 1873-74. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                           | 30 0 12.70  | 80 35 57.75               | 10823                               | ...                        | 2      | ...                                                 | 1188, 1190                    |
| Samgong                                 | h.s. About 1½ miles to the east of the Jimgong encamping ground on Milam-Uttardhura route. It is accessible from the west. The peak is rather rounded. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1877. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                    | 30 27 12.89 | 80 11 30.99               | 16170                               | ...                        | 2      | ...                                                 | 1144, 1145                    |
| Sámi                                    | h.s. About 4½ miles to the N.E. of the Balchdhura pass on a peak near the termination of a long ridge trending northwards towards the plains. It can be approached from the east and west sides. The station is marked by a dot and concentric circle engraved on a stone embedded flush with the ground and protected by a cairn of stones. Observed in 1877. ( <i>Hundes, Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                            | 30 48 54.10 | 80 14 17.68               | 17910                               | ...                        | 1      | ...                                                 | 1170                          |
| Shialek                                 | h.s. Also called Budhi h.s. On a hill in Byáns <i>patti</i> on the right bank of the Káli river, ¼ mile E.N.E. of Budhi village and 1½ miles S.W. of Garbyáng. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30 6 22.14  | 80 50 22.91               | 10814                               | ...                        | 1      | ...                                                 | 1188                          |
| Shillong                                | No. 1 h.s. Is situated 1½ miles in a direct line from the base of a large spur of the snowy range which flanks the Uttardhura glacier on the south. The station is right on the crest of the spur. The approach to it is from the foot of the glacier, from whence it turns in a general direction to south until it comes within a few hundred yards of the crest, thence it leads in a westerly direction for about 1 mile up to the station. This is the best approach to it notwithstanding it is steep and difficult in many places. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | 30 31 35.13 | 80 10 54.99               | 17006                               | ...                        | 2      | ...                                                 | 1165                          |



## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common side of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                           |                                     | Position                   | Height |                                                    |                              |
| Shillong No. 2 h.s.                     | Is situated about 1½ miles due east of Shillong encamping ground. The ascent to it from the encamping ground is not very steep. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ).                                                                                                                                     | 30 30 3'27"  | 80 11 54'75"              | 15799                               | ...                        | 1      | Feet<br>...                                        | 1149,<br>1150                |
| Sitpáni h.s.                            | Is situated N.E. of the encamping ground of Shillong and about 1 mile along the road from it. The road passes about 30 yards below the station. It is on a ridge of an old morain, the northernmost of lines of moraines formed by the Sitpáni or Shillong glacier. The station is marked by a flat stone embedded on the surface of the ground having upon it a dot and concentric circle. It is protected by a cairn of stones erected over it. Observed in 1874. ( <i>Johár, Kumaun</i> ). | 30 30 46'58" | 80 11 27'80"              | 14077                               | ...                        | 1      | ...                                                | 1154,<br>1155                |
| Sumdhár h.s.                            | Is on the highest peak about 1 mile south of Rungling pass on the road from Chaudans to Byáns valley and 2 miles N.E. of Shirka and the same distance S. of Bombom village of Chaudans <i>patti</i> . A mark-stone with the usual circle and dot denotes the point of observation. Observed in 1873-74. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                             | 30 0 26'66"  | 80 41 39'33"              | 10683                               | ...                        | 1      | ...                                                | 1194                         |
| Tadang h.s.                             | On a hill on the right bank of the Káli river, in Byáns <i>patti</i> , 1½ miles E. by N. of the lower block of Garbyáng village, 1½ miles S. of Káua Talla and ¼ mile W. of Dharam-sála village in Nepal. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                                                                                                                                                                         | 30 7 49'07"  | 80 52 27'61"              | 11392                               | ...                        | 1      | ...                                                | 1200                         |
| Tomik h.s.                              | On the south-western edge of a spur running southwards from the snowy peaks and above the village of Tomik, a track formed by wild deer runs in the midst of dense jungle along the spur which leads to the station. The station is denoted by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                           | 30 2 39'18"  | 80 20 10'79"              | 8993                                | ...                        | 2      | ...                                                | 1112,<br>1113                |
| Uchheti No. 1 h.s.                      | A short distance from the track leading to Bewin Patal and 1½ miles N.W. of the village of Uchheti. It is denoted by a concentric circle and dot marked on a stone embedded in the earth. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                      | 30 6 9'64"   | 80 15 59'63"              | 6020                                | ...                        | 2      | ...                                                | 1116,<br>1117                |
| Uchheti No. 2 h.s.                      | About ¼ mile W. by N. of the village of that name. It is denoted by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                      | 30 5 38'76"  | 80 16 33'13"              | 5789                                | ...                        | 1      | ...                                                | 1118                         |

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                   | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per cent. of triangulation | References |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|--------------------------------|--------|------------------------------------------|------------|
|                                         |                                                                                                                                                                                                                                                                                                                                               |              |                           |                                     | Position                       | Height |                                          |            |
| Uchheti No. 8 h.s.                      | About $\frac{1}{2}$ mile N.W. of the village of that name and $\frac{1}{2}$ mile E. of the Goriganga river and the road to Milan. The track running along the spurs to Dewin Patal is close by. The station is denoted by a concentric circle and dot marked on a stone embedded in the earth. Observed in 1873-74. ( <i>Johár, Kumaun</i> ). | 30 5 51' 38" | 80 16 17' 92"             | 5925                                | ...                            | 2      | Feet ...                                 | 1119, 1120 |
| Wolthi h.s.                             | On the spur which branches off in a westerly direction from Tomik h.s., about $\frac{1}{2}$ mile W. of the village of that name and close to a small Bhutia temple. The station is marked by a stone embedded in the earth on the surface of which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ).             | 30 3 21' 22" | 80 18 21' 32"             | 5356                                | ...                            | 1      | ...                                      | 1126, 1127 |
| Yangchham Hill Staff                    | On a hill so named in <i>Byáns patti</i> , $\frac{1}{2}$ mile N.W. of the Káli river, $\frac{1}{2}$ miles E. of Gunji village on the Kuti Yungti river and 1 mile N. of Kava Malla in Nepal territory. Observed in 1877. ( <i>Dárma, Kumaun</i> ).                                                                                            | 30 11 21' 7" | 80 52 42' 5"              | 12893                               | ...                            | 1      | ...                                      | 1205, 1206 |
| <u>Pk. 1</u><br>62 B                    | ... Snowy peak. Observed in 1869. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 42 41     | 80 1 18                   | ...                                 | 3                              | ...    | 6' 4                                     | ...        |
| <u>Pk. 2</u><br>62 B                    | ... Sharp rocky point of peak. Observed in 1874.                                                                                                                                                                                                                                                                                              | 30 40 12     | 80 7 25                   | 19250                               | 2                              | 2      | ...                                      | ...        |
| <u>Pk. 3</u><br>62 B                    | ... Observed in 1874.                                                                                                                                                                                                                                                                                                                         | 30 39 24     | 80 8 37                   | 19190                               | 2                              | 2      | ...                                      | ...        |
| <u>Pk. 4</u><br>62 B                    | ... Observed in 1874.                                                                                                                                                                                                                                                                                                                         | 30 39 3      | 80 10 21                  | 19300                               | 2                              | 2      | ...                                      | ...        |
| <u>Pk. 5</u><br>62 B                    | ... Snowy peak. Observed in 1869. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 38 59     | 80 1 0                    | 20350                               | 3                              | 2      | 1' 3                                     | ...        |
| <u>Pk. 6</u><br>62 B                    | ... Snowy peak. Observed in 1869. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 38 1      | 80 1 54                   | ...                                 | 3                              | ...    | 6' 6                                     | ...        |
| <u>Pk. 7</u><br>62 B                    | ... Rock on peak. Observed in 1874.                                                                                                                                                                                                                                                                                                           | 30 36 46     | 80 11 14                  | 19600                               | 3                              | 2      | 0' 4                                     | ...        |
| <u>Pk. 8</u><br>62 B                    | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 34 59     | 80 1 19                   | 23210                               | 3                              | 3      | 1' 3                                     | ...        |
| <u>Pk. 9</u><br>62 B                    | ... Snowy peak. Observed in 1864. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 34 49     | 80 0 14                   | 23080                               | 3                              | 3      | 1' 3                                     | ...        |
| <u>Pk. 10</u><br>62 B                   | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 34 41     | 80 2 1                    | ...                                 | 3                              | ...    | 0' 6                                     | ...        |
| <u>Pk. 11</u><br>62 B                   | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).                                                                                                                                                                                                                                                                                         | 30 34 26     | 80 2 39                   | ...                                 | 3                              | ...    | 0' 3                                     | ...        |
| <u>Pk. 12</u><br>62 B                   | ... Observed in 1874.                                                                                                                                                                                                                                                                                                                         | 30 34 0      | 80 3 13                   | ...                                 | 3                              | ...    | 1' 4                                     | ...        |

Note:—Peaks 2, 3, 4, 7 and 12 are in Kumaun.

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per million common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                    |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pk.13<br>62 B                           | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).              | ° 1 ' "     | ° 1 ' "                   | 21350                               | 2                          | 2      | Feet                                                | ...                          |
| Pk.14<br>62 B                           | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).              | 30 33 40    | 80 0 48                   | 23460                               | 4                          | 3      | 0.2                                                 | ...                          |
| Pk.15<br>62 B                           | ... Sharp rock. Observed in 1874.                                  | 30 33 30    | 80 8 59                   | 17220                               | 2                          | 1      | ...                                                 | ...                          |
| Pk.16<br>62 B                           | ... Snowy peak. Observed in 1874.                                  | 30 33 26    | 80 12 27                  | ...                                 | 4                          | ...    | 0.2                                                 | ...                          |
| Pk.17<br>62 B                           | ... Snowy peak. Observed in 1874. ( <i>Garhwál</i> ).              | 30 32 55    | 80 0 9                    | 21290                               | 2                          | 2      | ...                                                 | ...                          |
| Pk.18<br>62 B                           | ... Snowy peak. Observed in 1874.                                  | 30 31 53    | 80 7 26                   | ...                                 | 3                          | ...    | 0.7                                                 | ...                          |
| Pk.19<br>62 B                           | ... Snowy peak. Observed in 1874.                                  | 30 31 42    | 80 10 16                  | ...                                 | 3                          | ...    | 1.1                                                 | ...                          |
| Pk.20<br>62 B                           | ... Snowy peak. Observed in 1874.                                  | 30 31 25    | 80 8 39                   | 20690                               | 3                          | 1      | 0.3                                                 | ...                          |
| Pk.21 <sup>1</sup><br>62 B              | ... Western one of the two peaks close together. Observed in 1874. | 30 30 50    | 80 2 40                   | ...                                 | 3                          | ...    | 0.9                                                 | ...                          |
| Pk.21 <sup>2</sup><br>62 B              | ... Eastern one of the two peaks close together. Observed in 1874. | 30 30 50    | 80 2 55                   | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| Pk.22<br>62 B                           | ... Highest rock to east. Observed in 1874.                        | 30 30 46    | 80 13 28                  | ...                                 | 3                          | ...    | 1.6                                                 | ...                          |
| Pk.23 <sup>1</sup><br>62 B              | ... Rock to E. end of snowy peak. Observed in 1874.                | 30 30 3     | 80 13 37                  | ...                                 | 4                          | ...    | 0.5                                                 | ...                          |
| Pk.23 <sup>2</sup><br>62 B              | ... Snowy peak. Observed in 1874.                                  | 30 30 3     | 80 13 38                  | ...                                 | 3                          | ...    | 2.3                                                 | ...                          |
| Pk.24<br>62 B                           | ... Snowy peak. Observed in 1874.                                  | 30 29 37    | 80 8 48                   | 19460                               | 3                          | 1      | 0.9                                                 | ...                          |
| Pk.25 <sup>1</sup><br>62 B              | ... Snowy peak. Observed in 1874.                                  | 30 29 19    | 80 13 10                  | 19640                               | 2                          | 1      | ...                                                 | ...                          |
| Pk.25 <sup>2</sup><br>62 B              | ... Rock in snow below the snowy peak. Observed in 1874.           | 30 29 18    | 80 13 11                  | 19600                               | 2                          | 1      | ...                                                 | ...                          |
| Pk.26 <sup>1</sup><br>62 B              | ... Snowy peak. Observed in 1874.                                  | 30 28 53    | 80 14 53                  | 20780                               | 2                          | 1      | ...                                                 | ...                          |
| Pk.26 <sup>2</sup><br>62 B              | ... Snowy peak. Observed in 1874.                                  | 30 28 53    | 80 14 54                  | ...                                 | 3                          | ...    | 8.3                                                 | ...                          |
| Pk.27 <sup>1</sup><br>62 B              | ... West end of snowy peak. Observed in 1874.                      | 30 28 14    | 80 2 54                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk.27 <sup>2</sup><br>62 B              | ... East end of snowy peak. Observed in 1874.                      | 30 28 13    | 80 2 59                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |

Note:—All the peaks except peaks 13, 14 and 17 are in Kumaun.

DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BARS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.28<sup>1</sup></u><br><u>62 B</u> | ... North end. Observed in 1874. ( <i>Garhwāl</i> ).  | 0 1 "       | 0 1 "                     | ...                                 | 2                          | ...    | Feet                                                | ...                          |
| <u>Pk.28<sup>2</sup></u><br><u>62 B</u> | ... South end. Observed in 1874. ( <i>Garhwāl</i> ).  | 30 27 39    | 80 1 16                   | 21760                               | 3                          | 2      | 2'2                                                 | ...                          |
| <u>Pk.29</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 26 19    | 80 12 30                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.30</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 25 57    | 80 5 3                    | 19220                               | 3                          | 2      | 1'4                                                 | ...                          |
| <u>Pk.31</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 24 57    | 80 7 4                    | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.32</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 24 49    | 80 13 4                   | 19130                               | 3                          | 1      | 0'4                                                 | ...                          |
| <u>Pk.33</u><br><u>62 B</u>             | ... Peak. Observed in 1874.                           | 30 24 41    | 80 7 40                   | ...                                 | 3                          | ...    | 0'1                                                 | ...                          |
| <u>Pk.34</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874. ( <i>Garhwāl</i> ). | 30 23 33    | 80 2 2                    | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.35</u><br><u>62 B</u>             | ... Peak. Observed in 1874.                           | 30 22 4     | 80 7 0                    | ...                                 | 3                          | ...    | 1'6                                                 | ...                          |
| <u>Pk.36</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 21 28    | 80 3 52                   | 18970                               | 3                          | 1      | 0'2                                                 | ...                          |
| <u>Pk.37</u><br><u>62 B</u>             | ... Rocky peak. Observed in 1874.                     | 30 19 6     | 80 10 59                  | ...                                 | 4                          | ...    | 0'1                                                 | ...                          |
| <u>Pk.38</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1874.                     | 30 18 23    | 80 5 25                   | ...                                 | 4                          | ...    | 0'9                                                 | ...                          |
| <u>Pk.39</u><br><u>62 B</u>             | ... Rock. Observed in 1874.                           | 30 17 38    | 80 10 41                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.40</u><br><u>62 B</u>             | ... Snowy peak. Observed in 1866-66.                  | 30 17 37    | 80 2 29                   | 20740                               | 4                          | 4      | 0'3                                                 | ...                          |
| <u>Pk.41</u><br><u>62 B</u>             | (Nandakot) Snowy peak. Observed in 1848-49.           | 30 16 51'3  | 80 4 11'4                 | 22510                               | 4                          | 3      | 0'2                                                 | ...                          |
| <u>Pk.42</u><br><u>62 B</u>             | ... Peak. Observed in 1869.                           | 30 15 56    | 80 3 53                   | ...                                 | 3                          | ...    | 2'6                                                 | ...                          |
| <u>Pk.43</u><br><u>62 B</u>             | ... Peak. Observed in 1869.                           | 30 15 44    | 80 4 27                   | 19780                               | 4                          | 2      | 0'5                                                 | ...                          |
| <u>Pk.44<sup>1</sup></u><br><u>62 B</u> | ... Peak. Observed in 1869.                           | 30 14 48    | 80 14 34                  | ...                                 | 3                          | ...    | 0'1                                                 | ...                          |
| <u>Pk.44<sup>2</sup></u><br><u>62 B</u> | ... Peak. Observed in 1869.                           | 30 14 46    | 80 14 28                  | ...                                 | 3                          | ...    | 1'9                                                 | ...                          |
| <u>Pk.45</u><br><u>62 B</u>             | ... Peak. Observed in 1868-69.                        | 30 14 47    | 80 8 25                   | ...                                 | 3                          | ...    | 1'1                                                 | ...                          |

Note:—All the peaks except peaks 28<sup>1</sup>, 28<sup>2</sup> and 34 are in Kumaun.

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 46</u><br>62 B                   | ... Snowy peak. Observed in 1873.                   | 30 14 39    | 80 10 42                  | ...                                 | 3                          | ...    | Feet<br>1' 9                                        | ...                          |
| <u>Pk. 47</u><br>62 B                   | ... Peak. Observed in 1868-69.                      | 30 14 34    | 80 14 48                  | ...                                 | 4                          | ...    | 0' 1                                                | ...                          |
| <u>Pk. 48</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 14 29    | 80 4 35                   | ...                                 | 4                          | ...    | 0' 3                                                | ...                          |
| <u>Pk. 49</u><br>62 B                   | ... Peak. Observed in 1868-69.                      | 30 14 20    | 80 9 15                   | ...                                 | 3                          | ...    | 2' 7                                                | ...                          |
| <u>Pk. 50</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 14 10    | 80 1 52                   | ...                                 | 3                          | ...    | 2' 8                                                | ...                          |
| <u>Pk. 51</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 13 42    | 80 7 22                   | ...                                 | 3                          | ...    | 0' 1                                                | ...                          |
| <u>Pk. 52</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 13 36    | 80 5 39                   | 19550                               | 3                          | 2      | 1' 1                                                | ...                          |
| <u>Pk. 53</u><br>62 B                   | ... Snowy peak. Observed in 1865-66.                | 30 13 34    | 80 5 55                   | 19850                               | 4                          | 4      | 0' 1                                                | ...                          |
| <u>Pk. 54</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 12 25    | 80 1 48                   | 17230                               | 4                          | 2      | 0' 1                                                | ...                          |
| <u>Pk. 55</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 11 56    | 80 5 0                    | ...                                 | 3                          | ...    | 0' 1                                                | ...                          |
| <u>Pk. 56</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 11 50    | 80 8 12                   | 16290                               | 3                          | 1      | 0' 5                                                | ...                          |
| <u>Pk. 57</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 11 31    | 80 8 57                   | ...                                 | 3                          | ...    | 1' 4                                                | ...                          |
| <u>Pk. 58</u><br>62 B                   | ... Bare and precipitous peak. Observed in 1868-69. | 30 10 44    | 80 10 22                  | 16740                               | 3                          | 1      | 1' 0                                                | ...                          |
| <u>Pk. 59</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 9 14     | 80 3 1                    | ...                                 | 3                          | ...    | 0' 0                                                | ...                          |
| <u>Pk. 60</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 9 4      | 80 2 18                   | 14510                               | 3                          | 2      | 0' 9                                                | ...                          |
| <u>Pk. 61</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 9 1      | 80 1 28                   | ...                                 | 3                          | ...    | 3' 2                                                | ...                          |
| <u>Pk. 62</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 8 22     | 80 2 26                   | 13380                               | 3                          | 2      | 0' 1                                                | ...                          |
| <u>Pk. 63</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 8 14     | 80 8 50                   | ...                                 | 3                          | ...    | 2' 1                                                | ...                          |
| <u>Pk. 64</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 7 27     | 80 2 21                   | 12520                               | 3                          | 2      | 5' 1                                                | ...                          |
| <u>Pk. 65</u><br>62 B                   | ... Peak. Observed in 1869.                         | 30 6 23     | 80 2 17                   | ...                                 | 3                          | ...    | 1' 6                                                | ...                          |

Note.—All the above peaks are in Kumaun.

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mille of angles | Reference Number of Triangles |
|-----------------------------------------|---------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------|-------------------------------|
|                                         |                                             |             |                           |                                     | Position                       | Height |                                   |                               |
| $\frac{\text{Pk. 66}}{62 \text{ B}}$    | ... Peak. Observed in 1868-69.              | 30 6 14     | 80 10 6                   | ...                                 | 3                              | ...    | Feet<br>3'0                       | ...                           |
| $\frac{\text{Pk. 67}}{62 \text{ B}}$    | ... Peak. Observed in 1869.                 | 30 5 4      | 80 10 22                  | 11630                               | 3                              | 2      | 0'8                               | ...                           |
| $\frac{\text{Pk. 68}}{62 \text{ B}}$    | ... Peak. Observed in 1869.                 | 30 4 27     | 80 10 23                  | 11310                               | 3                              | 2      | 1'3                               | ...                           |
| $\frac{\text{Pk. 69}}{62 \text{ B}}$    | ... Broad-topped peak. Observed in 1868-69. | 30 3 36     | 80 11 24                  | ...                                 | 4                              | ...    | 0'5                               | ...                           |
| $\frac{\text{Pk. 70}}{62 \text{ B}}$    | ... Peak. Observed in 1868-69.              | 30 3 11     | 80 7 10                   | ...                                 | 5                              | ...    | 0'1                               | ...                           |
| $\frac{\text{Pk. 71}}{62 \text{ B}}$    | ... Peak. Observed in 1868-69.              | 30 0 0      | 80 12 46                  | ...                                 | 3                              | ...    | 1'2                               | ...                           |
| $\frac{\text{Pk. 72}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1874.           | 30 33 59    | 80 15 12                  | ...                                 | 3                              | ...    | 4'0                               | ...                           |
| $\frac{\text{Pk. 73}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1877.           | 30 33 41    | 80 19 9                   | 20410                               | 3                              | 2      | 0'3                               | ...                           |
| $\frac{\text{Pk. 74}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1874.           | 30 33 32    | 80 15 30                  | ...                                 | 3                              | ...    | 0'2                               | ...                           |
| $\frac{\text{Pk. 75}}{62 \text{ B}}$    | ... Round snowy peak. Observed in 1874.     | 30 26 55    | 80 15 26                  | ..                                  | 2                              | ...    | ...                               | ...                           |
| $\frac{\text{Pk. 76}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1874.           | 30 26 23    | 80 17 5                   | ...                                 | 2                              | ...    | ...                               | ...                           |
| $\frac{\text{Pk. 77}}{62 \text{ B}}$    | ... Broad-topped peak. Observed in 1868-69. | 30 25 37    | 80 17 53                  | ...                                 | 4                              | ...    | 0'1                               | ...                           |
| $\frac{\text{Pk. 78}}{62 \text{ B}}$    | ... Broad-topped peak. Observed in 1868-69. | 30 24 10    | 80 19 33                  | ...                                 | 3                              | ...    | 0'5                               | ...                           |
| $\frac{\text{Pk. 79}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1874.           | 30 23 8     | 80 15 14                  | ...                                 | 2                              | ...    | ...                               | ...                           |
| $\frac{\text{Pk. 80}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1873.           | 30 22 58    | 80 16 43                  | ...                                 | 3                              | ...    | 0'1                               | ...                           |
| $\frac{\text{Pk. 81}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1873.           | 30 20 43    | 80 15 45                  | ...                                 | 3                              | ...    | 1'5                               | ...                           |
| $\frac{\text{Pk. 82}}{62 \text{ B}}$    | ... Peak. Observed in 1868-69.              | 30 19 55    | 80 22 59                  | ...                                 | 4                              | ...    | 0'1                               | ...                           |
| $\frac{\text{Pk. 83}}{62 \text{ B}}$    | ... Peak. Observed in 1869.                 | 30 17 6     | 80 21 56                  | 20190                               | 3                              | 2      | 2'3                               | ...                           |
| $\frac{\text{Pk. 84}}{62 \text{ B}}$    | ... Snowy peak. Observed in 1865.           | 30 16 48    | 80 22 36                  | 21360                               | 3                              | 3      | 0'6                               | ...                           |
| $\frac{\text{Pk. 85}}{62 \text{ B}}$    | ... Peak. Observed in 1869.                 | 30 15 41    | 80 19 29                  | 17240                               | 3                              | 2      | 0'8                               | ...                           |

Note :—All the above peaks are in Kumaun.

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                           |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 86</u><br>62 B                   | ... Snowy peak. Observed in 1850-51.      | 30 15 12.2  | 80 22 37.4                | 21446                               | 2                          | 2      | Feet<br>...                                         | ...                          |
| <u>Pk. 87</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 14 42    | 80 18 36                  | 16500                               | 3                          | 1      | 0.7                                                 | ...                          |
| <u>Pk. 88</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 14 28    | 80 26 1                   | ...                                 | 3                          | ...    | 1.2                                                 | ...                          |
| <u>Pk. 89</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 14 14    | 80 15 19                  | ...                                 | 3                          | ...    | 0.3                                                 | ...                          |
| <u>Pk. 90</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 14 0     | 80 21 44                  | ...                                 | 3                          | ...    | 5.0                                                 | ...                          |
| <u>Pk. 91</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 13 25    | 80 25 22                  | ...                                 | 3                          | ...    | 0.1                                                 | ...                          |
| <u>Pk. 92</u><br>62 B (Panch Chulhi)    | Solitary snowy peak. Observed in 1848-49. | 30 12 51.3  | 80 25 41.4                | 22650                               | 4                          | 3      | 0.0                                                 | ...                          |
| <u>Pk. 93</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 12 50    | 80 23 17                  | 18970                               | 4                          | 1      | 2.4                                                 | ...                          |
| <u>Pk. 94</u><br>62 B                   | ... Snowy peak. Observed in 1873.         | 30 12 18    | 80 19 44                  | ...                                 | 3                          | ...    | 1.2                                                 | ...                          |
| <u>Pk. 95</u><br>62 B                   | ... Snowy peak. Observed in 1865-68.      | 30 12 9     | 80 26 39                  | 20710                               | 4                          | 4      | 0.0                                                 | ...                          |
| <u>Pk. 96</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 11 55    | 80 24 31                  | ...                                 | 4                          | ...    | 1.2                                                 | ...                          |
| <u>Pk. 97</u><br>62 B                   | ... Snowy peak. Observed in 1865-68.      | 30 11 42    | 80 27 24                  | 20780                               | 4                          | 4      | 0.1                                                 | ...                          |
| <u>Pk. 98</u><br>62 B                   | ... Snowy peak. Observed in 1865-68.      | 30 11 17    | 80 28 17                  | 21120                               | 4                          | 4      | 0.0                                                 | ...                          |
| <u>Pk. 99</u><br>62 B                   | ... Peak. Observed in 1869.               | 30 10 32    | 80 28 16                  | ...                                 | 3                          | ...    | 1.4                                                 | ...                          |
| <u>Pk. 100</u><br>62 B                  | ... Snowy peak. Observed in 1865-66.      | 30 9 37     | 80 27 45                  | 19920                               | 3                          | 3      | 0.1                                                 | ...                          |
| <u>Pk. 101</u><br>62 B                  | ... Peak. Observed in 1869.               | 30 9 31     | 80 18 59                  | ...                                 | 3                          | ...    | 1.4                                                 | ...                          |
| <u>Pk. 102</u><br>62 B                  | ... Snowy peak. Observed in 1873.         | 30 9 31     | 80 27 14                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk. 103</u><br>62 B                  | ... Snowy peak. Observed in 1865-66.      | 30 8 43     | 80 28 47                  | 19820                               | 3                          | 3      | 0.2                                                 | ...                          |
| <u>Pk. 104</u><br>62 B                  | ... Peak. Observed in 1869.               | 30 8 5      | 80 28 23                  | ...                                 | 3                          | ...    | 1.0                                                 | ...                          |
| <u>Pk. 105</u><br>62 B                  | ... Snowy peak. Observed in 1865-68.      | 30 7 14     | 80 28 56                  | 18940                               | 3                          | 3      | 0.0                                                 | ...                          |

Note:—All the above peaks are in Kumaun.

*DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).*

| Name or Designation of Station or Point | Description                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of triangulation |
|-----------------------------------------|--------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-----------------------------------|
|                                         |                                                                          |             |                           |                                     | Position                   | Height |                                                     |                                   |
| <u>Pk.106</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 6 51     | 80 27 29                  | ...                                 | 3                          | ...    | Feet<br>6.6                                         | ...                               |
| <u>Pk.107</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 6 47     | 80 28 13                  | ...                                 | 3                          | ...    | 0.2                                                 | ...                               |
| <u>Pk.108</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 5 13     | 80 27 49                  | ...                                 | 3                          | ...    | 2.3                                                 | ...                               |
| <u>Pk.109</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 4 57     | 80 25 22                  | ...                                 | 3                          | ...    | 1.3                                                 | ...                               |
| <u>Pk.110</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 4 53     | 80 27 29                  | ...                                 | 3                          | ...    | 4.7                                                 | ...                               |
| <u>Pk.111</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 3 31     | 80 20 47                  | ...                                 | 3                          | ...    | 3.6                                                 | ...                               |
| <u>Pk.112</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 2 36     | 80 26 2                   | ...                                 | 3                          | ...    | 0.7                                                 | ...                               |
| <u>Pk.113</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 1 33     | 80 28 33                  | 15050                               | 3                          | 1      | 0.3                                                 | ...                               |
| <u>Pk.114</u><br><u>62 B</u>            | ... Peak. Observed in 1868-69.                                           | 30 1 0      | 80 15 23                  | ...                                 | 3                          | ...    | 1.2                                                 | ...                               |
| <u>Pk.115</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 0 32     | 80 28 19                  | 14700                               | 3                          | 1      | 0.0                                                 | ...                               |
| <u>Pk.116</u><br><u>62 B</u>            | ... Peak. Observed in 1869.                                              | 30 0 30     | 80 17 34                  | 8720                                | 3                          | 2      | 6.6                                                 | ...                               |
| <u>Pk.117</u><br><u>62 B</u>            | ... Peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                    | 30 49 53    | 80 39 46                  | ...                                 | 3                          | ...    | 0.2                                                 | ...                               |
| <u>Pk.118</u><br><u>62 B</u>            | ... Peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                    | 30 48 35    | 80 39 42                  | ...                                 | 3                          | ...    | 0.7                                                 | ...                               |
| <u>Pk.119</u><br><u>62 B</u>            | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).              | 30 31 26    | 80 36 50                  | ...                                 | 3                          | ...    | 0.9                                                 | ...                               |
| <u>Pk.120</u><br><u>62 B</u>            | ... Rocky end of snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ). | 30 30 3     | 80 30 6                   | ...                                 | 3                          | ...    | 2.6                                                 | ...                               |
| <u>Pk.121</u><br><u>62 B</u>            | ... Middle of peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).          | 30 29 30    | 80 33 19                  | ...                                 | 5                          | ...    | 0.4                                                 | ...                               |
| <u>Pk.122</u><br><u>62 B</u>            | ... Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).              | 30 26 34    | 80 39 35                  | ...                                 | 3                          | ...    | 0.1                                                 | ...                               |
| <u>Pk.123</u><br><u>62 B</u>            | ... Snowy peak. Observed in 1877.                                        | 30 23 36    | 80 40 16                  | 19110                               | 3                          | 1      | 4.3                                                 | ...                               |
| <u>Pk.124</u><br><u>62 B</u>            | ... Peak. Observed in 1877.                                              | 30 21 22    | 80 40 57                  | ...                                 | 2                          | ...    | ...                                                 | ...                               |
| <u>Pk.125</u><br><u>62 B</u>            | ... Snowy peak. Observed in 1874.                                        | 30 16 34    | 80 39 1                   | 20740                               | 3                          | 2      | 3.9                                                 | ...                               |

Note:—All the peaks except Nos. 117 to 123 are in Kumaun.



## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per made in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pk. 126<br>62 B                         | ... Snowy peak. Observed in 1874.                                     | 30 15 31    | 80 40 12                  | ...                                 | 3                          | ...    | Feet<br>3.2                                         | ...                          |
| Pk. 127<br>62 B                         | ... Snowy peak. Observed in 1874.                                     | 30 15 6     | 80 39 33                  | 20250                               | 3                          | 2      | 0.8                                                 | ...                          |
| Pk. 128<br>62 B                         | ... Snowy peak. Observed in 1874.                                     | 30 14 25    | 80 36 37                  | 19500                               | 3                          | 2      | 1.1                                                 | ...                          |
| Pk. 129<br>62 B                         | ... Snowy peak. Observed in 1865-66.                                  | 30 14 10    | 80 43 19                  | 20430                               | 2                          | 2      | ...                                                 | ...                          |
| Pk. 130<br>62 B                         | ... Snowy peak. Observed in 1865-66.                                  | 30 13 9     | 80 43 1                   | 20330                               | 2                          | 2      | ...                                                 | ...                          |
| Pk. 131<br>62 B                         | ... Snowy peak. Observed in 1865-66.                                  | 30 11 4     | 80 43 43                  | 20390                               | 3                          | 3      | 0.2                                                 | ...                          |
| Pk. 132<br>62 B                         | ... Snowy peak. Observed in 1865-66.                                  | 30 9 21     | 80 43 33                  | 20330                               | 3                          | 3      | 0.4                                                 | ...                          |
| Pk. 133<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 9 11     | 80 39 16                  | 16290                               | 3                          | 1      | 0.7                                                 | ...                          |
| Pk. 134<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 8 21     | 80 39 38                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 135<br>62 B                         | ... Snowy peak. Observed in 1874.                                     | 30 8 18     | 80 31 24                  | 18280                               | 3                          | 2      | 1.6                                                 | ...                          |
| Pk. 136<br>62 B                         | ... Snowy peak. Observed in 1865-66.                                  | 30 8 1      | 80 43 19                  | 20270                               | 2                          | 2      | ...                                                 | ...                          |
| Pk. 137<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 7 42     | 80 33 34                  | 16890                               | 3                          | 1      | 1.2                                                 | ...                          |
| Pk. 138<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 7 7      | 80 34 29                  | ...                                 | 3                          | ...    | 1.5                                                 | ...                          |
| Pk. 139<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 7 7      | 80 40 27                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 140<br>62 B                         | ... Peak. Observed in 1868-69.                                        | 30 6 32     | 80 44 57                  | ...                                 | 3                          | ...    | 2.5                                                 | ...                          |
| Pk. 141<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 5 42     | 80 31 31                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 142<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 5 4      | 80 43 12                  | ...                                 | 3                          | ...    | 6.3                                                 | ...                          |
| Pk. 143<br>62 B                         | ... Peak. Observed in 1874.                                           | 30 3 40     | 80 40 0                   | 14080                               | 3                          | 2      | 2.2                                                 | ...                          |
| Pk. 144<br>62 B                         | ... Peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                 | 30 53 55    | 80 48 53                  | ...                                 | 4                          | ...    | 0.0                                                 | ...                          |
| Pk. 145<br>62 B                         | ... Middle point of peak. Observed in 1877. ( <i>Hundes, Tibet</i> ). | 30 53 24    | 80 49 33                  | 18230                               | 3                          | 1      | 0.8                                                 | ...                          |

Note:—Peaks No. 126 to No. 143 are in Kumsun.

## DEGREE SHEET No. 62 B, between Lats. 30° - 31° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                          | Latitude N.       | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies Per cent by comparison of triangles | Reference to Station of Triangle |
|-----------------------------------------|--------------------------------------|-------------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|----------------------------------|
|                                         |                                      |                   |                           |                                     | Position                   | Height |                                                   |                                  |
| Pk.146<br>62 B                          | ... Snowy peak. Observed in 1877.    | 0 1 "<br>30 21 13 | 0 1 "<br>80 47 18         | ...                                 | 3                          | ...    | Feet<br>11'7                                      | ...                              |
| Pk.147<br>62 B                          | ... Snowy peak. Observed in 1877.    | 30 17 30          | 80 55 3                   | ...                                 | 2                          | ...    | ...                                               | ...                              |
| Pk.148<br>62 B                          | ... Snowy peak. Observed in 1877.    | 30 15 48          | 80 56 15                  | ...                                 | 3                          | ...    | 9'1                                               | ...                              |
| Pk.149<br>62 B                          | ... Peak. Observed in 1877.          | 30 15 26          | 80 48 35                  | ...                                 | 3                          | ...    | 5'5                                               | ...                              |
| Pk.150<br>62 B                          | ... Snowy peak. Observed in 1877.    | 30 14 50          | 80 51 25                  | ...                                 | 2                          | ...    | ...                                               | ...                              |
| Pk.151<br>62 B                          | ... Snowy peak. Observed in 1877.    | 30 13 0           | 80 52 36                  | 17640                               | 3                          | 4      | 2'6                                               | ...                              |
| Pk.152<br>62 B                          | ... Peak. Observed in 1868-69.       | 30 10 41          | 80 56 35                  | ...                                 | 3                          | ...    | 0'4                                               | ...                              |
| Pk.153<br>62 B                          | ... Snowy peak. Observed in 1877.    | 30 8 37           | 80 49 43                  | 16490                               | 2                          | 1      | ...                                               | ...                              |
| Pk.154<br>62 B                          | ... Peak. Observed in 1877.          | 30 6 22           | 80 46 56                  | 16160                               | 2                          | 1      | ...                                               | ...                              |
| Pk.155<br>62 B                          | ... Peak. Observed in 1874.          | 30 5 23           | 80 45 7                   | ...                                 | 3                          | ...    | 1'1                                               | ...                              |
| Pk.156<br>62 B                          | ... Peak. Observed in 1877.          | 30 4 6            | 80 46 33                  | 10940                               | 2                          | 2      | ...                                               | ...                              |
| Pk.157<br>62 B                          | ... Snowy peak. Observed in 1865-66. | 30 3 21           | 80 54 39                  | 19920                               | 3                          | 3      | 0'4                                               | ...                              |
| Pk.158<br>62 B                          | ... Snowy peak. Observed in 1865-66. | 30 3 10           | 80 49 53                  | 18190                               | 3                          | 3      | 0'1                                               | ...                              |
| Pk.159<br>62 B                          | ... Peak. Observed in 1884-85.       | 30 0 47           | 80 57 34                  | ...                                 | 3                          | ...    | 1'9                                               | ...                              |
| * Pk.160<br>62 B                        | ... Snowy peak. Observed in 1865-66. | 30 0 20           | 80 55 54                  | 23399                               | 4                          | 3      | 0'2                                               | ...                              |
| Pk.161<br>62 B                          | ... Peak. Observed in 1887-88.       | 30 0 9            | 80 59 48                  | 22050                               | ...                        | ...    | ...                                               | ...                              |

\* This peak is the same as No. 76 (Api) of Table VI of *A Sketch of the Geography and Geology of the Himalaya Mountains and Tibet, part I p. 6*.  
 Note:—All the above peaks are in Kumaun.

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°.

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                                                                                               | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |               |
|-----------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|---------------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                           |                           |                                     | Position                   | Height |                                                     |                              |               |
| Asurchula                               | Temple      | Northern temple. Observed in 1868. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                | 29 37 48                  | 80 10 44                            | ...                        | ...    | ...                                                 | ...                          |               |
| Asurchula                               | Temple      | Flag on southern temple. Observed in 1868. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                        | 29 37 48                  | 80 10 45                            | ...                        | ...    | ...                                                 | ...                          |               |
| Baitlani Peak                           | No. 1       | Is 7 miles S.E. of the junction of the Sirságarh stream and the Sárda river. Observed in 1871-72. ( <i>Nepal</i> ). Is identical with Pk. 20<br>62 C                                                                                                                                                                                                                                      | 29 3 4                    | 80 19 37                            | ...                        | ...    | ...                                                 | 837                          |               |
| Baitlani Peak                           | No. 2       | Is 4½ miles S. of the junction of the Sirságarh stream and the Sárda river. Observed in 1871-72. ( <i>Nepal</i> ). Is identical with Pk. 19<br>62 C                                                                                                                                                                                                                                       | 29 3 8                    | 80 15 7                             | ...                        | ...    | ...                                                 | 838                          |               |
| Balchandaúnda                           | h.s.        | Is on a peak of the main spur of the Punya range which runs S. to the Rámanga river, 2½ miles N.W. of Tejam, 1½ miles W. of Kuiti and 2½ miles S.W. of Rautbi, villages of Talla Des <i>patti</i> . There are two ascents, one from Rautbi and the other from Kuiti. The station is denoted by a mark-stone with the usual circle and dot. Observed in 1869-70. ( <i>Johár, Kumaun</i> ). | 29 59 4 82                | 80 6 37 68                          | 8680                       | ...    | 3                                                   | ...                          | 990           |
| Bambhil                                 | h.s.        | On a high hill so named in Bel <i>patti</i> , about ¼ mile S.E. of the village of Bhann, 3 miles W. by N. of the Rámanga river, 3 miles S. by E. of the Gangolihát Dák Bungalow on the road to Almora and 2½ miles N. by E. of Nángalti village. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                                                            | 29 36 44 69               | 80 3 18 19                          | 7109                       | ...    | 3                                                   | ...                          | 767           |
| Banera                                  | s.          | Is ½ mile N. of the Sárda river, 1 mile W. by N. of Puniagiri temple, ½ mile E. of the road from Barndeo to Lohaghat and 3½ miles N.E. of Barndeo. Observed in 1872-78. ( <i>Káli Kumaun and Bhábar, Kumaun</i> ).                                                                                                                                                                        | 29 8 44 75                | 80 11 6 60                          | ...                        | ...    | ...                                                 | ...                          | 831           |
| Barndeo                                 | s.          | On the road to Pilibhit and the right bank of the Sárda river just N.E. of the village of Barndeo, ¼ mile E. by N. of Mundi and 1 mile N.E. of Baluakhara. Observed in 1871-72. ( <i>Káli Kumaun and Bhábar, Kumaun</i> ).                                                                                                                                                                | 29 6 30 42                | 80 9 9 88                           | 870                        | ...    | 2                                                   | ...                          | 822           |
| Bhabalta                                | h.s.        | On the slope of a hill, ¼ mile E. of the road to Pithoragarh in Seo Bising <i>patti</i> , ¼ mile N. by E. of Lohaghat Dák Bungalow, ¾ mile S.S.W. of Raikot village, 1 mile E. by N. of Koli and ¼ mile N.N.W. of Kulgaon village. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                      | 29 24 27 96               | 80 5 49 73                          | 6139                       | ...    | 1                                                   | ...                          | 848,<br>849   |
| Bhamdona                                | h.s.        | On a hill of that name on the boundary of Waldia Talla and Mahar <i>pattis</i> , 2 miles S.E. of Pithoragarh and 1 mile S. of the road to Baithári Fort. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                        | 29 33 46 01               | 80 14 3 97                          | 6232                       | ...    | 2                                                   | ...                          | 1042,<br>1043 |

DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bhapila Temple                          | In the village. Observed in 1869. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 29 47 49    | 80 4 44                   | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| Bodliakharak h.s.                       | On the lower slope of the hills, $\frac{1}{2}$ mile N.W. of the road from Barmdeo to Lohaghat where it crosses the Thuliganga stream, 2 miles W. by N. of Puniagiri temple and 3 miles N. by E. of Barmdeo. Observed in 1872-73. ( <i>Kali Kumaun and Bhábar, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                   | 29 9 2'00   | 80 9 47'34                | ...                                 | ...                        | ...    | ...                                                 | 890                          |
| Chalmalia Temple                        | Western end of a large eastern temple. Observed in 1868-69. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29 49 30    | 80 10 18                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Chini s.                                | On the Haldwani-Barmdeo road, $\frac{1}{2}$ mile S.W. from its crossing with the Pilibhit road; about midway between the cross roads and Chini chauki. Observed in 1871-72. ( <i>Kali Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                   | 29 4 16'69  | 80 5 11'00                | 848                                 | ...                        | 1      | ...                                                 | 817, 818                     |
| Chipalkot No. 1 h.s.                    | On a high rocky peak of a ridge forming the boundary between Johár and Askot <i>parganas</i> , $1\frac{1}{4}$ miles W. of Husukhola village, 3 miles S.W. of the Najari lake and $2\frac{1}{2}$ miles N.N.W. of Kandár village. The station is denoted by a stone embedded in the earth on which is a concentric circle and dot. Observed in 1873-74. ( <i>Johár-Askot, Kumaun</i> ).                                                                                                                                                                                                         | 29 56 18'22 | 80 22 53'06               | 13253                               | ...                        | 1      | ...                                                 | 1005, 1006                   |
| Chipalkot No. 2 h.s.                    | Is on the spur named Baitetala or Dewa Pata of the Chipladhura range which runs due west to the valley of Gori forming a portion of the boundary between Askot and Johár <i>pattis</i> , about 2 miles N.E. of Jablia village of Askot <i>patti</i> and $2\frac{1}{2}$ miles E.S.E. of Kaitholi village of Johár <i>patti</i> . There are two ascents, one from Jibli and the other from Kaitholi, the latter being the better of the two. The station consists of a single mark-stone embedded in the earth with a concentric circle and dot. Observed in 1873-74. ( <i>Johár, Kumaun</i> ). | 29 57 28'05 | 80 20 59'65               | 11824                               | ...                        | 2      | ...                                                 | 1155                         |
| Dakchol h.s.                            | On a high hill so named forming part of the boundary between Dánpur Talla and Dánpur Bichla <i>pattis</i> , $1\frac{1}{4}$ miles S.W. of the road from Milam to Bágesar, $1\frac{1}{2}$ miles W. of Bhandar, 1 mile S.E. of Siri and $1\frac{1}{4}$ miles N.W. of Jabera village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                | 29 57 26'78 | 80 0 39'60                | 7772                                | ...                        | 2      | ...                                                 | 1097, 1098                   |
| Deuli h.s.                              | On a hill of that name in Saun <i>patti</i> , 1 mile W. by S. of Mádh village, 2 miles N.W. of the Káli river, 3 miles S. of Pipalkot on the Pithoragarh road and 1 mile S.E. of Sheloni village. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                   | 29 31 24'97 | 80 17 47'71               | 6463                                | ...                        | 2      | ...                                                 | 1040, 1041                   |

DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| Dhaj                                    | h. s. Is situated in Kharet <i>patti</i> , about 3 miles to the south-east of Satgarh from which village there is a made road to the station. The hill can also be ascended from the Pithoragarh side, but the latter part of the ascent in this direction is extremely precipitous. The station is adjoining a shrine and south of it. To the south-east of the station and about 200 yards below it there is a temple of Mahadeo. The station consists of a platform of rubble masonry 14 feet square, with a puka isolated pillar 30 inches high and 36 inches in diameter, having 3 mark-stones 15 inches apart, the lowest one being on an out-cropping rock. Observed in 1864-65. ( <i>Sor, Kumaun</i> ). | 29 38 51.31 | 80 17 24.15               | 8159                                | ...                        | 2      | Feet<br>...                                         | 299,<br>300                  |
| Dhamigaon                               | h. s. On a hill 1 mile N.E. of the village of that name in Talla Des <i>patti</i> , $\frac{1}{2}$ mile N.W. from the main road, $\frac{1}{2}$ miles S.W. of Dabani village on the Gori river and $1\frac{1}{2}$ miles E.N.E. of Baria. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                              | 29 56 23.44 | 80 16 50.86               | 7423                                | ...                        | 3      | ...                                                 | 1060,<br>1061                |
| Dhapiadhura                             | h. s. On a high hill of that name in Malla Askot <i>patti</i> , $2\frac{1}{2}$ miles N.E. of the Gori river, 1 mile N. by E. of Táli village, $2\frac{1}{2}$ miles S.E. of Jarañbil village and $2\frac{1}{2}$ miles W. of Kundár. Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                  | 29 54 14.26 | 80 21 39.91               | 8430                                | ...                        | 2      | ...                                                 | 1057,<br>1058                |
| Dharij                                  | h. s. On a hill of that name in Mahar <i>patti</i> , $1\frac{1}{2}$ miles W. of Dhaobunsh <i>patti</i> , 1 mile S. by E. of Dhaokhana and 2 miles N. by W. of Bhatari village. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 29 37 11.36 | 80 22 15.12               | 6587                                | ...                        | 2      | ...                                                 | 1038,<br>1039                |
| Dhian                                   | h. s. On a hill so named in Saun <i>patti</i> , $\frac{1}{2}$ mile N.W. of the Káli river, 1 mile S.E. of Mádh village and $2\frac{1}{2}$ miles S.S.W. of Balhári village. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 29 31 7.34  | 80 19 22.80               | 5138                                | ...                        | 2      | ...                                                 | 1045,<br>1046                |
| Gangolihát Dák Bungalow                 | Apex of roof to north, about 12 miles N.W. of Pithoragarh on the Almora-Pithoragarh road. Observed in 1869. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 29 39 23    | 80 2 57                   | 5587                                | ...                        | ...    | ...                                                 | ...                          |
| Garaon                                  | h. s. Lies just to the E. of the village of that name in Barann <i>patti</i> , $1\frac{1}{2}$ miles N.E. of the road from Bagesar, $1\frac{1}{2}$ miles N. of Dhanauli, $\frac{1}{2}$ mile E. by S. of Sigauli and 1 mile S. of Jughali village. Observed in 1869. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                  | 29 48 7.15  | 80 3 31.98                | 4361                                | ...                        | 1      | ...                                                 | 1086                         |
| Garaphor                                | h. s. On a hill of that name in Talla Pálbilon <i>patti</i> , $2\frac{1}{2}$ miles E. of the road to Lohughát and the Kuirala river, 1 mile W. of Bajon village and $1\frac{1}{2}$ miles N.N.E. of Diari. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 29 14 11.51 | 80 5 9.48                 | 5993                                | ...                        | 4      | ...                                                 | 776                          |

DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point |      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Differences per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|-------------------------------|
|                                         |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                           |                                     | Position                   | Height |                                                   |                               |
| Ghanadhura                              | h.s. | On a hill so named, 1½ miles S.W. of the Gori river, 3 miles S.E. of the road to Milam, 2½ miles E. of Borgaon, 2½ miles N.E. of Metagar and 2 miles S.W. of Loli village in Dindihat patti. Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 29 51 1'18"  | 80 18 46'84"              | 8205                                | ...                        | 2      | Feet<br>...                                       | 1048,<br>1049                 |
| Gorakhnáth                              | h.s. | Close to the temple of that name on a hill in Talla Des patti, 2 miles S.E. of Duber village and about 1 mile S.W. of Heram village. Observed in 1884-85. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 29 15 43'61" | 80 13 23'32"              | 6285                                | ...                        | 2      | ...                                               | 1007,<br>1008                 |
| Hánchati                                | h.s. | About ¼ mile E.S.E. and below the village of that name, ½ mile W. of the Almora-Milam road and the Rámanga river, ¼ mile N.N.E. of Parhyát village and 2½ miles N.E. of Thárp in Buraun patti. Observed in 1869. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 29 49 1'63"  | 80 7 41'71"               | 3763                                | ...                        | 1      | ...                                               | 1085                          |
| Hania-ka-dhura                          | h.s. | On a hill of that name in Máli patti, ¼ mile N.E. of Syalbe, ½ mile S.S.W. of Barhet, 2 miles S.S.W. of the large village of Bhainsori and 2 miles E. of Digauti village, on the road by the Rámanga river. Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 29 46 20'32" | 80 10 12'71"              | 5599                                | ...                        | 3      | ...                                               | 995                           |
| Harchanddeo                             | h.s. | On a hill so named on Buraun and Kam-syár patti boundary, 1½ miles N.W. of the road to Bagesar, 2 miles E.N.E. of Ath-paisya, 1 mile N. of Tusrera and 1½ miles E. by S. of Bhainsori. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 29 48 32'30" | 80 1 14'87"               | 6500                                | ...                        | 1      | ...                                               | 1067,<br>1068                 |
| Iriarikot                               | h.s. | On a hill so named in Seti Talla patti, ¼ mile N. of the village of Chána, ½ mile E. by N. of Bhurmoni and 1½ miles N. of the Almora-Pithoragarh road. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 29 37 37'28" | 80 11 11'24"              | 6889                                | ...                        | 4      | ...                                               | 997,<br>998                   |
| Jhum                                    | h.s. | Is situated about 1½ miles north-east of Sui in Sen Bising patti, south-east of Tarak and about 2 miles south-west of Bantoli village of Rigurbari patti; about 1½ miles north-west of the Raikot Tea Plantation, about 2½ miles north-west of Raikot and about 2½ miles north by west of Patan villages of Cheral patti. There is a good approach to the station from the road below the Raikot Tea Plantation or from the village of Sui. The station consists of a platform of rubble masonry, 14 feet square with a paka pillar 24 inches high and 36 inches in diameter, having 2 mark-stones 18 inches apart, the lower mark being on a rock cropping out of the ground about 6 inches above the surface. Observed in 1864-65. ( <i>Káli Kumaun, Kumaun</i> ). | 29 25 51'17" | 80 5 20'44"               | 6960                                | ...                        | 2      | ...                                               | 298                           |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| Jurung h.s.                             | On a hill so named at the trijunction of the <i>pattis</i> of Dindihát, Athbisi Malla and Athbisi Talla, $\frac{1}{2}$ mile N.E. of Nakholi village, $1\frac{1}{4}$ miles S. of Bhanarha, $2\frac{1}{4}$ miles W. of Merthi Talla and $2\frac{1}{2}$ miles S. of the Pithoragarh-Milam road. Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 29 46 23.53 | 80 13 53.82               | 7148                                | ...                        | 2      | Feet<br>...                                         | 1034,<br>1035                |
| Kulgaon Temple                          | About a mile E. of Lohaghát Dák Bungalow. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29 23 58    | 80 6 18                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kálimat No. 4 h.s.                      | On a flat hill so named just above the village of Naidel on the Lohaghát-Pithoragarh road, $1\frac{1}{2}$ miles W. of the Káli river, $1\frac{1}{2}$ miles S. of the Sarju river and 1 mile E. of Shileng village. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29 25 33.24 | 80 13 23.98               | 4888                                | ...                        | 2      | ...                                                 | 1020,<br>1021                |
| Kamroli h.s.                            | On a hill of that name in Bára Bisi <i>patti</i> , $\frac{1}{2}$ mile N.E. of the Kálapáni stream and 1 mile W. of Bichul village on the Pithoragarh-Thál road. Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29 40 11.92 | 80 12 30.48               | 4708                                | ...                        | 1      | ...                                                 | 1030,<br>1031                |
| Kánádeo h.s.                            | On a hill so named on the boundary of Cherál and Talla Des <i>pattis</i> , $2\frac{1}{4}$ miles E.N.E. of Cheropáni Bungalow, $1\frac{1}{2}$ miles S.S.W. of Basoti Bungalow and $1\frac{1}{2}$ miles E.S.E. of Dudpokra Bungalow. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29 18 41.18 | 80 8 53.51                | 7248                                | ...                        | 2      | ...                                                 | 779                          |
| Kandegaon h.s.                          | On a hill $\frac{1}{4}$ mile S. and E. of the road to Lohaghát in Rawal <i>patti</i> , $\frac{1}{4}$ mile N.E. of the Sarju river and 2 miles S.W. of Gun Dák Bungalow. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 29 30 52.32 | 80 8 10.94                | 4169                                | ...                        | 2      | ...                                                 | 1025                         |
| Khamlek h.s.                            | On a knoll rising from a low ridge called Pingal Nag in Gangoli <i>patti</i> . There are three knolls on the range, the station is built on the centre one and on the easterly one there is a shrine from which the range takes its name. The shrine is about 200 yards from the station. It is about 3 miles south-west of Hip, about 6 miles south of Kotgari, 6 miles south-east of Lawatál, $1\frac{1}{2}$ miles east of Chaokori Tea Plantation and 2 miles north-west of Kuleti village: all in Pangro <i>patti</i> . The best ascent is from the west close by Chaokori Tea Plantation. The nearest water is $\frac{1}{4}$ mile to the west of the station. The station consists of a platform 14 feet square with a paka isolated pillar 30 inches high and 86 inches in diameter, having two mark-stones 24 inches apart, the lower one being on an out-cropping rock. Observed in 1864-65. ( <i>Gangoli, Kumaun</i> ). | 29 50 18.02 | 80 3 26.50                | 6851                                | ...                        | 2      | ...                                                 | 294,<br>295                  |

DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| Khána                                   | h.s. Near Khána village, $\frac{1}{4}$ mile N. of Ghágrí village on the road to Pithoragarh and the Káli river, $\frac{1}{4}$ mile W.N.W. of Balunkot and 1 mile N.E. of Dhongar village in Mallá Askot <i>patti</i> . Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                                                                                                                                                                                                                    | 29 48 18.76 | 80 24 49.19               | 4111                                | ...                        | 1      | ...                                                 | 1062                         |
| Khaparchula                             | h.s. Is on the highest peak of the Jarpani ridge which forms a portion of the boundary between Thála West and Dindihát <i>pattis</i> . The Jarpani pass on the road from Talla Des <i>patti</i> to Dindihát and Askot lies 5 miles to the east and from the pass the ridge has a very gentle slope to the station. The village of Seni lies 4 miles E.N.E., Katherdi $3\frac{1}{2}$ miles N.E. and Rorda and Makunda 1 mile to N. The station has a mark-stone with the usual circle and dot. Observed in 1869-70. ( <i>Sira and Johár, Kumaun</i> ). | 29 52 6.77  | 80 12 38.34               | 7729                                | ...                        | 3      | ...                                                 | 991                          |
| Khumbale                                | h.s. On a hill of that name in Cherál <i>patti</i> , 1 mile S. of Belsi village in Seo Bising <i>patti</i> , 1 mile N. by E. of Dakna village on the road to Almora and $1\frac{1}{2}$ miles N. of Champáwat. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                       | 29 21 32.42 | 80 5 5.07                 | 6456                                | ...                        | 1      | ...                                                 | 846, 847                     |
| Kol                                     | h.s. On a hill in Bel <i>patti</i> , $\frac{1}{4}$ mile N. of the road to Almora, $\frac{1}{4}$ mile N.N.E. of Hat village, 1 mile W.N.W. of Gangolihát Dáx Bungalow and $1\frac{1}{4}$ miles N.E. of Hanera. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                                           | 29 39 54.17 | 80 2 15.39                | 6150                                | ..                         | 2      | ...                                                 | 1065, 1066                   |
| Kot                                     | h.s. On a hill of that name in Dánpur Biebla <i>patti</i> , $\frac{1}{4}$ mile S. of Sáma on the Bágésar road, 1 mile N.W. of Bhandar and $1\frac{1}{4}$ miles E.S.E. of Hiri village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                   | 29 57 44.18 | 80 1 36.12                | 6738                                | ...                        | 2      | ...                                                 | 1100                         |
| Lamkishun                               | h.s. On a high hill of that name at the trijunction of the boundaries of Atgaun, Bel and Baraun <i>pattis</i> , 2 $\frac{1}{2}$ miles N.E. of Agar village, 2 miles N.N.W. of Jijoli and 1 $\frac{1}{2}$ miles S.E. of Chák. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                                                                                                                            | 29 42 42.78 | 80 1 22.91                | 7746                                | ...                        | 4      | ...                                                 | 994                          |
| Lárilék                                 | h.s. On a hill of that name in Askot Talla <i>patti</i> , $\frac{1}{4}$ mile E. of the Pithoragarh-Askot road, $\frac{1}{4}$ mile S.S.E. of Ulma, 1 mile W.S.W. of Shunkot and $1\frac{1}{4}$ miles N.E. of Maláshu village. Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                                                                                                                                                                                                              | 29 43 17.84 | 80 18 20.81               | 6038                                | ...                        | 2      | ...                                                 | 1036, 1037                   |
| Launchaura                              | h.s. On a hill so named on the boundary of Mallá Pábilon and Cherál <i>pattis</i> , 1 $\frac{1}{4}$ miles S.S.W. of Cherapáni and 2 miles W.N.W. of Sali village on the road to Barndeo. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                            | 29 16 42.52 | 80 6 13.79                | 6749                                | ...                        | 2      | ...                                                 | 844, 845                     |



## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |             |             |                           |                                     | Position                   | Height |                                                      |                              |
| Litāla                                  | h.s.        | 29 56 33.32 | 80 6 10.81                | 6579                                | ...                        | 2      | Feet<br>...                                          | 1093,<br>1094                |
| Lohaghāt Dāk Bungalow                   |             | 29 24 2     | 80 5 26                   | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| Lori                                    | h.s.        | 29 43 12.74 | 80 14 20.57               | 7763                                | ...                        | 2      | ...                                                  | 1032,<br>1033                |
| Lujnidhura                              | No. 1 h.s.  | 29 19 25.37 | 80 15 2.02                | 6055                                | ...                        | 2      | ...                                                  | 1016,<br>1017                |
| Lujnidhura                              | No. 2 h.s.  | 29 19 37.63 | 80 14 54.04               | 6062                                | ...                        | 2      | ...                                                  | 1022                         |
| Majarkhāna                              | h.s.        | 29 34 41.00 | 80 22 5.20                | 4482                                | ...                        | 2      | ...                                                  | 1047                         |
| Malāsh-ka-lek                           | Peak        | 29 4 40     | 80 12 4                   | ...                                 | ...                        | ...    | ...                                                  | 839,<br>840                  |
| Masurbio                                | h.s.        | 29 41 1.30  | 80 11 13.62               | 5919                                | ...                        | 2      | ...                                                  | 1028,<br>1029                |
| Matiabānj                               | h.s.        | 29 9 51.20  | 80 2 33.75                | 5238                                | ...                        | 2      | ...                                                  | 775                          |
| Maurkot                                 | h.s.        | 29 15 37.38 | 80 15 27.38               | 5421                                | ...                        | 2      | ...                                                  | 1014,<br>1015                |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                     |                              |
| Miathamb                                | h.s. On a high hill of that name in Malla Askot patti, 2½ miles S.E. of the Gosiganga stream, 3¼ miles N. of Pokri village on the road to Pithoragarh and 4 miles E. by N. of Baram village on the Gori river. Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                                                                                                                              | 29 51 40.02 | 80 25 23.87               | 10721                               | ...                        | 2      | ...                                                 | 1052, 1053                   |
| Mundhura                                | No. 1 h.s. On a hill in Dánpur Bichla patti, 1 mile S.S.W. of Tejam village on the road to Milam and the Rámungga river and 1¼ miles N.E. of Namti village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                | 29 56 11.41 | 80 7 27.98                | 6581                                | ...                        | 2      | ...                                                 | 1089, 1090                   |
| Mundhura                                | No. 2 h.s. About 400 feet to the N.E. of Mundhura No. 1 h.s. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                               | 29 56 12.62 | 80 7 31.65                | 6542                                | ...                        | 2      | ...                                                 | 1091, 1092                   |
| Nagarchula                              | h.s. On a hill of that name on the eastern road from Lolaghát to Pithoragarh, 3 miles W. by S. of the Káli river, 1 mile S.E. of Puld and 1½ miles S. of Naultokra villages. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                          | 29 23 58.99 | 80 11 41.65               | 6032                                | ...                        | 2      | ...                                                 | 1012, 1013                   |
| Nil                                     | h.s. On a hill spur S. of the road to Pithoragarh, ¼ mile W. of the Káli river, ¼ mile N.E. of Naidel and 2 miles E. of Shileng villages. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                             | 29 25 57.56 | 80 14 10.86               | 3595                                | ...                        | 2      | ...                                                 | 1023                         |
| Papoli                                  | h.s. On a hill of that name in Rangor patti, 1¼ miles S. of the Sarju river, 1¼ miles N. by W. of Ukhalgarra on the Punar river and 2½ miles E. by S. of Bhaisari village. Observed in 1868. ( <i>Chaugarkha, Kumaun</i> ).                                                                                                                                                                                                                             | 29 31 53.37 | 80 1 42.80                | 5407                                | ...                        | 2      | ...                                                 | 861, 862                     |
| Pathar                                  | h.s. On a hill so named in Malla Askot patti, 1¼ miles N.W. of the road to Dárma and the Káli river, 1¼ miles E. of the Gori river, 1¼ miles N.E. of Thám and 1½ miles S.E. of Balnara villages. Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                                                                                                                                            | 29 47 10.77 | 80 22 59.78               | 5729                                | ...                        | 2      | ...                                                 | 1050, 1051                   |
| Patildhura                              | h.s. On a flat-topped spur of the range running west to east and dividing the Gori from the Káli river. The village of Jumma is situated near the foot of the spur and 4 miles east of the station. The Kelagarh stream which forms a portion of the boundary between Askot and Dárma patti, flows by the northern slope of the peak. The station has a single mark-stone with the usual circle and dot. Observed in 1873-74. ( <i>Askot, Kumaun</i> ). | 29 55 22.61 | 80 30 10.24               | 11211                               | ...                        | 3      | ...                                                 | 1191, 1192                   |
| Pipaltar                                | h.s. On the spur of a hill close to the Tea Factory of that name, ¼ mile W. of the Rámungga river and the road to Pithoragarh, 1¼ miles S.E. of the road to Bágesur, ¼ mile N.W. of Kot and ¼ mile E. by S. of Belkot villages. Observed in 1869. ( <i>Gangoli, Kumaun</i> ).                                                                                                                                                                           | 29 45 56.00 | 80 7 31.23                | 2907                                | ...                        | 1      | ...                                                 | 1089                         |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pithoragarh Fort                        | Eastern tree of the fort. Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                   | 29 35 6     | 80 12 41                  | 5335                                | ...                        | ...    | Feet                                                | ...                          |
| Pithoragarh Tower                       | Observed in 1869. ( <i>Sor, Kumaun</i> ).                                                                                                                                                                                                                                                                             | 29 35 21    | 80 12 35                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Pokridhura h.s.                         | On a hill so named, 1½ miles N.E. of the village of Pokri on the road to Dárma and the Káli river, 3 miles E. of Panya and 2 miles N.E. of Baluakot villages in Malla Askot patti. Observed in 1869. ( <i>Askot, Kumaun</i> ).                                                                                        | 29 49 20'74 | 80 27 5'69                | 7335                                | ...                        | 2      | ...                                                 | 1054,<br>1055                |
| Puniagiri Hill Mark                     | On a hill ½ mile S. of the temple of that name and the same distance N. of the Sárda river and 3½ miles N.E. of Barndeo. Observed in 1872-73. ( <i>Káli Kumaun Bhábar, Kumaun</i> ).                                                                                                                                  | 29 8 18'9   | 80 11 55'5                | ...                                 | ...                        | ...    | ...                                                 | 832                          |
| Puniagiri h.s.                          | On a high rocky peak on the boundary of Káli Kumaun and Káli Kumaun Bhábar parganas, 1½ miles N.N.E. of Puniagiri temple, 1½ miles E. of Sanmuna village on the Lohaghat road and 2½ miles S. by E. of Azron village on the Ludhia river. Observed in 1871-72. ( <i>Káli Kumaun and Káli Kumaun Bhábar, Kumaun</i> ). | 29 10 4'25  | 80 12 42'09               | 5500                                | ...                        | 4      | ...                                                 | 778                          |
| Sacholi h.s.                            | On a conspicuous hill, about a mile N.W. of Khipiti Pokri village and ¼ mile S.E. of Khotara village: a foot-path to Pithoragarh passes about ¼ mile north of the station. Observed in 1884-85. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                       | 29 22 33'11 | 80 9 19'32                | ...                                 | ...                        | ...    | ...                                                 | 1026,<br>1027                |
| Shaulkul h.s.                           | On a hill so named in Kameyár patti, ½ mile S. of Daurigar village on the road to Bagesur, 1½ miles N. of the road to Almora, 1 mile W. by N. of Aglari village and 2 miles E. by S. of Raut-ka-Sera village on the Kaluriganga stream. Observed in 1868. ( <i>Gangoli, Kumaun</i> ).                                 | 29 46 25'11 | 80 0 49'96                | 5803                                | ...                        | 2      | ...                                                 | 1069,<br>1070                |
| Sheralek h.s.                           | On the main range of that name, about 1½ miles N. by E. of Lelu village, the same distance N.W. of Budhálu and 4½ miles E.N.E. of Pithoragarh Fort. Observed in 1884-86. ( <i>Sor, Kumaun</i> ).                                                                                                                      | 29 35 57'65 | 80 17 23'15               | ...                                 | ...                        | ...    | ...                                                 | 1010,<br>1011                |
| Shiala No. 1 h.s.                       | On a hill forming the boundary between Káli Kumaun and Káli Kumaun Bhábar parganas, 3¼ miles N.N.W. of Barndeo, 3½ miles S. of the Ludhia river and 2½ miles W.N.W. of the Barndeo-Lohaghat road. Observed in 1871-72. ( <i>Káli Kumaun and Káli Kumaun Bhábar, Kumaun</i> ).                                         | 29 9 28'19  | 80 7 52'97                | 4981                                | ...                        | 2      | ...                                                 | 777                          |
| Shiala No. 2 h.s.                       | About 200 feet to the south-east of Shiala No. 1 h.s. Observed in 1871-72. ( <i>Káli Kumaun and Káli Kumaun Bhábar, Kumaun</i> ).                                                                                                                                                                                     | 29 9 26'28  | 80 7 54'32                | 4946                                | ...                        | 1      | ...                                                 | 815,<br>816                  |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common side of triangles | Reference Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                          |                                     | Position                   | Height |                                                    |                               |
| Simalthal                               | h.s. On a hill so named in <i>Máli patti</i> , $\frac{1}{4}$ mile N. of the road to Pithoragarh, $\frac{1}{4}$ mile E of that to Milam, $\frac{1}{4}$ mile N. by E. of Topara Dhar, $\frac{1}{4}$ mile S. of Basor and $\frac{1}{4}$ mile E. of Palet villages. Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                    | 29 50 30.62 | 80 9 45.49               | 3942                                | ...                        | 2      | Feet<br>...                                        | 1084                          |
| Sirakot                                 | Temple Observed in 1869. ( <i>Sira, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29 48 58    | 80 14 42                 | ...                                 | ...                        | ...    | ...                                                | ...                           |
| Sirsagarh                               | Peak Sharp peak at the head of the valley of the same name in Nepal, $12\frac{1}{2}$ miles S.E. from the nearest point on the Kumaun boundary, the junction of the Sirsagarh stream with the Sarda river. Observed in 1871-72. ( <i>Nepal</i> ). Is identical with $\frac{\text{Pk. 21}}{62 \text{ C}}$ on page 410— <i>I</i> .                                                                                                                                                                                                                                                                                               | 29 1 35     | 80 25 16                 | ...                                 | ...                        | ...    | ...                                                | 836                           |
| Sujánbonga                              | h.s. On a hill of that name on the boundary of <i>Sira</i> and <i>Johár paraganas</i> , $\frac{1}{4}$ mile N.W. of the road to Milam, $1\frac{1}{4}$ miles N.E. of Sini and 2 miles N.N.W. of Kuniya villages. Observed in 1869. ( <i>Sira and Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                           | 29 53 34.41 | 80 15 53.65              | 8442                                | ...                        | 3      | ...                                                | 1086                          |
| Sukadhár                                | h.s. On a peak of the same name of the range dividing the Gori from the Káli valley. The Relagarh and the Kulyan which flow down to the Káli and the Gostunga which runs into the Gori take their rise within 50 feet of the station. The village of Galadhi lies 5 miles S.E. that of Kunar the same distance S.S.W. and that of Jumma 7 miles east. There is a good path used by the pilgrims to a pool of water known as Lotani Dánda which lies 3 miles N. of the station and about a mile east of the well-known Chipata Peak. The station is marked by a circle and dot. Observed in 1873-74. ( <i>Askot, Kumaun</i> ). | 29 55 52.77 | 80 27 2.78               | 13852                               | ...                        | 2      | ...                                                | 1187                          |
| Suwálekdhura                            | h.s. At the S. end of a hill so named in Talla Des <i>patti</i> , $1\frac{1}{4}$ miles N.N.W. of the road to Milam, 1 mile W. of Gaula, 1 mile S.W. of Ryo and 1 mile N.E. of Suwálek villages. Observed in 1869. ( <i>Johár, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                   | 29 56 22.42 | 80 12 49.22              | 7287                                | ...                        | 2      | ...                                                | 1087,<br>1088                 |
| Tamli                                   | h.s. On a conical peak in Talla Des <i>patti</i> , $\frac{1}{4}$ mile N.E. of Nichula village, $\frac{1}{4}$ mile N. by E. of Phulaf and 1 mile W. by N. of the Káli river. Observed in 1869. ( <i>Káli Kumaun, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                                                                                                 | 29 18 0.01  | 80 17 49.24              | 4484                                | ...                        | 2      | ...                                                | 1018,<br>1019                 |
| Tána                                    | h.s. On a hill $\frac{1}{4}$ mile S.W. of the village of that name and $\frac{1}{4}$ mile S. of the road to Bágesar, $1\frac{1}{4}$ miles E. by S. of Sáma village, $2\frac{1}{4}$ miles S.W. of the Rámanga river and 1 mile N. by E. of Bhandar village. Observed in 1869. ( <i>Dánpur, Kumaun</i> ).                                                                                                                                                                                                                                                                                                                       | 29 58 8.33  | 80 2 57.20               | 7530                                | ...                        | 2      | ...                                                | 1095,<br>1096                 |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                     |                              |
| Thákala                                 | h.s. On a hill so named on Johár and Askot boundary, 1½ miles E.N.E. of Baikot village, 1¼ miles E. by S. of the Gori river and the road to Milam and 2½ miles S. of Khartoli village. Observed in 1869. ( <i>Johár-Askot, Kumaun</i> ).                    | 29 57 9.85  | 80 19 55.00               | 8666                                | ...                        | 2      | Feet<br>...                                         | 1059                         |
| Tbákil                                  | h.s. On a hill so named on the boundary of Waldia Talla and Rawal <i>pattis</i> , 2¼ miles S.E. of Gun Dák Bungalow on the Pithoragarh-Lohaghát road, 2¼ miles W. of Badbe village and 2¼ miles S. by E. of Toli. Observed in 1869. ( <i>Sor, Kumaun</i> ). | 29 30 32.76 | 80 11 59.36               | 8166                                | ...                        | 3      | ...                                                 | 999,<br>1000                 |
| Thúladánda                              | h.s. On a hill so named on the boundary of Gum Des and Khilpati <i>pattis</i> , ¼ mile N.W. of Banku village, 1 mile S.S.E. of Pirpatoli and 1 mile N. of the Lohaghát <i>nadi</i> . Observed in 1869. ( <i>Káti Kumaun, Kumaun</i> ).                      | 29 21 22.18 | 80 11 33.19               | 5742                                | ...                        | 1      | ...                                                 | 1024                         |
| Titarlek                                | h.s. On a high peak of that name in Kharak Des <i>patti</i> , 1½ miles N.E. of Dholi Kharak village, 3 miles E.S.E. of Sathgarh on the Pithoragarh-Askot road and 2¼ miles W. of Dhuokhana village. Observed in 1869. ( <i>Sor, Kumaun</i> ).               | 29 38 17.33 | 80 19 10.23               | 6655                                | ...                        | 2      | ...                                                 | 1044                         |
| Tola                                    | h.s. On a hill of that name in Talla Pábilon <i>patti</i> , 1 mile W. of the road to Lohaghát, 1 mile W.S.W. of a temple on the Kuirála river and 2 miles S.S.W. of Garcham village. Observed in 1869. ( <i>Káti Kumaun, Kumaun</i> ).                      | 29 14 22.16 | 80 1 46.67                | 5032                                | ...                        | 1      | ...                                                 | 855,<br>856                  |
| Triarikot                               | Hill Mark Also called Ghosit; on a hill ¼ mile S.W. of Bajel hamlet, 1¼ miles N. by E. of Murh village and about 3 miles N.E. of Pithoragarh Fort. Observed in 1884-85. ( <i>Sor, Kumaun</i> ).                                                             | 29 37 37.4  | 80 13 33.0                | ...                                 | ...                        | ...    | ...                                                 | 1009                         |
| <u>Pk. 1</u><br>62 C                    | ... Highest tree on peak. Observed in 1868-69.                                                                                                                                                                                                              | 29 9 52     | 80 2 33                   | ...                                 | 3                          | ...    | 1.4                                                 | ...                          |
| <u>Pk. 2</u><br>62 C                    | ... See Malásh-ka-lek Peak, page 405— <i>r</i> .                                                                                                                                                                                                            | 29 4 40     | 80 12 4                   | ...                                 | ...                        | ...    | ...                                                 | 839,<br>840                  |
| <u>Pk. 3</u><br>62 C                    | ... Peak. Observed in 1868-69.                                                                                                                                                                                                                              | 29 59 13    | 80 16 9                   | ...                                 | 3                          | ...    | 2.4                                                 | ...                          |
| <u>Pk. 4</u><br>62 C                    | ... Peak. Observed in 1869.                                                                                                                                                                                                                                 | 29 59 6     | 80 17 44                  | ...                                 | 3                          | ...    | 0.2                                                 | ...                          |
| <u>Pk. 5</u><br>62 C                    | ... Peak. Observed in 1869.                                                                                                                                                                                                                                 | 29 59 0     | 80 15 47                  | ...                                 | 3                          | ...    | 4.4                                                 | ...                          |
| <u>Pk. 6<sup>1</sup></u><br>62 C        | ... Northern peak. Observed in 1869.                                                                                                                                                                                                                        | 29 58 42    | 80 26 45                  | ...                                 | 3                          | ...    | 0.7                                                 | ...                          |

Note:—All the above peaks except peak No. 2 are in Kumaun.

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|---------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                               |             |                           |                                     | Position                   | Height |                                                     |                               |
| $\frac{\text{Pk. 6}^2}{62 \text{ C}}$   | ... Southern peak. Observed in 1869.                          | 29 58 35    | 80 26 47                  | ...                                 | 3                          | ...    | Feet<br>4'0                                         | ...                           |
| $\frac{\text{Pk. 7}}{62 \text{ C}}$     | ... Peak. Observed in 1868-69.                                | 29 57 48    | 80 25 0                   | ...                                 | 4                          | ...    | 0'4                                                 | ...                           |
| $\frac{\text{Pk. 8}}{62 \text{ C}}$     | ... Peak. Observed in 1868-69.                                | 29 55 53    | 80 27 3                   | ...                                 | 4                          | ...    | 0'0                                                 | ...                           |
| $\frac{\text{Pk. 9}}{62 \text{ C}}$     | ... Peak. Observed in 1869.                                   | 29 55 10    | 80 26 43                  | ...                                 | 3                          | ...    | 4'0                                                 | ...                           |
| $\frac{\text{Pk. 10}}{62 \text{ C}}$    | ... Peak. Observed in 1868-69.                                | 29 53 57    | 80 28 15                  | ...                                 | 4                          | ...    | 0'2                                                 | ...                           |
| $\frac{\text{Pk. 11}}{62 \text{ C}}$    | ... Peak. Observed in 1868-69.                                | 29 53 34    | 80 15 54                  | ...                                 | 3                          | ...    | 1'1                                                 | ...                           |
| $\frac{\text{Pk. 12}}{62 \text{ C}}$    | ... Peak. Observed in 1868-69.                                | 29 51 43    | 80 25 32                  | ...                                 | 3                          | ...    | 1'7                                                 | ...                           |
| $\frac{\text{Pk. 13}}{62 \text{ C}}$    | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).              | 29 35 17    | 80 28 22                  | ...                                 | 3                          | ...    | 1'6                                                 | ...                           |
| $\frac{\text{Pk. 14}}{62 \text{ C}}$    | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).              | 29 29 3     | 80 25 18                  | ...                                 | 4                          | ...    | 0'3                                                 | ...                           |
| $\frac{\text{Pk. 15}}{62 \text{ C}}$    | ... Round centre peak. Observed in 1884-85. ( <i>Nepal</i> ). | 29 24 16    | 80 21 6                   | 6920                                | 3                          | 2      | 2'3                                                 | ...                           |
| $\frac{\text{Pk. 16}}{62 \text{ C}}$    | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).              | 29 15 8     | 80 23 28                  | ...                                 | 3                          | ...    | 1'1                                                 | ...                           |
| $\frac{\text{Pk. 17}}{62 \text{ C}}$    | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).              | 29 15 1     | 80 21 55                  | ...                                 | 3                          | ...    | 0'7                                                 | ...                           |
| $\frac{\text{Pk. 18}^1}{62 \text{ C}}$  | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).              | 29 14 58    | 80 26 37                  | ...                                 | 3                          | ...    | 0'3                                                 | ...                           |
| $\frac{\text{Pk. 18}^2}{62 \text{ C}}$  | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).              | 29 14 47    | 80 26 35                  | ...                                 | 5                          | ...    | 0'4                                                 | ...                           |
| $\frac{\text{Pk. 19}}{62 \text{ C}}$    | ... See Baitlani Peak No. 2, page 399— <i>I.</i>              | 29 3 8      | 80 15 7                   | ...                                 | ...                        | ...    | ...                                                 | 838                           |
| $\frac{\text{Pk. 20}}{62 \text{ C}}$    | ... See Baitlani Peak No. 1, page 399— <i>I.</i>              | 29 3 4      | 80 19 37                  | ...                                 | ...                        | ...    | ...                                                 | 887                           |
| $\frac{\text{Pk. 21}}{62 \text{ C}}$    | ... See Siranagarh Peak, page 408— <i>I.</i>                  | 29 1 35     | 80 25 16                  | ...                                 | ...                        | ...    | ...                                                 | 896                           |
| $\frac{\text{Pk. 22}}{62 \text{ C}}$    | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                 | 29 57 25    | 80 44 34                  | ...                                 | 3                          | ...    | 0'5                                                 | ...                           |
| $\frac{\text{Pk. 23}}{62 \text{ C}}$    | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                 | 29 55 20    | 80 42 16                  | ...                                 | 3                          | ...    | 1'4                                                 | ...                           |
| $\frac{\text{Pk. 24}}{62 \text{ C}}$    | ... Peak. Observed in 1869. ( <i>Nepal</i> ).                 | 29 54 14    | 80 42 54                  | ...                                 | 3                          | ...    | 6'4                                                 | ...                           |

Note:—Peaks from No. 6<sup>2</sup> to No. 12 are in Kumaun.

## DEGREE SHEET No. 62 C, between Lats. 25° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pk. 25<br>62 C                          | ... Peak, $\frac{1}{4}$ mile N.E. of Barbalek h.s. Observed in 1874. ( <i>Nepal</i> ). | 29 52 52    | 80 43 53                  | ...                                 | 3                          | ...    | Feet<br>3' 1                                        | ...                          |
| Pk. 26<br>62 C                          | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                                          | 29 51 53    | 80 41 29                  | ...                                 | 4                          | ...    | 0' 8                                                | ...                          |
| Pk. 27<br>62 C                          | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                                          | 29 51 37    | 80 38 45                  | ...                                 | 3                          | ...    | 1' 8                                                | ...                          |
| Pk. 28<br>62 C                          | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                                          | 29 49 47    | 80 38 17                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 29<br>62 C                          | ... Peak. Observed in 1869. ( <i>Nepal</i> ).                                          | 29 49 15    | 80 33 30                  | ...                                 | 3                          | ...    | 2' 0                                                | ...                          |
| Pk. 30<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 47 5     | 80 34 23                  | ...                                 | 3                          | ...    | 0' 4                                                | ...                          |
| Pk. 31<br>62 C                          | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                                          | 29 46 54    | 80 35 58                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 32<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 44 45    | 80 30 55                  | ...                                 | 3                          | ...    | 0' 2                                                | ...                          |
| Pk. 33<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 34 29    | 80 42 29                  | ...                                 | 3                          | ...    | 6' 1                                                | ...                          |
| Pk. 34<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 33 12    | 80 39 41                  | ...                                 | 3                          | ...    | 0' 0                                                | ...                          |
| Pk. 35<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 32 53    | 80 35 33                  | ...                                 | 3                          | ...    | 0' 9                                                | ...                          |
| Pk. 36<br>62 C                          | ... Round and well defined peak. Observed in 1884-85. ( <i>Nepal</i> ).                | 29 29 24    | 80 43 12                  | ...                                 | 3                          | ...    | 0' 8                                                | ...                          |
| Pk. 37<br>62 C                          | ... Snowy peak. Observed in 1850-51. ( <i>Nepal</i> ).                                 | 29 59 6' 9  | 80 53 54' 8               | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| Pk. 38<br>62 C                          | ... Peak. Observed in 1874. ( <i>Nepal</i> ).                                          | 29 53 50    | 80 47 17                  | ...                                 | 3                          | ...    | 2' 5                                                | ...                          |
| Pk. 39<br>62 C                          | ... Prominent conical peak on spur. Observed in 1884-86. ( <i>Nepal</i> ).             | 29 52 27    | 80 57 48                  | ...                                 | 3                          | ...    | 1' 3                                                | ...                          |
| Pk. 40<br>62 C                          | ... Wooded knoll on spur. Observed in 1884-85. ( <i>Nepal</i> ).                       | 29 46 11    | 80 51 1                   | 11330                               | 3                          | 2      | 0' 7                                                | ...                          |
| Pk. 41<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 44 29    | 80 59 20                  | ...                                 | 4                          | ...    | 3' 5                                                | ...                          |
| Pk. 42<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 43 34    | 80 58 40                  | ...                                 | 3                          | ...    | 4' 0                                                | ...                          |
| Pk. 43<br>62 C                          | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                                       | 29 36 26    | 80 59 23                  | ...                                 | 3                          | ...    | 2' 0                                                | ...                          |
| Pk. 44<br>62 C                          | ... Knoll on right end of long flat range. Observed in 1884-86. ( <i>Nepal</i> ).      | 29 35 25    | 80 59 17                  | ...                                 | 3                          | ...    | 0' 1                                                | ...                          |

## DEGREE SHEET No. 62 C, between Lats. 29° - 30° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point  | Description                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|--------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| $\frac{\text{Pk. 45}}{62 \text{ C}}$ ... | Peak. Observed in 1868-69. ( <i>Nepal</i> ).           | 29 34 38    | 80 56 25                  | ...                                 | 3                          | ...    | Feet<br>0'9                                         | ...                          |
| $\frac{\text{Pk. 46}}{62 \text{ C}}$ ... | Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 29 28 2     | 80 46 9                   | ...                                 | 3                          | ...    | 0'4                                                 | ...                          |
| $\frac{\text{Pk. 47}}{62 \text{ C}}$ ... | Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 29 27 34    | 80 46 27                  | ...                                 | 3                          | ...    | 0'1                                                 | ...                          |
| $\frac{\text{Pk. 48}}{62 \text{ C}}$ ... | Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 29 26 54    | 80 46 10                  | ...                                 | 3                          | ...    | 1'7                                                 | ...                          |
| $\frac{\text{Pk. 49}}{62 \text{ C}}$ ... | Round hill. Observed in 1884-85. ( <i>Nepal</i> ).     | 29 23 52    | 80 56 28                  | 9040                                | 3                          | 1      | 0'1                                                 | ...                          |
| $\frac{\text{Pk. 50}}{62 \text{ C}}$ ... | Prominent peak. Observed in 1884-85. ( <i>Nepal</i> ). | 29 23 3     | 80 54 42                  | 8480                                | 3                          | 1      | 0'9                                                 | ...                          |
| $\frac{\text{Pk. 51}}{62 \text{ C}}$ ... | Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 29 20 5     | 80 58 55                  | 7060                                | 3                          | 1      | 0'3                                                 | ...                          |
| $\frac{\text{Pk. 52}}{62 \text{ C}}$ ... | Flat peak. Observed in 1884-85. ( <i>Nepal</i> ).      | 29 6 19     | 80 53 22                  | ...                                 | 3                          | ...    | 1'7                                                 | ...                          |
| $\frac{\text{Pk. 53}}{62 \text{ C}}$ ... | Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 29 5 48     | 80 54 46                  | 9400                                | 3                          | 2      | 0'8                                                 | ...                          |

## DEGREE SHEET No. 62 D, between Lats. 28° - 29° and Longs. 80° - 81°.

|                  |      |                                                                                                                                                                                                                                                           |             |             |     |     |     |             |     |
|------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----|-----|-----|-------------|-----|
| Bámáni Bágh      | Mark | On the road from Pilibhit to Barmedo, $\frac{1}{2}$ mile S.S.W. of its junction with the road to Chini chauki, about 1 mile S. of Cháudi village and $\frac{1}{2}$ mile E. of Chini nadi. Observed in 1871-72. ( <i>Káli Kumaun and Bhábar, Kumaun</i> ). | 28 59 37'5  | 80 4 21'9   | ... | ... | ... | Feet<br>... | 894 |
| Banbasa Ghat     | Mark | On the right bank of the Sárda river, about $1\frac{1}{2}$ miles E. of the road to Barmedo and $4\frac{1}{2}$ miles E.N.E. of Bilheri town. Observed in 1871-72. ( <i>Bilheri, Kumaun</i> ).                                                              | 28 59 26'0  | 80 5 57'0   | ... | ... | ... | ...         | 893 |
| Dahlelnagar, XXV |      | ( <i>Vide page 13—<i>I</i></i> ).                                                                                                                                                                                                                         | 28 4 16'46  | 80 38 42'23 | 512 | ... | 2   | ...         | 30  |
| Hilgi, XXVI      |      | ( <i>Vide page 13—<i>I</i></i> ).                                                                                                                                                                                                                         | 28 8 28'31  | 80 47 44'24 | 499 | ... | 2   | ...         | 31  |
| Karái, XXI       |      | ( <i>Vide page 12—<i>I</i></i> ).                                                                                                                                                                                                                         | 28 15 58'44 | 80 18 30'16 | 559 | ... | 2   | ...         | 26  |
| Kokra, XXIII     |      | ( <i>Vide page 12—<i>I</i></i> ).                                                                                                                                                                                                                         | 28 12 7'34  | 80 28 8'62  | 519 | ... | 2   | ...         | 28  |



## DEGREE SHEET No. 62 D, between Lats. 28° - 29° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Kuthia, XXVIII                          | ( <i>Vide</i> page 13— <i>I</i> ).                         | 28 2 41.80  | 80 55 41.30               | 474.61*                             | ...                        | ...    | Feet<br>...                                         | 33                           |
| Piparia, XIX                            | ( <i>Vide</i> page 12— <i>I</i> ).                         | 28 19 41.26 | 80 10 40.75               | 572                                 | ...                        | 2      | ...                                                 | 24                           |
| Ramnagar, XXIV                          | ( <i>Vide</i> page 13— <i>I</i> ).                         | 28 16 36.69 | 80 39 8.76                | 524.62*                             | ...                        | ...    | ...                                                 | 29                           |
| Ramuapur, XXII                          | ( <i>Vide</i> page 12— <i>I</i> ).                         | 28 22 11.04 | 80 28 37.59               | 541                                 | ...                        | 2      | ...                                                 | 27                           |
| Semrao, XVII                            | ( <i>Vide</i> page 11— <i>I</i> ).                         | 28 22 49.01 | 80 1 52.59                | 593                                 | ...                        | 2      | ...                                                 | 22                           |
| Shahgarh, XVI                           | ( <i>Vide</i> page 11— <i>I</i> ).                         | 28 33 15.18 | 80 1 29.76                | 641                                 | ...                        | 2      | ...                                                 | 21                           |
| Sultānpur, XX                           | ( <i>Vide</i> page 12— <i>I</i> ).                         | 28 25 8.16  | 80 18 44.30               | 581                                 | ...                        | 2      | ...                                                 | 25                           |
| Udepur, XVIII                           | ( <i>Vide</i> page 11— <i>I</i> ).                         | 28 28 36.19 | 80 10 47.32               | 599                                 | ...                        | 2      | ...                                                 | 23                           |
| Pk. 1<br>62 D                           | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).           | 28 57 41    | 80 45 34                  | ...                                 | 3                          | ...    | 1.7                                                 | ...                          |
| Pk. 2<br>62 D                           | ... Sharpish knoll. Observed in 1884-85. ( <i>Nepal</i> ). | 28 53 23    | 80 45 30                  | ...                                 | 3                          | ...    | 0.4                                                 | ...                          |

## DEGREE SHEET No. 62 E, between Lats. 31° - 32° and Longs. 81° - 82°.

|                                 |                                                                      |          |          |       |   |     |             |     |
|---------------------------------|----------------------------------------------------------------------|----------|----------|-------|---|-----|-------------|-----|
| Pk. 1<br>62 E                   | ... Very distant peak. Observed in 1877. ( <i>Tibet</i> ).           | 31 15 8  | 81 5 38  | 20300 | 3 | 1   | Feet<br>7.3 | ... |
| Pk. 2<br>62 E                   | ... Peak. Observed in 1877. ( <i>Tibet</i> ).                        | 31 10 16 | 81 4 50  | ...   | 3 | ... | 3.6         | ... |
| Pk. 3<br>62 E                   | ... Snowy peak. Observed in 1877. ( <i>Tibet</i> ).                  | 31 5 7   | 81 13 25 | 20410 | 3 | 1   | 0.4         | ... |
| Pk. 4<br>62 E                   | ... Snowy peak. Observed in 1877. ( <i>Tibet</i> ).                  | 31 7 59  | 81 15 9  | 20340 | 3 | 1   | 4.3         | ... |
| Pk. 5<br>62 E ( <i>Kailas</i> ) | ... Snowy peak. Observed in 1877. ( <i>Tibet</i> ).                  | 31 4 2   | 81 18 50 | 22028 | 5 | 2   | 0.4         | ... |
| Pk. 6<br>62 E                   | ... Highest point of snowy peak. Observed in 1877. ( <i>Tibet</i> ). | 31 1 28  | 81 28 45 | 19850 | 4 | 3   | 0.4         | ... |

\* Determined by Spirit-Levelling.

## DEGREE SHEET No. 62 F, between Lats. 30° - 31° and Longs. 81° - 82°.

| Name or Designation of Station or Point                          | Description                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|------------------------------------------------------------------|-------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                                                  |                                                                   |             |                           |                                     | Position                   | Height |                                                     |                               |
| $\frac{\text{Pk.1}}{62 \text{ F}}$ ...                           | Peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                 | 30 45 53    | 81 5 7                    | ...                                 | 3                          | ...    | Feet 0.6                                            | ...                           |
| $\frac{\text{Pk.2}}{62 \text{ F}}$ ...                           | Peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).                 | 30 45 32    | 81 5 24                   | ...                                 | 3                          | ...    | 0.3                                                 | ...                           |
| $\frac{\text{Pk.3}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Nepal and Hundes, Tibet</i> ). | 30 13 35    | 81 1 19                   | 17890                               | 2                          | 2      | ...                                                 | ...                           |
| $\frac{\text{Pk.4}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Nepal</i> ).                   | 30 6 1      | 81 4 56                   | ...                                 | 2                          | ...    | ...                                                 | ...                           |
| $\frac{\text{Pk.5}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 28 3     | 81 18 3                   | 22720                               | 4                          | 1      | 1.2                                                 | ...                           |
| $\frac{\text{Pk.6}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 27 39    | 81 21 17                  | 22650                               | 4                          | 1      | 0.2                                                 | ...                           |
| $\frac{\text{Pk.7}}{62 \text{ F}}$ ( <i>Garla Mandhata</i> ) ... | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 26 18    | 81 17 57                  | 25355                               | 5                          | 2      | 0.1                                                 | ...                           |
| $\frac{\text{Pk.8}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 25 1     | 81 15 15                  | 22160                               | 3                          | 2      | 3.1                                                 | ...                           |
| $\frac{\text{Pk.9}}{62 \text{ F}}$ ...                           | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 15 6     | 81 22 25                  | 21770                               | 3                          | 1      | 2.4                                                 | ...                           |
| $\frac{\text{Pk.10}}{62 \text{ F}}$ ...                          | Snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).           | 30 55 7     | 81 34 9                   | 19590                               | 3                          | 2      | 5.5                                                 | ...                           |
| $\frac{\text{Pk.11}}{62 \text{ F}}$ ...                          | Middle peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).          | 30 54 57    | 81 34 4                   | ...                                 | 3                          | ...    | 0.9                                                 | ...                           |
| $\frac{\text{Pk.12}}{62 \text{ F}}$ ...                          | Sharp snowy peak. Observed in 1877. ( <i>Hundes, Tibet</i> ).     | 30 51 43    | 81 35 10                  | 19660                               | 3                          | 1      | 0.2                                                 | ...                           |
| $\frac{\text{Pk.13}}{62 \text{ F}}$ ( <i>Nampa</i> ) ...         | Peak. Observed in 1887-88. ( <i>Nepal</i> ).                      | 30 0 37     | 81 0 3                    | 22162                               | ...                        | 4      | ...                                                 | ...                           |

## DEGREE SHEET No. 62 G, between Lats. 29° - 30° and Longs. 81° - 82°.

| Name or Designation of Station or Point | Description                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|----------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                    |             |                           |                                     | Position                   | Height |                                                     |                               |
| $\frac{\text{Pk.1}}{62 \text{ G}}$ ...  | Snowy peak. Observed in 1865-66. ( <i>Nepal</i> ). | 29 58 52    | 81 1 0                    | 21700                               | 4                          | 4      | Feet 0.4                                            | ...                           |
| $\frac{\text{Pk.2}}{62 \text{ G}}$ ...  | Peak. Observed in 1887-88. ( <i>Nepal</i> ).       | 29 57 24    | 81 1 15                   | 22150                               | 3                          | 3      | 2.0                                                 | ...                           |
| $\frac{\text{Pk.3}}{62 \text{ G}}$ ...  | Snowy peak. Observed in 1865-66. ( <i>Nepal</i> ). | 29 52 55    | 81 2 33                   | 22450                               | 4                          | 4      | 0.3                                                 | ...                           |
| $\frac{\text{Pk.4}}{62 \text{ G}}$ ...  | Snowy peak. Observed in 1865-66. ( <i>Nepal</i> ). | 29 50 52    | 81 2 26                   | 21210                               | 4                          | 4      | 0.7                                                 | ...                           |
| $\frac{\text{Pk.5}}{62 \text{ G}}$ ...  | Snowy peak. Observed in 1865-66. ( <i>Nepal</i> ). | 29 50 7     | 81 5 7                    | 21000                               | 4                          | 4      | 2.2                                                 | ...                           |

## DEGREE SHEET No. 62 G, between Lats. 29° - 30° and Longs. 81° - 82°—(Continued).

| Name or Designation of Station or Point | Description                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancy per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|------------------------------|
|                                         |                                                                                |             |                           |                                     | Position                   | Height |                                                   |                              |
| <u>Pk. 6</u><br><u>62 G</u>             | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 49 29    | 81 8 25                   | 19740                               | 3                          | 2      | <i>Feet</i><br>0.2                                | ...                          |
| <u>Pk. 7</u><br><u>62 G</u>             | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                               | 29 42 55    | 81 5 34                   | ...                                 | 5                          | ...    | 1.3                                               | ...                          |
| <u>Pk. 8<sup>1</sup></u><br><u>62 G</u> | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 42 29    | 81 5 56                   | ...                                 | 3                          | ...    | 0.6                                               | ...                          |
| <u>Pk. 8<sup>2</sup></u><br><u>62 G</u> | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 42 26    | 81 6 3                    | 16830                               | 3                          | 1      | 0.0                                               | ...                          |
| <u>Pk. 9</u><br><u>62 G</u>             | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                               | 29 38 14    | 81 1 24                   | ...                                 | 4                          | ...    | 2.8                                               | ...                          |
| <u>Pk. 10</u><br><u>62 G</u>            | ... Round knoll on long flat range. Observed in 1884-85. ( <i>Nepal</i> ).     | 29 37 56    | 81 1 32                   | ...                                 | 3                          | ...    | 0.7                                               | ...                          |
| <u>Pk. 11</u><br><u>62 G</u>            | ... Snowy peak on long flat range. Observed in 1884-85. ( <i>Nepal</i> ).      | 29 37 36    | 81 1 14                   | ...                                 | 3                          | ...    | 1.8                                               | ...                          |
| <u>Pk. 12</u><br><u>62 G</u>            | ... Flat hill covered with broken snow. Observed in 1884-85. ( <i>Nepal</i> ). | 29 24 41    | 81 5 0                    | 10900                               | 3                          | 2      | 1.8                                               | ...                          |
| <u>Pk. 13</u><br><u>62 G</u>            | ... Flat peak. Observed in 1884-85. ( <i>Nepal</i> ).                          | 29 53 56    | 81 26 55                  | 22000                               | 3                          | 3      | 0.5                                               | ...                          |
| <u>Pk. 14</u><br><u>62 G</u>            | ... Sharp peak. Observed in 1884-85. ( <i>Nepal</i> ).                         | 29 53 26    | 81 29 54                  | 23070                               | 3                          | 3      | 2.1                                               | ...                          |
| <u>Pk. 15</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 51 40    | 81 22 9                   | 21310                               | 3                          | 3      | 0.1                                               | ...                          |
| <u>Pk. 16</u><br><u>62 G</u>            | ... Peak. Observed in 1868-69. ( <i>Nepal</i> ).                               | 29 39 48    | 81 29 9                   | ...                                 | 3                          | ...    | 1.1                                               | ...                          |
| <u>Pk. 17</u><br><u>62 G</u>            | ... Flat round snowy peak. Observed in 1884-85. ( <i>Nepal</i> ).              | 29 32 42    | 81 22 11                  | 19100                               | 3                          | 1      | 1.2                                               | ...                          |
| <u>Pk. 18</u><br><u>62 G</u>            | ... Snowy peak. Observed in 1884-85. ( <i>Nepal</i> ).                         | 29 30 59    | 81 20 47                  | ...                                 | 3                          | ...    | 0.9                                               | ...                          |
| <u>Pk. 19</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 29 30    | 81 18 58                  | 12670                               | 3                          | 3      | 1.0                                               | ...                          |
| <u>Pk. 20</u><br><u>62 G</u>            | ... Rocky needle point. Observed in 1884-85. ( <i>Nepal</i> ).                 | 29 20 49    | 81 28 48                  | 13790                               | 3                          | 2      | 1.5                                               | ...                          |
| <u>Pk. 21</u><br><u>62 G</u>            | ... Very smooth and round snowy peak. Observed in 1884-85. ( <i>Nepal</i> ).   | 29 16 16    | 81 28 5                   | 12530                               | 3                          | 2      | 0.6                                               | ...                          |
| <u>Pk. 22</u><br><u>62 G</u>            | ... Prominent middle peak. Observed in 1884-85. ( <i>Nepal</i> ).              | 29 10 21    | 81 29 20                  | 10330                               | 3                          | 1      | 0.3                                               | ...                          |
| <u>Pk. 23</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 46 7     | 81 30 19                  | ...                                 | 3                          | ...    | 0.4                                               | ...                          |
| <u>Pk. 24</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                               | 29 45 43    | 81 30 51                  | ...                                 | 3                          | ...    | 1.5                                               | ...                          |

## DEGREE SHEET No. 62 G, between Lats. 29° - 30° and Longs. 81° - 82°—(Continued).

| Name or Designation of Station or Point | Description                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 25</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                                    | 29 44 55    | 81 30 43                  | 19450                               | 3                          | 2      | Feet<br>1.8                                         | ...                          |
| <u>Pk. 26</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                                    | 29 44 27    | 81 30 38                  | ...                                 | 3                          | ...    | 0.3                                                 | ...                          |
| <u>Pk. 27</u><br><u>62 G</u>            | ... Well defined and very sharp peak. Observed in 1884-85. ( <i>Nepal</i> ).        | 29 41 30    | 81 31 15                  | ...                                 | 3                          | ...    | 1.8                                                 | ...                          |
| <u>Pk. 28</u><br><u>62 G</u>            | ... Conical peak. Observed in 1884-85. ( <i>Nepal</i> ).                            | 29 39 45    | 81 32 51                  | ...                                 | 3                          | ...    | 0.4                                                 | ...                          |
| <u>Pk. 29</u><br><u>62 G</u>            | ... Very sharp smooth conical peak. Observed in 1884-85. ( <i>Nepal</i> ).          | 29 36 55    | 81 32 47                  | 15460                               | 3                          | 1      | 1.3                                                 | ...                          |
| <u>Pk. 30</u><br><u>62 G</u>            | ... Snowy peak. Observed in 1884-85. ( <i>Nepal</i> ).                              | 29 36 18    | 81 32 29                  | 15700                               | 3                          | 1      | 1.9                                                 | ...                          |
| <u>Pk. 31</u><br><u>62 G</u>            | ... Knoll on end of long flat range. Observed in 1884-85. ( <i>Nepal</i> ).         | 29 23 18    | 81 33 56                  | ...                                 | 3                          | ...    | 1.7                                                 | ...                          |
| <u>Pk. 32</u><br><u>62 G</u>            | ... Peak. Observed in 1884-85. ( <i>Nepal</i> ).                                    | 29 21 12    | 81 33 19                  | 14400                               | 3                          | 3      | 1.6                                                 | ...                          |
| <u>Pk. 33</u><br><u>62 G</u>            | ... Peak. Observed in 1887-88. ( <i>Nepal</i> ).                                    | 29 21 9     | 81 33 47                  | 14060                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 34</u><br><u>62 G</u>            | ... Rocky peak. Observed in 1884-85. ( <i>Nepal</i> ).                              | 29 18 50    | 81 30 32                  | 13620                               | 3                          | 1      | 0.1                                                 | ...                          |
| <u>Pk. 35</u><br><u>62 G</u>            | ... Very long and approximately smooth peak. Observed in 1884-85. ( <i>Nepal</i> ). | 29 10 57    | 81 42 49                  | 13680                               | 3                          | 1      | 2.1                                                 | ...                          |

## DEGREE SHEET No. 62 H, between Lats. 28° - 29° and Longs. 81° - 82°.

|                             |                                                  |          |          |      |     |     |             |     |
|-----------------------------|--------------------------------------------------|----------|----------|------|-----|-----|-------------|-----|
| <u>Pk. 1</u><br><u>62 H</u> | ... Peak. Observed in 1887-88. ( <i>Nepal</i> ). | 28 46 34 | 81 5 33  | 4940 | ... | ... | Feet<br>... | ... |
| <u>Pk. 2</u><br><u>62 H</u> | ... Peak. Observed in 1887-88. ( <i>Nepal</i> ). | 28 48 17 | 81 32 23 | ...  | ... | ... | ...         | ... |

## DEGREE SHEET No. 62 L, between Lats. 28° - 29° and Longs. 82° - 83°.

|                             |                                                  |            |           |       |   |   |             |     |
|-----------------------------|--------------------------------------------------|------------|-----------|-------|---|---|-------------|-----|
| <u>Pk. 1</u><br><u>62 L</u> | ... Peak. Observed in 1848-49. ( <i>Nepal</i> ). | 28 49 38.9 | 82 37 6.9 | 19376 | 5 | 2 | Feet<br>0.1 | ... |
|-----------------------------|--------------------------------------------------|------------|-----------|-------|---|---|-------------|-----|

DEGREE SHEET No. 62 P, between Lats. 28° - 29° and Longs. 83° - 84°.

| Name or Designation of Station or Point | Description                                                                                                  | Latitude N.      | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common-stakes of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                              |                  |                           |                                     | Position                   | Height |                                                      |                              |
| <u>Pk.1</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | ° ' " 28 45 59·1 | ° ' " 83 6 0·5            | 21442                               | 4                          | 2      | Feet 0·2                                             | ...                          |
| <u>Pk.2</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 44 52·7       | 83 8 52·0                 | 23750                               | 5                          | 5      | 0·0                                                  | ...                          |
| <u>Pk.3</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 44 35·8       | 83 7 2·5                  | 21688                               | 4                          | 2      | 0·1                                                  | ...                          |
| <u>Pk.4</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 43 54·2       | 83 12 42·7                | 24150                               | 5                          | 7      | 0·0                                                  | ...                          |
| <u>Pk.5</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 45 45·3       | 83 23 25·2                | 25429                               | 5                          | 5      | 0·3                                                  | ...                          |
| <u>Pk.6</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 45 12·7       | 83 22 45·9                | 25271                               | 5                          | 3      | 0·3                                                  | ...                          |
| <u>Pk.7</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 44 7·5        | 83 18 53·3                | 25064                               | 5                          | 7      | 0·0                                                  | ...                          |
| <u>Pk.8</u><br><u>62 P</u> ...          | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 44 3·3        | 83 21 51·0                | 24885                               | 5                          | 5      | 0·0                                                  | ...                          |
| <u>Pk.9</u><br><u>62 P</u> (Dhaulagiri) | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 41 48·1       | 83 29 42·1                | 26795                               | 8                          | 7      | 0·0                                                  | ...                          |
| <u>Pk.10</u><br><u>62 P</u> ...         | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 40 26·1       | 83 16 39·8                | 23539                               | 5                          | 3      | 0·1                                                  | ...                          |
| <u>Pk.11</u><br><u>62 P</u> ...         | Snowy peak. Centre of mass. Observed in 1882-83. ( <i>Nepal</i> ).                                           | 28 44 41         | 83 33 42                  | ...                                 | 3                          | ...    | 6·9                                                  | ...                          |
| <u>Pk.12</u><br><u>62 P</u> ...         | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 39 16·8       | 83 43 55·5                | 22437                               | 4                          | 2      | 0·0                                                  | ...                          |
| <u>Pk.13</u><br><u>62 P</u> ...         | Peak. Observed in 1883-84. ( <i>Nepal</i> ).                                                                 | 28 36 49         | 83 52 27                  | ...                                 | 3                          | ...    | 10·0                                                 | ...                          |
| <u>Pk.14</u><br><u>62 P</u> ...         | Peak. Observed in 1883-84. ( <i>Nepal</i> ).                                                                 | 28 36 26         | 83 53 32                  | ...                                 | 3                          | ...    | 5·2                                                  | ...                          |
| <u>Pk.15</u><br><u>62 P</u> ...         | Snowy peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                           | 28 36 19         | 83 57 56                  | ...                                 | 3                          | ...    | 3·5                                                  | ...                          |
| <u>Pk.16</u><br><u>62 P</u> ...         | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 35 44·3       | 83 49 19·3                | 26492                               | 4                          | 8      | 0·0                                                  | ...                          |
| <u>Pk.17</u><br><u>62 P</u> ...         | Well defined point on southern ridge of <u>Pk.14</u><br><u>62 P</u> . Observed in 1883-84. ( <i>Nepal</i> ). | 28 35 14         | 83 53 6                   | ...                                 | 3                          | ...    | 6·4                                                  | ...                          |
| <u>Pk.18</u><br><u>62 P</u> ...         | Round hill with knoll. Observed in 1848-49. ( <i>Nepal</i> ).                                                | 28 35 3·4        | 83 59 30·7                | 24750                               | 5                          | 4      | 0·1                                                  | ...                          |
| <u>Pk.19</u><br><u>62 P</u> ...         | Broken knoll. Observed in 1883-84. ( <i>Nepal</i> ).                                                         | 28 34 41         | 83 48 14                  | ...                                 | 3                          | ...    | 0·1                                                  | ...                          |
| <u>Pk.20</u><br><u>62 P</u> ...         | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                 | 28 31 5·2        | 83 48 28·5                | 23607                               | 4                          | 5      | 0·1                                                  | ...                          |

## DEGREE SHEET No. 62 P, between Lats. 28° - 29° and Longs. 83° - 84°—(Continued).

| Name or Designation of Station or Point | Description                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mille of triangles | Reference Number of Triangles |
|-----------------------------------------|--------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|-------------------------------|
|                                         |                                                        |             |                           |                                     | Position                   | Height |                                      |                               |
| <u>Pk. 21</u><br>62 P                   | ... Snowy peak. Observed in 1882-83. ( <i>Nepal</i> ). | 28 30 40    | 83 51 6                   | ...                                 | 3                          | ...    | Feet<br>1.1                          | ...                           |
| <u>Pk. 22<sup>1</sup></u><br>62 P       | ... Peak. Observed in 1848-49. ( <i>Nepal</i> ).       | 28 29 53.6  | 83 56 53.4                | 22958                               | 5                          | 4      | 0.2                                  | ...                           |
| <u>Pk. 22<sup>2</sup></u><br>62 P       | ... Peak. Observed in 1848-49. ( <i>Nepal</i> ).       | 28 29 40.7  | 83 56 54.9                | 22935                               | 4                          | 4      | 0.3                                  | ...                           |

## DEGREE SHEET No. 63 A, between Lats. 27° - 28° and Longs. 80° - 81°.

|                                    |                                                                                                                                                                                                                                                                                        |             |             |         |     |     |             |     |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|---------|-----|-----|-------------|-----|
| Asogapur, XXIX                     | ( <i>See page 14—<i>I</i></i> ).                                                                                                                                                                                                                                                       | 27 53 27.16 | 80 56 23.23 | 457     | ... | 2   | Feet<br>... | 34  |
| *Asu, XXIV                         | Is situated in Sandila Tahsil and stands on a mound, 25 feet in height, close to the village of Asu, and distant 2 miles N. of the town of Sandila.<br>A platform 30 feet high has been constructed. ( <i>Hardoi</i> ).                                                                | 27 4 38.20  | 80 28 47.08 | 480     | ... | ... | ...         | ... |
| *Barauli, XXV<br>(Barauli)         | Is situated in Sandila Tahsil and stands on a mound, 20 feet in height, adjoining the village of Barauli.<br>A platform of sun-dried bricks and mud cement 30 feet high has been erected. ( <i>Hardoi</i> ).                                                                           | 27 8 17.01  | 80 40 39.74 | 464     | ... | ... | ...         | ... |
| *Bulandpur, XXXI                   | Is situated in Kheri district, and stands within a small dilapidated mud fort, lying to the S. of the village of Bulandpur.<br>A tower of sun-dried bricks and mud cement 24 feet high has been erected here. ( <i>Kheri</i> ).                                                        | 27 51 11.46 | 80 40 8.74  | 504     | ... | ... | ...         | ... |
| *Darawal, XXVIII                   | Is situated in Sitapur district, and stands on a mound, about 20 feet high, distant $\frac{1}{2}$ of a mile N.E. of the village of Darawal.<br>A tower of sun-dried bricks and mud cement 30 feet high has been erected. ( <i>Sitapur</i> ).                                           | 27 33 35.96 | 80 28 48.63 | 473.28† | ... | ... | ...         | ... |
| *Fatebnagar, XXVII<br>(Fatebnagar) | Is situated in Sitapur district, and stands on an open plain $2\frac{1}{2}$ miles S.E. of the large town of Machhela and $\frac{1}{2}$ of a mile S.E. of the village of Bulandpur.<br>A platform of sun-dried bricks and mud cement 35 feet high has been erected. ( <i>Sitapur</i> ). | 27 23 58.52 | 80 40 23.87 | 469     | ... | ... | ...         | ... |
| *Ghunsī                            | Masjid ( <i>Kheri</i> ).                                                                                                                                                                                                                                                               | 27 57 40.0  | 80 31 25.9  | ...     | ... | ... | ...         | ... |

\* These stations appertain to the Arua Meridional Series.

† This height is determined by Spirit-Levelling and refers to the mark-stone embedded at the level of the ground over which the tower has been built.

## DEGREE SHEET No. 63 A, between Lats. 27° - 28° and Longs. 80° - 81°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                       | Height |                                                     |                              |
| *Jarura, XXXII                          | Is situated in Kheri district, and stands within a small dilapidated mud fort, to the west of, and hard by, the village of Jarura. A tower of sun-dried bricks and mud cement 28 feet high has been erected here. ( <i>Kheri</i> ).                                          | 27 59 55.94 | 80 28 10.95               | 536                                 | ...                            | ...    | Feet                                                | ...                          |
| *Muhamdi Fort                           | Flag on the highest paka building in fort, N.W. side of the town. ( <i>Kheri</i> ).                                                                                                                                                                                          | 27 57 16.7  | 80 12 29.1                | ...                                 | ...                            | ...    | ...                                                 | ...                          |
| *Nimkar, XXVI                           | Is situated in Sitapur district, and stands on a mound, 15 feet high, distant $\frac{1}{4}$ of a mile N.W. of the town of Nimkar and $\frac{1}{2}$ a mile N. of the Gumti river. A platform of paka bricks and mud cement 30 feet high has been erected. ( <i>Sitapur</i> ). | 27 21 8.09  | 80 29 3.67                | 486                                 | ...                            | ...    | ...                                                 | ...                          |
| *Parser, XXX                            | Is situated in Sitapur district, and stands on a low mound, close to a large tank, distant about $\frac{1}{2}$ a mile to the S.W. of the village of Parser. A tower of sun-dried bricks and mud cement 24 feet high has been erected here. ( <i>Sitapur</i> ).               | 27 46 16.81 | 80 29 55.80               | 484.70†                             | ...                            | ...    | ...                                                 | ...                          |
| *Raipur Masjid                          | Highest minaret. ( <i>Kheri</i> ).                                                                                                                                                                                                                                           | 27 58 37.4  | 80 30 33.6                | ...                                 | ...                            | ...    | ...                                                 | ...                          |
| Saidhari, XXVII                         | ( <i>Fide page 13—1.</i> )                                                                                                                                                                                                                                                   | 27 58 7.64  | 80 46 46.54               | 504                                 | ...                            | 2      | ...                                                 | 32                           |
| *Sirwain, XXIX                          | Is situated in Sitapur district, and stands on the highest point of a mound on which, to the N.E. of the station, extends the village of Sirwain. A tower of sun-dried bricks and mud cement 30 feet high has been erected. ( <i>Sitapur</i> ).                              | 27 37 43.43 | 80 38 23.16               | 471.61†                             | ...                            | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 63 E, between Lats. 27° - 28° and Longs. 81° - 82°.

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |             |     |     |     |      |     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|-----|-----|-----|------|-----|
| *Amoli, XXXIII | Is situated in low ground, and is distant 0.7 mile S.W. of the village of Amoli Kalan; thana and pargana Rannugar, tahsil Fatehpur, district Bara Banki. The station consists of a tower of unburnt bricks 80 feet high—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry having a mark-stone at its base, and others at 8, 14, 20, 26 and 30 feet respectively above it. The distances and bearings of surrounding villages are:—Khilaura 0.6 mile W.; Manaura 1.3 miles N. by W.; Biknspur 0.9 mile E.S.E.; and Thal Khurd 0.5 mile S. Observed in 1845. ( <i>Bara Banki</i> ). | 27 5 40.72 | 81 21 21.73 | 420 | ... | ... | Feet | ... |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|-----|-----|-----|------|-----|

\* These stations appertain to the Amua Meridional Series. embedded at the level of the ground over which the towers have been built.

† These heights are determined by Spirit-levelling and refer to the mark-stones. ‡ This station appertains to the Karara Meridional Series.

DEGREE SHEET No. 63 E, between Lats. 27° - 28° and Longs. 81° - 82°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |           | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|-----------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height    |                                                     |                               |
| Anárkoli, XXXVII                        | ( <i>Vide</i> page 15— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 36 24.60 | 81 36 35.93               | 434                                 | ...                        | Feet<br>2 | ...                                                 | 42                            |
| ‡Ashrafpur, XXXVIII                     | Is situated on high ground adjoining the southern side of the village of Ashrafpur: thána, tahsil and pargana Biswán, district Sitapur.<br>The station consists of a tower of unburnt bricks 24 feet high—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry having a mark-stone at base, and others at 8 and 24 feet respectively above it. The distances and bearings of surrounding villages are:—Pura Ashrafpur 0.4 mile W.; Ukbapur Khurd 1.3 miles E.N.E.; and Hamanbhari 0.2 mile S.E. Observed in 1845. ( <i>Sitapur</i> ). | 27 29 26.81 | 81 1 42.36                | 450                                 | ...                        | ...       | ...                                                 | ...                           |
| Atkonawa, XXXVI                         | ( <i>Vide</i> page 15— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 46 4.81  | 81 29 56.53               | 460                                 | ...                        | 2         | ...                                                 | 41                            |
| Bela, XXXIII                            | ( <i>Vide</i> page 14— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 47 18.45 | 81 18 4.68                | 425                                 | ...                        | 2         | ...                                                 | 38                            |
| Bhinga Fort                             | South bastion. Observed in 1848-49. ( <i>Bhinga, Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 41 49    | 81 56 25                  | ...                                 | ...                        | ...       | ...                                                 | ...                           |
| Bhinga House                            | In the city. Observed in 1848-49. ( <i>Bhinga, Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 41 54    | 81 56 3                   | ...                                 | ...                        | ...       | ...                                                 | ...                           |
| Chalua, XXXII                           | ( <i>Vide</i> page 14— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 55 44.53 | 81 14 47.87               | 436.62*                             | ...                        | ...       | ...                                                 | 37                            |
| Dadaura, XXXVIII                        | ( <i>Vide</i> page 15— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 43 18.33 | 81 42 44.29               | 450                                 | ...                        | 2         | ...                                                 | 43                            |
| Dhaurahra, XXX                          | ( <i>Vide</i> page 14— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 59 54.51 | 81 5 27.88                | 466                                 | ...                        | 2         | ...                                                 | 35                            |
| Ganeshi Jot Temple                      | Golden <i>kalas</i> . Observed in 1848-49. ( <i>Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 27 36 3     | 81 57 54                  | ...                                 | ...                        | ...       | ...                                                 | ...                           |
| ‡Ganeshpur                              | s. On right bank of the Gogra river on paka <i>Samadh</i> (shrine) of a Hindu saint, 0.6 of a mile N.N.E. of the large village of Ganeshpur, 0.5 of a mile N.E. of Firozpur and 1.2 miles S.E. of Puraina on Sota. ( <i>Bara Banki</i> ). (Called Gogra River No. 184 s. in Synoptical Vol. XVI).                                                                                                                                                                                                                                                                                              | 27 7 15.04  | 81 27 28.00               | ...                                 | ...                        | ...       | ...                                                 | ...                           |
| Hazrat Sálár's Dargah                   | Northern spire. Observed in 1848-49. ( <i>Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 35 17    | 81 35 31                  | ...                                 | ...                        | ...       | ...                                                 | ...                           |
| Ikauna Temple                           | Golden <i>kalas</i> of temple in the centre of city. Observed in 1848-49. ( <i>Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 31 56    | 81 58 18                  | ...                                 | ...                        | ...       | ...                                                 | ...                           |

‡ These stations appertain to the Karara Meridional Series.

\* Determined by Spirit-levelling.



## DEGREE SHEET No. 63 E, between Lats. 27° - 28° and Longs. 81° - 82°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF SAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                     |                              |
| ‡Imlia, XXXVI                           | Is situated at the S.W. angle of an old fort in the village of Imlia: tahsil Bári, thána and pargana Mahmudabad, district Sitapur. The station consists of a tower of unburnt bricks 24 feet high—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry having a mark-stone at base, and others at 8 and 24 feet respectively above it. The distances and bearings of surrounding villages are:—Ináyatpur 0.7 mile W.; Gobindpur 0.5 mile N.; Khwábipur 0.3 mile E.N.E.; and the town of Mahmudabad 2 miles S. by W. Observed in 1845. ( <i>Sitapur</i> ). | 27 19 18.90 | 81 7 37.37                | 451                                 | ...                        | ...    | Feet<br>...                                         | ...                          |
| Isrápur, XLI                            | ( <i>Vide page 16—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 28 53.33 | 81 56 41.26               | 406                                 | ...                        | 2      | ...                                                 | 46                           |
| ‡Kaujwara                               | s. Near village so called. ( <i>Bara Banki</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 0 2.35   | 81 9 50.63                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Khánpur, XXXIV                          | ( <i>Vide page 15—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 39 0.60  | 81 9 23.80                | 439                                 | ...                        | 2      | ...                                                 | 30                           |
| Lákhun, XXXI                            | ( <i>Vide page 14—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 48 54.04 | 81 6 43.23                | 448.62*                             | ...                        | ...    | ...                                                 | 36                           |
| Nasi, XXXV                              | ( <i>Vide page 15—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 38 25.17 | 81 23 8.97                | 425.89*                             | ...                        | ...    | ...                                                 | 40                           |
| ‡Mathrapur                              | s. Is situated on a mound in the village of that name, on left bank of the Gogra river, about $\frac{1}{4}$ mile W. of Sukhi and the same distance E.N.E. of Bhisanda Gola. ( <i>Bahraich</i> ). (Called Gogra River No. 189 s. in Synoptical Vol. XVI).                                                                                                                                                                                                                                                                                                                                                           | 27 12 38.42 | 81 30 36.89               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Newáda, XL                              | ( <i>Vide page 16—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27 39 56.93 | 81 54 18.98               | 415                                 | ...                        | 2      | ...                                                 | 45                           |
| ‡Núrpur                                 | Masjid S. minaret. ( <i>Sitapur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 19 9.0   | 81 9 2.3                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| ‡Núrpur                                 | s. About $\frac{1}{4}$ mile S.E. of village. ( <i>Sitapur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27 18 49.81 | 81 9 22.08                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| ‡Orai                                   | s. On a branch of the Sarju river, about $\frac{1}{4}$ mile N.W. of Bagha village. ( <i>Bahraich</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 27 35 43.41 | 81 20 17.71               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| ‡Paintepur                              | N. Masjid N. minaret. ( <i>Sitapur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 27 16 46.3  | 81 11 1.4                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| ‡Ragaupur, XXXV                         | Is situated in the low-lying lands between the Chauka and Sarju rivers, and is distant about half a mile S.W. of the village of Ragaupur: thána and tahsil Bári, pargana Kundri, district Sitapur. The station consists of a tower of unburnt bricks 30 feet high—with diameters at top and bottom, respectively, of 12 and 22                                                                                                                                                                                                                                                                                     | 27 17 44.37 | 81 20 39.82               | 389                                 | ...                        | ...    | ...                                                 | ...                          |

‡ These stations appertain to the Karára Meridional Series.

\* Determined by Spirit-Levelling.

## DEGREE SHEET No. 63 E, between Lats. 27° - 28° and Longs. 81° - 82°—(Continued).

| Name or Designation of Station or Point                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in compasses of triangles | Reference Number of Meridians |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------------------|-------------------------------|
|                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                  |                               |
| ‡Ragaupur, XXXV—<br>(Contd.)                                         | feet—enclosing a central solid pillar of masonry having a mark-stone at base, and others at 8, 24 and 30 feet respectively above it. The distances and bearings of surrounding villages are:—Uchlapur 0·8 mile W; Burwi Burwa 0·4 mile N.; Majh-gawan 0·7 mile E. and Pura Shighulān Singh 0·2 mile S.E. by S. Observed in 1845. ( <i>Sitapur</i> ).                                                                                                                                                                                                                                                                                                                                                     | 27 17 44·37 | 81 20 39·82               | 389                                 | ...                        | ...    | Feet                                             | ...                           |
| ‡Samnadio, XXXIV                                                     | Is situated on ground slightly elevated above the level of the surrounding country, and is at a short distance S.S.E. from the village of Samnadio or Samnadh: thāna, tahsil and pargana Fatehpur, district Bara Banki. The station consists of a tower of unburnt bricks 24 feet high—with diameters at top and bottom, respectively, of 14 and 19 feet—enclosing a central solid pillar of masonry having a mark-stone at base, and others at 8 and 24 feet respectively above it. The distances and bearings of surrounding villages are:—Kiratpur 0·2 mile S.W.; Rasūl-pur 0·7 mile N.; Dasrathpur 0·7 mile S.E. and the town of Fatehpur 0·9 mile E. by N. Observed in 1845. ( <i>Bara Banki</i> ). | 27 10 7·34  | 81 11 34·80               | 431                                 | ...                        | ...    | ...                                              | ...                           |
| ‡Thāna, XXXVII                                                       | Is situated on the S.W. bastion of the fort in the village of Thāna, and is distant nearly a mile from the right bank of the Gogra river; thāna Thānagaon, tahsil Biswān, pargana Kundri, district Sitapur. The station consists of a tower of unburnt bricks 24 feet high—with diameters at top and bottom, respectively, of 12 and 20 feet—enclosing a central solid pillar of masonry having a mark-stone at base, and others at 8 and 24 feet respectively above it. The distances and bearings of surrounding villages are:—Chainpur 1·5 miles S.W. by S.; Wain 1·1 miles N. by W.; Thaura 1·4 miles N.E. by E.; and Dewaria 1·3 miles S.E. Observed in 1845. ( <i>Sitapur</i> ).                   | 27 28 24·00 | 81 14 40·35               | 421                                 | ...                        | ...    | ...                                              | ...                           |
| Tilakpur, XXXIX                                                      | ( <i>vide page 15—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 27 33 10·74 | 81 46 41·35               | 425·10*                             | ...                        | ...    | ...                                              | 44                            |
| DEGREE SHEET No. 63 I, between Lats. 27° - 28° and Longs. 82° - 83°. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     |                            |        |                                                  |                               |
| Bankata, LI                                                          | ( <i>vide page 17—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 27 15 33·87 | 82 49 49·00               | 322                                 | ...                        | 2      | Feet                                             | 58                            |
| Bāsdela, XLV<br>( <i>Bānsidila</i> )                                 | ( <i>vide page 16—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 27 24 3·24  | 82 16 50·44               | 377                                 | ...                        | 2      | ...                                              | 50                            |
| Biskohar                                                             | Temple Observed in 1847-49. ( <i>Basti</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 27 22 32    | 82 33 18                  | ...                                 | ...                        | ...    | ...                                              | ...                           |
| Devi Patan                                                           | Temple Golden <i>kādas</i> . This is the principal temple and the reputed residence of the deity whose name it bears. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 32 10    | 82 23 48                  | ...                                 | ...                        | ...    | ...                                              | ...                           |

‡ These stations appertain to the *Kārfā Meridional Series*.

\* Determined by Spirit-Levelling.

DEGREE SHEET No. 63 *I*, between Lats. 27° - 28° and Longs. 82° - 83°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAIS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Ganespur, XLVIII                        | ( <i>vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 28 11.17 | 82 36 10.07               | 358                                 | ...                        | 2      | ...                                                 | 53                           |
| *Gurúnagar, XXX                         | Is situated about $\frac{1}{4}$ mile N.N.E. of Gurúnagar village, and stands on a slight elevation very close to the S. bank of the Pirári, an affluent of the Kuwána river: thána Aiah, tahsil, pargana and district Gonda.<br>The station consists of an earthen tower enclosing a central solid pillar of masonry 24 feet high which has a mark-stone at top, another at bottom, and others at 8 and 16 feet respectively above the latter. The distances and bearings of surrounding villages are:—Madhnagar, about $\frac{1}{4}$ mile S.W.; Bardand, $1\frac{1}{4}$ miles W. by N.; Naktapur, 1 mile S.S.E.; and Sumda, $1\frac{1}{4}$ miles E. by S. Observed in 1847. ( <i>Gonda</i> ).                               | 27 17 36.88 | 82 8 44.32                | 366                                 | ...                        | ...    | ...                                                 | ...                          |
| Jahandi Mosque                          | Minaret apparent centre. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 27 32 43    | 82 17 39                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Kopa, XXVIII                           | Is situated at $\frac{1}{4}$ of a mile S.S.E. of Kopa village, and stands on a site elevated about 11 feet above the level of the surrounding country: it is about $2\frac{1}{4}$ miles S.W. of the Bisúhi and nearly the same distance N. of the Manwar river: thána Intwa, pargana Manikapur, district Gonda.<br>The station consists of an earthen tower enclosing a central solid pillar of masonry 20 feet high which has a mark-stone at top, another at bottom, and others at 7 and 14 feet respectively above the latter. The distances and bearings of surrounding villages are:—Dhuwa Khás, 1 mile S.; Karnapur, $\frac{1}{2}$ mile N.N.E.; and Jigna, $1\frac{1}{4}$ miles W. Observed in 1847. ( <i>Gonda</i> ). | 27 7 3.74   | 82 12 48.22               | 365                                 | ...                        | ...    | ...                                                 | ...                          |
| Lohápania, XLIV                         | ( <i>vide</i> page 16— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 33 21.68 | 82 15 0.29                | 386                                 | ...                        | 2      | ...                                                 | 49                           |
| Mahadeo Mosque                          | W. minaret. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 31 14    | 82 15 41                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Maharájanj Temple                       | Spire. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 27 34 39    | 82 2 55                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Majhawa, XLVII                          | ( <i>vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 21 15.57 | 82 29 7.74                | 356                                 | ...                        | 2      | ...                                                 | 52                           |
| *Mánápára, XXIX                         | Is situated in the lands of Jafrabad village, and stands on an elevation (12 feet high) in low, densely wooded, marshy ground at a distance of 220 yards N. of the Kuwána river: thána, tahsil and pargana Utraula, district Gonda.<br>The station consists of an earthen tower enclosing a central solid pillar of masonry 30 feet high which has a mark-stone at top, another at bottom, and others at 9, 18 and 26 feet respectively above the latter. The distances and bearings of surrounding villages are:—Mahmúdnagar, nearly $1\frac{1}{2}$ miles N.; Bhur, $1\frac{1}{2}$ miles W.S.W.; and Mudui Khán, $1\frac{1}{2}$ miles E.S.E. Observed in 1847. ( <i>Gonda</i> ).                                            | 27 13 18.67 | 82 19 47.34               | 347                                 | ...                        | ...    | ...                                                 | ...                          |

\* These stations appertain to the Gurwáni Meridional Series.

DEGREE SHEET No. 63 *I*, between Lats. 27° - 28° and Longs. 82° - 83°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies for miles common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                   |                              |
| Manichauk, XLII                         | ( <i>Vide</i> page 16— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 36 48·14 | 82 5 3'16                 | 395                                 | ...                        | 2      | Feet                                              | 47                           |
| Mathura Fort                            | Spire. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 34 39    | 82 3 37                   | ...                                 | ...                        | ...    | ...                                               | ...                          |
| Mijidia Mosque                          | South minaret. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 27 27 17    | 82 22 42                  | ...                                 | ...                        | ...    | ...                                               | ...                          |
| Paragawa, LII                           | ( <i>Vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 23 36·95 | 82 55 55·33               | 334                                 | ...                        | 2      | ...                                               | 57                           |
| Pathárdi, L                             | ( <i>Vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 26 14·77 | 82 45 2'97                | 336                                 | ...                        | 2      | ...                                               | 56                           |
| Pipari, XLIX                            | ( <i>Vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 18 22·87 | 82 39 29·73               | 349                                 | ...                        | 2      | ...                                               | 54                           |
| Pir Hanif Mosque                        | Spire of dome, a well-known and superior mosque. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 27 35 39    | 82 4 29                   | ...                                 | ...                        | ...    | ...                                               | ...                          |
| Ramuapur Temple                         | Spire of temple in village. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 31 1     | 82 24 14                  | ...                                 | ...                        | ...    | ...                                               | ...                          |
| *Sabanjot, XXVII                        | Is situated in the village of that name which lies on the low marshy ground skirting the N. bank of the Bisúhi river: thána and tahsil Utravla, pargana Saavulahnagar, district Gonda.<br>The station consists of an earthen tower enclosing a central solid pillar of masonry 32 feet high which has a mark-stone at top, another at bottom, and others at 3, 18 and 26 feet respectively above the latter. The distances and bearings of surrounding villages are:—Chandangot, $\frac{1}{2}$ mile N. by W.; Kukarghatta, about a mile W.S.W.; and Singarghat, nearly $\frac{1}{2}$ mile S.E. Observed in 1847. ( <i>Gonda</i> ). | 27 2 53·90  | 82 23 12·46               | 333                                 | ...                        | ...    | ...                                               | ...                          |
| Saibara, XLIII                          | ( <i>Vide</i> page 16— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 26 58·94 | 82 5 33·13                | 389·90†                             | ...                        | ...    | ...                                               | 48                           |
| Tulsipur, XLVI                          | ( <i>Vide</i> page 17— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 30 56·70 | 82 25 15·15               | 376                                 | ...                        | 2      | ...                                               | 51                           |
| Tulsipur Fort                           | Apparent centre. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 27 31 11    | 82 25 1                   | ...                                 | ...                        | ...    | ...                                               | ...                          |
| Tulsipur Mosque                         | South minaret. Golden kalas. The mosque stands about the centre of Tulsipur town. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 31 25    | 82 25 12                  | ...                                 | ...                        | ...    | ...                                               | ...                          |
| Tulsipur Temple                         | On tank. Golden kalas. Observed in 1848-49. ( <i>Gonda</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 31 9     | 82 25 19                  | ...                                 | ...                        | ...    | ...                                               | ...                          |

\* This station appertains to the Gurwáni Meridional Series.

† Determined by Spirit-Levelling.

## DEGREE SHEET No. 63 M, between Lats. 27° - 28° and Longs. 83° - 84°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bágápár, LXI                            | ( <i>Vide</i> page 19— <i>I</i> ).                                                                                                                                                                                                  | 27 10 55.53 | 83 31 15.79               | 322                                 | ...                        | 2      | Feet<br>...                                         | 67                           |
| Banarsia, LX                            | ( <i>Vide</i> page 19— <i>I</i> ).                                                                                                                                                                                                  | 27 18 30.51 | 83 26 59.51               | 329                                 | ...                        | 2      | ...                                                 | 66                           |
| Bangra, LIII                            | ( <i>Vide</i> page 18— <i>I</i> ).                                                                                                                                                                                                  | 27 13 1.44  | 83 0 58.41                | 311                                 | ...                        | 2      | ...                                                 | 58                           |
| Baruamathi Hill Tree                    | In the tea estate of Baruamathi. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                         | 27 24 51.7  | 83 56 25.8                | 719                                 | ...                        | 2      | ...                                                 | 1231                         |
| Bawangarhi                              | s. Close to the road from Lachmipur to Rám-nagar, about 1 mile S.E. of the ruins of the Bawangarhi Fort, 1 mile N.E. of Bherhari village and 1½ miles N.W. of Sohoria on the above road. Observed in 1884-85. ( <i>Champaran</i> ). | 27 22 5.61  | 83 55 41.41               | 349                                 | ...                        | 2      | ...                                                 | 1229,<br>1230                |
| Bhariáni                                | s. On the road from Tribeni Ghat to Thari Ghat, ¼ mile S.W. of Bijápur village and the same distance W. of Bhainsalotan. Observed in 1884-85. ( <i>Champaran</i> ).                                                                 | 27 25 16.16 | 83 54 17.30               | ...                                 | ...                        | ...    | ...                                                 | 1235                         |
| Bharmi, LVII                            | ( <i>Vide</i> page 18— <i>I</i> ).                                                                                                                                                                                                  | 27 20 14.90 | 83 15 16.75               | 323.35*                             | ...                        | ...    | ...                                                 | 61                           |
| Chanda, LXIV                            | ( <i>Vide</i> page 20— <i>I</i> ).                                                                                                                                                                                                  | 27 16 28.06 | 83 48 21.98               | 338                                 | ...                        | 2      | ...                                                 | 70                           |
| Dharamsingua, LVI                       | ( <i>Vide</i> page 18— <i>I</i> ).                                                                                                                                                                                                  | 27 4 50.15  | 83 4 5.91                 | 309                                 | ...                        | 2      | ...                                                 | 63                           |
| Gharbaria, LVIII                        | ( <i>Vide</i> page 18— <i>I</i> ).                                                                                                                                                                                                  | 27 2 52.80  | 83 15 5.46                | 304.60*                             | ...                        | ...    | ...                                                 | 64                           |
| Ghaus, LIV                              | ( <i>Vide</i> page 18— <i>I</i> ).                                                                                                                                                                                                  | 27 21 5.08  | 83 5 38.81                | 327                                 | ...                        | 2      | ...                                                 | 59                           |
| H 13 Peak                               | Observed in 1883-84. ( <i>Nepal</i> ). Is identical with $\frac{\text{Pk.7}}{63 \text{ M}}$ on page 427— <i>I</i> .                                                                                                                 | 27 45 14    | 83 51 16                  | 4660                                | ...                        | 2      | ...                                                 | 1262,<br>1263                |
| Jampha Temple                           | Mahadeo temple. Observed in 1847-48. ( <i>Gorakhpur</i> ).                                                                                                                                                                          | 27 12 17    | 83 21 2                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Katnia                                  | s. Situated 2½ miles S.W. of Harna Tar Post Office. The road from Tribeni Ghat to Rám-nagar is 2 miles N.E. where it crosses Bhabsa river. Observed in 1884-85. ( <i>Champaran</i> ).                                               | 27 17 36.29 | 83 59 22.21               | 343                                 | ...                        | 2      | ...                                                 | 1223                         |
| Khakhra House                           | Zamindár's house, very prominent. Observed in 1847-48. ( <i>Basti</i> ).                                                                                                                                                            | 27 14 35    | 83 10 52                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Madho Mark                              | Pole on hill. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                            | 27 23 28.2  | 83 57 48.4                | 804                                 | ...                        | 2      | ...                                                 | 1227,<br>1228                |
| Mahdewa House                           | Top of a large tiled house. Observed in 1847-48. ( <i>Basti</i> ).                                                                                                                                                                  | 27 17 33    | 83 3 21                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* Determined by Spirit-Levelling.

## DEGREE SHEET No. 63 M, between Lats. 27° - 28° and Longs. 83° - 84°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                           |                                     | Position                   | Height |                                                     |                              |
| Mathia, LXV                             | ( <i>Vide</i> page 20— <i>r</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 8 4'37"   | 83 51 32'13"              | 334                                 | ...                        | 2      | Feet ...                                            | 71                           |
| Morairi, LXIII                          | ( <i>Vide</i> page 19— <i>r</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 10 3'60"  | 83 41 36'44"              | 334                                 | ...                        | 2      | ... ..                                              | 69                           |
| Narainpur                               | s. $\frac{1}{4}$ mile S. of the village of that name on the road to Rámnagar, $\frac{3}{4}$ mile S.W. of Gonnoli at the junction of roads from Tribeni Ghat and Lachampur to Rámnagar. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 19 55'13" | 83 58 3'28"               | 366                                 | ...                        | 2      | ... ..                                              | 1225                         |
| Neura                                   | Factory House chimney. Observed in 1847-48. ( <i>Basti</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 21 14     | 83 8 58                   | ...                                 | ...                        | ...    | ... ..                                              | ...                          |
| Panni                                   | Temple Observed in 1847-48. ( <i>Basti</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 27 20 30     | 83 13 21                  | ...                                 | ...                        | ...    | ... ..                                              | ...                          |
| Pipra                                   | s. On the right bank of Chota Bhabra river about $\frac{1}{4}$ mile away from it, 1 mile S. of Pipra village and $1\frac{1}{4}$ miles S.W. of Saknawa on the road to Rámnagar. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 18 42'70" | 83 58 53'74"              | 352                                 | ...                        | 2      | ... ..                                              | 1224                         |
| Purena, LV                              | ( <i>Vide</i> page 18— <i>r</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 11 7'18"  | 83 10 56'16"              | 299'25*                             | ...                        | ...    | ... ..                                              | 60                           |
| Rámpurua                                | s. On the right bank of the Ráhua river, $\frac{1}{4}$ mile E. of the village of Rámpurua, about $\frac{1}{4}$ mile W. of Lachampur on the left bank of the above river. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                     | 27 23 6'50"  | 83 54 23'27"              | 342                                 | ...                        | 2      | ... ..                                              | 1232,<br>1233                |
| Saunbarsa, LIX                          | ( <i>Vide</i> page 19— <i>r</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 11 26'33" | 83 21 18'45"              | 315                                 | ...                        | 3      | ... ..                                              | 62,65                        |
| Sohoria                                 | s. On the road to Rámnagar, $\frac{1}{4}$ mile S.E. of the village of that name and $1\frac{1}{4}$ miles N.W. of Nainsipur village on the same road. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 27 20 52'52" | 83 57 7'99"               | 365                                 | ...                        | 2      | ... ..                                              | 1226                         |
| Supur, LXII                             | ( <i>Vide</i> page 19— <i>r</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 18 10'85" | 83 38 23'79"              | 329                                 | ...                        | 2      | ... ..                                              | 68                           |
| Thári                                   | s. $\frac{1}{4}$ mile N.E. of the village of Thári, 1 mile N.W. of Kotharaha village. Thári Ghat is $1\frac{1}{2}$ miles S.W. of the station. Observed in 1884-85. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 27 24 41'07" | 83 53 30'66"              | ...                                 | ...                        | ...    | ... ..                                              | 1234                         |
| Tribeni                                 | h.s. On the northern brow of a red earthen scarp a few hundred yards from the south or left bank of the Pachnad river distant about 2 miles east of Tribeni Ghat. The red earth forms a promontory here which abuts on the valley and rises some 200 feet above it. The place is called Lali Mati, the 'Red Upland'. It continues towards Balu Thápa but dies off towards the Gandak river.<br>The station consists of a circular masonry pillar 3 feet 3 inches in diameter sunk about 2 feet below the surface of the ground and rising about 6 inches above it, having a mark-stone on top. Observed in 1882-83. ( <i>Raj Rámnagar, Champaran</i> ). | 27 26 27'04" | 83 57 46'05"              | 648                                 | ...                        | 1      | ... ..                                              | 1264,<br>1265                |

\* Determined by Spirit-Levelling.

## DEGREE SHEET No. 63 M, between Lats. 27° - 28° and Longs. 83° - 84°—(Continued).

| Name or Designation of Station or Point  | Description                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| $\frac{\text{Pk. 1}}{63 \text{ M}}$ ...  | Dark peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                      | 27 45 53    | 83 36 25                  | 6070                                | 3                          | 3      | 0.5                                                 | ...                          |
| $\frac{\text{Pk. 2}}{63 \text{ M}}$ ...  | Sharpish, very indented peak. The most westerly of numerous well-marked knolls. Observed in 1882-83. ( <i>Nepal</i> ). | 27 45 21    | 83 41 19                  | 5410                                | 3                          | 2      | 1.0                                                 | ...                          |
| $\frac{\text{Pk. 3}}{63 \text{ M}}$ ...  | Pointed (easterly) peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                        | 27 46 36    | 83 47 3                   | 5720                                | 3                          | 1      | 0.9                                                 | ...                          |
| $\frac{\text{Pk. 4}}{63 \text{ M}}$ ...  | Smooth and undefined peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                      | 27 46 12    | 83 56 14                  | ...                                 | 3                          | ...    | 0.5                                                 | ...                          |
| $\frac{\text{Pk. 5}}{63 \text{ M}}$ ...  | Flat peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                      | 27 45 46    | 83 53 32                  | ...                                 | 3                          | ...    | 0.7                                                 | ...                          |
| $\frac{\text{Pk. 6}}{63 \text{ M}}$ ...  | Smooth knoll. Observed in 1882-83. ( <i>Nepal</i> ).                                                                   | 27 45 27    | 83 45 35                  | 5850                                | 3                          | 2      | 1.5                                                 | ...                          |
| $\frac{\text{Pk. 7}}{63 \text{ M}}$ ...  | See H 13 Peak, page 425— <i>I</i> .                                                                                    | 27 45 14    | 83 51 16                  | 4660                                | ...                        | 2      | ...                                                 | 1262, 1263                   |
| $\frac{\text{Pk. 8}}{63 \text{ M}}$ ...  | Flat-topped conical peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                       | 27 42 33    | 83 50 53                  | 4150                                | 3                          | 1      | 0.5                                                 | ...                          |
| $\frac{\text{Pk. 9}}{63 \text{ M}}$ ...  | Flattish knoll. Observed in 1882-83. ( <i>Nepal</i> ).                                                                 | 27 38 23    | 83 45 7                   | 3890                                | 3                          | 4      | 3.3                                                 | ...                          |
| $\frac{\text{Pk. 10}}{63 \text{ M}}$ ... | Undefined peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                 | 27 29 29    | 83 54 38                  | 2690                                | 3                          | 1      | 1.2                                                 | ...                          |

## DEGREE SHEET No. 71 D, between Lats. 28° - 29° and Longs. 84° - 85°.

|                                         |                                                                                                           |            |            |       |   |     |     |     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------|------------|------------|-------|---|-----|-----|-----|
| $\frac{\text{Pk. 1}}{71 \text{ D}}$ ... | Round peak, east shoulder of $\frac{\text{Pk. 3}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ). | 28 32 23   | 84 8 19    | ...   | 3 | ... | 3.0 | ... |
| $\frac{\text{Pk. 2}}{71 \text{ D}}$ ... | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                              | 28 32 11.3 | 84 5 5.2   | 24688 | 4 | 4   | 0.2 | ... |
| $\frac{\text{Pk. 3}}{71 \text{ D}}$ ... | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                              | 28 32 5.0  | 84 7 25.6  | 26041 | 5 | 5   | 0.0 | ... |
| $\frac{\text{Pk. 4}}{71 \text{ D}}$ ... | Point on west spur of $\frac{\text{Pk. 2}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ).        | 28 31 26   | 84 4 44    | ...   | 3 | ... | 4.9 | ... |
| $\frac{\text{Pk. 5}}{71 \text{ D}}$ ... | Snow knoll below $\frac{\text{Pk. 3}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ).             | 28 31 7    | 84 8 36    | ...   | 3 | ... | 6.2 | ... |
| $\frac{\text{Pk. 6}}{71 \text{ D}}$ ... | Snow point under $\frac{\text{Pk. 3}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ).             | 28 30 32   | 84 7 32    | ...   | 3 | ... | 8.2 | ... |
| $\frac{\text{Pk. 7}}{71 \text{ D}}$ ... | Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                              | 28 29 23.8 | 84 11 30.2 | 22921 | 3 | 3   | 0.6 | ... |

## DEGREE SHEET No. 71 D, between Lats. 28° - 29° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                      |                              |
| $\frac{\text{Pk. 8}}{71 \text{ D}}$     | ... Blunt ill-defined snow peak. Observed in 1832-83. ( <i>Nepal</i> ).                                                                             | 28 44 10    | 84 25 11                  | 23380                               | 3                          | 2      | Feet<br>3'0                                          | ...                          |
| $\frac{\text{Pk. 9}}{71 \text{ D}}$     | ... Peak. Observed in 1847-48. ( <i>Nepal</i> ).                                                                                                    | 28 39 44.5  | 84 19 29.6                | ...                                 | 2                          | ...    | ...                                                  | ...                          |
| $\frac{\text{Pk. 10}}{71 \text{ D}}$    | ... Peak. Observed in 1847-48. ( <i>Nepal</i> ).                                                                                                    | 28 39 26.2  | 84 18 6.0                 | ...                                 | 2                          | ...    | ...                                                  | ...                          |
| $\frac{\text{Pk. 11}}{71 \text{ D}}$    | ... Snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                                               | 28 33 18    | 84 29 8                   | ...                                 | 3                          | ...    | 1'0                                                  | ...                          |
| $\frac{\text{Pk. 12}}{71 \text{ D}}$    | ... Fan-like peak. Observed in 1883-84. ( <i>Nepal</i> ).                                                                                           | 28 28 48    | 84 16 5                   | ...                                 | 3                          | ...    | 6'3                                                  | ...                          |
| $\frac{\text{Pk. 13}}{71 \text{ D}}$    | ... Most easterly peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                                      | 28 28 12    | 84 17 9                   | ...                                 | 3                          | ...    | 1'4                                                  | ...                          |
| $\frac{\text{Pk. 14}}{71 \text{ D}}$    | ... Sharp peak. Observed in 1847-49. ( <i>Nepal</i> ).                                                                                              | 28 33 0.3   | 84 33 43.1                | 26658                               | 4                          | 3      | 0'1                                                  | ...                          |
| $\frac{\text{Pk. 15}^1}{71 \text{ D}}$  | ... Peak. West needle. Observed in 1883-84. ( <i>Nepal</i> ).                                                                                       | 28 32 42    | 84 30 32                  | ...                                 | 3                          | ...    | 2'4                                                  | ...                          |
| $\frac{\text{Pk. 15}^2}{71 \text{ D}}$  | ... Peak. East needle. Observed in 1883-84. ( <i>Nepal</i> ).                                                                                       | 28 32 36    | 84 30 40                  | ...                                 | 3                          | ...    | 1'4                                                  | ...                          |
| $\frac{\text{Pk. 16}}{71 \text{ D}}$    | ... Peak. Observed in 1848-49. ( <i>Nepal</i> ).                                                                                                    | 28 30 12.1  | 84 34 7.4                 | 25705                               | 3                          | 2      | 0'1                                                  | ...                          |
| $\frac{\text{Pk. 17}}{71 \text{ D}}$    | ... Snow point on ridge running N.W. from $\frac{\text{Pk. 19}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ).                             | 28 26 59    | 84 36 23                  | ...                                 | 3                          | ...    | 5'4                                                  | ...                          |
| $\frac{\text{Pk. 18}}{71 \text{ D}}$    | ... Isolated peak S. W. of $\frac{\text{Pk. 19}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ).                                            | 28 26 8     | 84 37 7                   | ...                                 | 3                          | ...    | 7'5                                                  | ...                          |
| $\frac{\text{Pk. 19}}{71 \text{ D}}$    | ... Snow peak broad top. Observed in 1847-49. ( <i>Nepal</i> ).                                                                                     | 28 26 3.0   | 84 38 33.7                | 25801                               | 4                          | 4      | 0'1                                                  | ...                          |
| $\frac{\text{Pk. 20}}{71 \text{ D}}$    | ... Round snow knoll between $\frac{\text{Pk. 19}}{71 \text{ D}}$ and $\frac{\text{Pk. 21}}{71 \text{ D}}$ . Observed in 1883-84. ( <i>Nepal</i> ). | 28 23 55    | 84 40 5                   | ...                                 | 3                          | ...    | 8'9                                                  | ...                          |
| $\frac{\text{Pk. 21}}{71 \text{ D}}$    | ... Snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                                                               | 28 22 41    | 84 40 41                  | 21890                               | 3                          | 2      | 1'0                                                  | ...                          |
| $\frac{\text{Pk. 22}}{71 \text{ D}}$    | ... Sharp snow peak; west needle. Observed in 1882-83. ( <i>Nepal</i> ).                                                                            | 28 33 19    | 84 56 49                  | ...                                 | 3                          | ...    | 0'6                                                  | ...                          |
| $\frac{\text{Pk. 23}}{71 \text{ D}}$    | ... Snow peak, east needle, sharper and higher than $\frac{\text{Pk. 22}}{71 \text{ D}}$ . ( <i>Nepal</i> ).                                        | 28 32 48    | 84 57 2                   | 23420                               | 3                          | 4      | 2'0                                                  | ...                          |



## DEGREE SHEET No. 71 D, between Lats. 28° - 29° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pk.24<br>71 D                           | ... Eastern and higher of two sharp peaks. Observed in 1883-84. ( <i>Nepal</i> ). | 28 31 56    | 84 57 27                  | ...                                 | 3                          | ...    | Feet<br>5'1                                         | ...                          |
| Pk.25<br>71 D                           | ... Higher of two snow peaks. Observed in 1883-84. ( <i>Nepal</i> ).              | 28 31 45    | 84 58 2                   | ...                                 | 3                          | ...    | 8'4                                                 | ...                          |
| Pk.26 <sup>1</sup><br>71 D              | ... West snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                        | 28 24 49    | 84 59 47                  | 19690                               | 3                          | 2      | 3'0                                                 | ...                          |
| Pk.26 <sup>2</sup><br>71 D              | ... East snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                        | 28 24 43    | 84 59 49                  | ...                                 | 3                          | ...    | 3'7                                                 | ...                          |
| Pk.27<br>71 D                           | ... Snow peak, knoll on east end. Observed in 1882-83. ( <i>Nepal</i> ).          | 28 23 28    | 84 47 28                  | ...                                 | 3                          | ...    | 0'9                                                 | ...                          |
| Pk.28<br>71 D                           | ... Snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                             | 28 22 32    | 84 45 23                  | ...                                 | 3                          | ...    | 0'0                                                 | ...                          |

## DEGREE SHEET No. 71 H, between Lats. 28° - 29° and Longs. 85° - 86°.

|               |                                                                                  |            |           |       |   |     |             |     |
|---------------|----------------------------------------------------------------------------------|------------|-----------|-------|---|-----|-------------|-----|
| Pk.1<br>71 H  | ... Centre of snow peak. Observed in 1882-83. ( <i>Tibet</i> ).                  | 28 32 44   | 85 3 18   | 21040 | 3 | 2   | Feet<br>2'9 | ... |
| Pk.2<br>71 H  | ... Snow peak. Observed in 1882-83. ( <i>Nepal, Tibet</i> ).                     | 28 24 39   | 85 0 22   | ...   | 3 | ... | 1'5         | ... |
| Pk.3<br>71 H  | ... Sharp pyramidal snow peak. Observed in 1882-83. ( <i>Nepal, Tibet</i> ).     | 28 23 58   | 85 0 55   | 20580 | 3 | 1   | 2'2         | ... |
| Pk.4<br>71 H  | ... Shoulder of peak. Observed in 1884. ( <i>Tibet</i> ).                        | 28 23 51   | 85 8 21   | ...   | 3 | ... | 19'5        | ... |
| Pk.5<br>71 H  | ... Peak, knoll in dip. Observed in 1884. ( <i>Tibet</i> ).                      | 28 23 39   | 85 5 56   | ...   | 3 | ... | 2'0         | ... |
| Pk.6<br>71 H  | ... Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).                            | 28 23 29'9 | 85 7 45'5 | 24299 | 3 | 1   | 0'5         | ... |
| Pk.7<br>71 H  | ... Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).                             | 28 23 1    | 85 3 33   | 23400 | 3 | 2   | 16'2        | ... |
| Pk.8<br>71 H  | ... Shoulder of peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).                 | 28 22 53   | 85 3 8    | ...   | 3 | ... | 12'7        | ... |
| Pk.9<br>71 H  | ... Snow peak. Centre of flat top. Observed in 1882-83. ( <i>Nepal, Tibet</i> ). | 28 22 45   | 85 3 35   | 23280 | 3 | 2   | 0'6         | ... |
| Pk.10<br>71 H | ... Peak east of Pk. 9<br>71 H. Observed in 1883-84. ( <i>Nepal, Tibet</i> ).    | 28 22 18   | 85 3 49   | ...   | 3 | ... | 5'3         | ... |
| Pk.11<br>71 H | ... Peak in dip. Observed in 1884. ( <i>Nepal, Tibet</i> ).                      | 28 21 37   | 85 4 16   | ...   | 3 | ... | 4'4         | ... |

DEGREE SHEET No. 71 H, between Lats. 28° - 29° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                 |             |                           |                                     | Position                       | Height |                                                      |                              |
| <u>Pk.12</u><br><u>71 H</u>             | ... Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).           | 28 20 43.3  | 85 4 57.3                 | 23299                               | 3                              | 2      | Feet<br>0.4                                          | ...                          |
| <u>Pk.13</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Tibet</i> ).                   | 28 20 10    | 85 9 40                   | 22250                               | 4                              | 1      | 3.4                                                  | ...                          |
| <u>Pk.14</u><br><u>71 H</u>             | ... Sharp snow peak. Observed in 1882-83. ( <i>Tibet</i> ).     | 28 19 53    | 85 9 55                   | ...                                 | 3                              | ...    | 0.9                                                  | ...                          |
| <u>Pk.15</u><br><u>71 H</u>             | ... Peak. Smooth knoll. Observed in 1883-84 ( <i>Tibet</i> ).   | 28 19 50    | 85 8 43                   | ...                                 | 3                              | ...    | 0.3                                                  | ...                          |
| <u>Pk.16</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).            | 28 19 11    | 85 8 39                   | ...                                 | 3                              | ...    | 5.1                                                  | ...                          |
| <u>Pk.17</u><br><u>71 H</u>             | ... Peak. Dark needle. Observed in 1882-83. ( <i>Nepal</i> ).   | 28 16 40    | 85 11 2                   | ...                                 | 3                              | ...    | 4.6                                                  | ...                          |
| <u>Pk.18</u><br><u>71 H</u>             | ... Peak. White needle. Observed in 1882-83. ( <i>Nepal</i> ).  | 28 16 38    | 85 11 20                  | ...                                 | 3                              | ...    | 1.3                                                  | ...                          |
| <u>Pk.19</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).            | 28 15 23    | 85 29 24                  | ...                                 | 4                              | ...    | 6.1                                                  | ...                          |
| <u>Pk.20</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Tibet</i> ).                   | 28 15 0     | 85 28 27                  | 21580                               | 3                              | 1      | 11.9                                                 | ...                          |
| <u>Pk.21</u><br><u>71 H</u>             | ... Isolated snow peak. Observed in 1882-83. ( <i>Tibet</i> ).  | 28 10 4     | 85 29 51                  | ...                                 | 3                              | ...    | 1.8                                                  | ...                          |
| <u>Pk.22<sup>1</sup></u><br><u>71 H</u> | ... Flat snow peak. Observed in 1882-83. ( <i>Tibet</i> ).      | 28 29 53    | 85 35 27                  | 21870                               | 3                              | 1      | 4.3                                                  | ...                          |
| <u>Pk.22<sup>2</sup></u><br><u>71 H</u> | ... Snow peak. Observed in 1882-83. ( <i>Tibet</i> ).           | 28 30 0     | 85 35 33                  | ...                                 | 3                              | ...    | 0.2                                                  | ...                          |
| <u>Pk.23</u><br><u>71 H</u>             | ... Snow peak. Observed in 1882-83. ( <i>Tibet</i> ).           | 28 28 0     | 85 36 13                  | ...                                 | 3                              | ...    | 2.9                                                  | ...                          |
| <u>Pk.24</u><br><u>71 H</u>             | ... Pyramidal snow peak. Observed in 1882-83. ( <i>Tibet</i> ). | 28 26 43    | 85 31 16                  | 20770                               | 3                              | 2      | 1.7                                                  | ...                          |
| <u>Pk.25</u><br><u>71 H</u>             | ... Snow peak. Observed in 1882-83. ( <i>Tibet</i> ).           | 28 26 41    | 85 38 54                  | 22220                               | 3                              | 2      | 5.5                                                  | ...                          |
| <u>Pk.26</u><br><u>71 H</u>             | ... Snow peak. Observed in 1882-83. ( <i>Tibet</i> ).           | 28 26 5     | 85 39 43                  | 22380                               | 3                              | 1      | 0.7                                                  | ...                          |
| <u>Pk.27</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Tibet</i> ).                   | 28 17 37    | 85 38 11                  | ...                                 | 3                              | ...    | 11.1                                                 | ...                          |
| <u>Pk.29</u><br><u>71 H</u>             | ... Peak. Observed in 1884. ( <i>Tibet</i> ).                   | 28 16 32    | 85 38 25                  | ...                                 | 3                              | ...    | 29.5                                                 | ...                          |
| <u>Pk.29</u><br><u>71 H</u>             | ... Snow peak. Observed in 1882-83. ( <i>Tibet</i> ).           | 28 16 16    | 85 37 59                  | ...                                 | 3                              | ...    | 2.6                                                  | ...                          |
| <u>Pk.30</u><br><u>71 H</u>             | ... Conical peak. Observed in 1884. ( <i>Tibet</i> ).           | 28 16 11    | 85 33 19                  | 22130                               | 3                              | 2      | 9.7                                                  | ...                          |

## DEGREE SHEET No. 71 H, between Lats. 28° - 29° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point           | Description                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|---------------------------------------------------|----------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                                   |                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.31</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 15 56    | 85 33 36                  | ...                                 | 3                          | ...    | Feet<br>2.3                                         | ...                          |
| <u>Pk.32</u><br><u>71 H</u> ...                   | Peak in dip. Observed in 1884. ( <i>Nepal</i> , <i>Tibet</i> ).                  | 28 15 42    | 85 37 7                   | ...                                 | 3                          | ...    | 14.8                                                | ...                          |
| <u>Pk.33</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Nepal</i> ).                                        | 28 15 37    | 85 30 4                   | ...                                 | 4                          | ...    | 4.8                                                 | ...                          |
| <u>Pk.34</u><br><u>71 H</u> ...                   | Snow peak. On right brow of higher knoll. Observed in 1882-83. ( <i>Nepal</i> ). | 28 15 25    | 85 36 33                  | ...                                 | 3                          | ...    | 2.5                                                 | ...                          |
| <u>Pk.35</u><br><u>71 H</u> ( <i>Dayabhang</i> )  | Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).                                | 28 15 21.5  | 85 31 8.7                 | 23750                               | 4                          | 2      | 0.4                                                 | ...                          |
| <u>Pk.36</u><br><u>71 H</u> ...                   | Sharp conical peak. Observed in 1884-85. ( <i>Nepal</i> ).                       | 28 14 7     | 85 40 15                  | ...                                 | 3                          | ...    | 1.6                                                 | ...                          |
| <u>Pk.37</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Nepal</i> ).                                        | 28 12 37    | 85 38 10                  | ...                                 | 3                          | ...    | 4.8                                                 | ...                          |
| <u>Pk.38<sup>1</sup></u><br><u>71 H</u> ...       | Peak. Observed in 1884. ( <i>Nepal</i> ).                                        | 28 10 10    | 85 32 49                  | ...                                 | 4                          | ...    | 11.1                                                | ...                          |
| <u>Pk.38<sup>2</sup></u><br><u>71 H</u> ...       | Peak. Observed in 1884. ( <i>Nepal</i> ).                                        | 28 10 6     | 85 33 4                   | ...                                 | 3                          | ...    | 1.1                                                 | ...                          |
| <u>Pk.39</u><br><u>71 H</u> ...                   | Conical snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                        | 28 10 9     | 85 40 51                  | ...                                 | 3                          | ...    | 0.4                                                 | ...                          |
| <u>Pk.40</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Nepal</i> ).                                        | 28 9 44     | 85 36 44                  | ...                                 | 3                          | ...    | 23.0                                                | ...                          |
| <u>Pk.41</u><br><u>71 H</u> ...                   | Well-defined snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                   | 28 9 30     | 85 30 31                  | ...                                 | 3                          | ...    | 1.9                                                 | ...                          |
| <u>Pk.42</u><br><u>71 H</u> ...                   | Snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                                | 28 9 11     | 85 30 45                  | ...                                 | 3                          | ...    | 1.0                                                 | ...                          |
| <u>Pk.43</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 21 27    | 85 46 18                  | ...                                 | 3                          | ...    | 12.2                                                | ...                          |
| <u>Pk.44</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 21 17    | 85 48 45                  | 25134                               | 5                          | 2      | 0.7                                                 | ...                          |
| <u>Pk.45</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 21 13    | 85 45 33                  | ...                                 | 3                          | ...    | 16.0                                                | ...                          |
| <u>Pk.46</u><br><u>71 H</u> ( <i>Gosainthan</i> ) | Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).                                | 28 21 6.7   | 85 46 54.6                | 26291                               | 3                          | 2      | 2.5                                                 | ...                          |
| <u>Pk.47</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 21 1     | 85 47 32                  | ...                                 | 3                          | ...    | 4.4                                                 | ...                          |
| <u>Pk.48</u><br><u>71 H</u> ...                   | Peak. Observed in 1884. ( <i>Tibet</i> ).                                        | 28 18 32    | 85 48 39                  | ...                                 | 4                          | ...    | 9.2                                                 | ...                          |
| <u>Pk.49</u><br><u>71 H</u> ...                   | Dome-topped snow peak. Observed in 1882-83. ( <i>Nepal</i> ).                    | 28 14 58    | 85 45 5                   | 22410                               | 3                          | 1      | 0.7                                                 | ...                          |

## DEGREE SHEET No. 71 H, between Lats. 28° - 29° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point              | Description                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------------------|-----------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                                      |                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.50</u><br><u>71 H</u> ...                      | Knoll on flat snow peak. Observed in 1882-83. ( <i>Nepal</i> ). | 28 12 36    | 85 46 40                  | ...                                 | 3                          | ...    | Feet<br>5'0                                         | ...                          |
| <u>Pk.51</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal</i> )                        | 28 12 35    | 85 47 12                  | ...                                 | 3                          | ...    | 0'1                                                 | ...                          |
| <u>Pk.52</u><br><u>71 H</u> ...                      | Conical snow peak. Observed in 1882-83. ( <i>Nepal</i> ).       | 28 11 44    | 85 48 6                   | 23240                               | 3                          | 1      | 2'1                                                 | ...                          |
| <u>Pk.53</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal</i> ).                       | 28 10 36    | 85 49 15                  | 21680                               | 4                          | 1      | 4'2                                                 | ...                          |
| <u>Pk.54</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal</i> ).                       | 28 10 36    | 85 46 36                  | ...                                 | 3                          | ...    | 1'2                                                 | ...                          |
| <u>Pk.55</u><br><u>71 H</u> ( <i>Jibjibia West</i> ) | Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).               | 28 10 25'1  | 85 46 51'3                | 22876                               | 4                          | 2      | 0'3                                                 | ...                          |
| <u>Pk.56</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal</i> ).                       | 28 10 11    | 85 49 12                  | ...                                 | 3                          | ...    | 0'8                                                 | ...                          |
| <u>Pk.57</u><br><u>71 H</u> ( <i>Jibjibia East</i> ) | Snow peak. Observed in 1847-48. ( <i>Nepal</i> ).               | 28 7 41'0   | 85 52 15'8                | 21839                               | 4                          | 2      | 1'6                                                 | ..                           |
| <u>Pk.58</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal</i> ).                       | 28 7 3      | 85 52 43                  | ...                                 | 5                          | ...    | 0'0                                                 | ...                          |
| <u>Pk.59</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).                | 28 6 17     | 85 54 10                  | 19600                               | 3                          | 2      | 11'1                                                | ...                          |
| <u>Pk.60</u><br><u>71 H</u> ...                      | Peak. Observed in 1884. ( <i>Tibet</i> ).                       | 28 5 52     | 85 54 14                  | ...                                 | 3                          | ...    | 19'8                                                | ...                          |

## DEGREE SHEET No. 71 L, between Lats. 28° - 29° and Longs. 86° - 87°.

| Name or Designation of Station or Point | Description                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.1</u><br><u>71 L</u> ...          | Peak on Everest range. Observed in 1884. ( <i>Nepal, Tibet</i> ). | 28 6 36     | 86 37 18                  | 25433                               | 3                          | 1      | Feet<br>1'4                                         | ...                          |
| <u>Pk.2</u><br><u>71 L</u> ...          | Fishback peak. Observed in 1885. ( <i>Nepal, Tibet</i> ).         | 28 6 24     | 86 41 15                  | 25909                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.3</u><br><u>71 L</u> ...          | Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).                  | 28 5 52     | 86 44 41                  | 25990                               | 3                          | 4      | 4'0                                                 | ...                          |
| <u>Pk.4</u><br><u>71 L</u> ...          | Peak. Observed in 1885. ( <i>Nepal, Tibet</i> ).                  | 28 5 50     | 86 42 31                  | 25202                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.5</u><br><u>71 L</u> ...          | Peak. Observed in 1884. ( <i>Nepal, Tibet</i> ).                  | 28 5 32     | 86 39 51                  | 26867                               | 3                          | 3      | 4'9                                                 | ...                          |
| <u>Pk.6</u><br><u>71 L</u> ...          | Conical snow peak. Observed in 1883. ( <i>Tibet</i> ).            | 28 7 8      | 86 59 28                  | 23420                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.7</u><br><u>71 L</u> ...          | Sharp peak. Observed in 1883. ( <i>Tibet</i> ).                   | 28 6 56     | 86 57 5                   | 23080                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.8</u><br><u>71 L</u> ...          | Sharp peak. Observed in 1883. ( <i>Tibet</i> ).                   | 28 3 56     | 86 58 53                  | 23800                               | 3                          | 2      | 14'6                                                | ...                          |

## DEGREE SHEET No. 71 P, between Lats. 28° - 29° and Longs. 87° - 88°.

| Name or Designation of Station or Point | Description                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| $\frac{\text{Pk.1}}{71 \text{ P}}$ ...  | East end of flat snow peak. Observed in 1884. ( <i>Tibet</i> ). | 28 12 10    | 87 26 25                  | 21050                               | ...                        | ...    | <i>Feet</i>                                         | ...                          |
| $\frac{\text{Pk.2}}{71 \text{ P}}$ ...  | Peak. Observed in 1884. ( <i>Tibet</i> ).                       | 29 5 10     | 87 36 32                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 72 A, between Lats. 27° - 28° and Longs. 84° - 85°.

|               |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |             |         |     |     |             |               |
|---------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|---------|-----|-----|-------------|---------------|
| Bájra, LXVIII |                    | ( <i>Vide page 20—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 12 26·23 | 84 8 56·21  | 350     | ... | 2   | <i>Feet</i> | 74            |
| Bakwa, LXIX   |                    | ( <i>Vide page 20—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 2 46·00  | 84 11 17·83 | 305·60* | ... | ... | ...         | 75            |
| Balua, LXVI   |                    | ( <i>Vide page 20—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 14 20·87 | 84 0 32·75  | 339     | ... | 2   | ...         | 72            |
| Balua         | h.s.               | Is situated at the head of the Balua stream, the branches of which drain the country for some distance to the east and also to the west of the locality. To the east there is a hill covered with immense trees, about 60 feet higher than the one on which the station has been built. There is a slightly lower knoll a few yards off to the west beyond which the ridge dips considerably. A masonry platform 3 feet 3 inches in diameter, 2 feet below and 1 foot above the ground, marks the station. Observed in 1882-83. ( <i>Nepal and Champaran</i> ). | 27 28 30·80 | 84 10 23·96 | 1697    | ... | 2   | ...         | 1244,<br>1245 |
| Barar         | h.s.               | On a hill about 3 miles N. by W. of Harnatar Post Office on the road from Tribeni Ghát to Rámnagar, 2½ miles N.E. of Gorár village. Observed in 1884-85. ( <i>Raj Rámnagar, Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                    | 27 21 16·52 | 84 1 33·44  | 705     | ... | 1   | ...         | 1222          |
| Bikna Thori   | s.                 | On the boundary between Nepal and Champaran close E. of the irrigation cut from Pundehi river and ¼ mile N.E. of the Nepalese outpost. Observed in 1882-83. ( <i>Nepal and Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                     | 27 20 20·57 | 84 37 23·59 | ...     | ... | ... | ...         | 1260,<br>1261 |
| Chandkigar    | Hill Mark (helio.) | About ¼ mile E. of the village of Chandki and ¼ mile N.E. of Rámnagar-Shikárpur road. Observed in 1847. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27 8 17·4   | 84 25 31·8  | ...     | ... | ... | ...         | 1266          |
| Deochili      | Peak               | Or Kñb peak. Observed in 1882-83. ( <i>Nepal</i> ). Is identical with $\frac{\text{Pk 5}}{72 \text{ A}}$ on page 436— <i>I</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                | 27 46 1     | 84 10 55    | 6350    | ... | 5   | ...         | 1248,<br>1249 |
| Harha East    | h.s.               | Is situated on a knoll which is the highest in the neighbourhood; a deeply dipping ridge connects this knoll with a hill about ¼ mile off to the north in Nepal which overlooks the Ganduk plains. The station                                                                                                                                                                                                                                                                                                                                                  | 27 31 3·11  | 84 8 29·11  | 1319    | ... | 1   | ...         | 1252          |

\* Determined by Spirit-Levelling.

DEGREE SHEET No. 72 A, between Lats. 27° - 28° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile or triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                     |
| Harha East h.s.—(Contd.)                | <p>may be reached by following a small feeder of the Harha <i>nadi</i> which comes in from the west about 2½ miles from the source of the main feeder. A well-known path leads up this stream and past the station into Nepal.</p> <p>The station consists of a masonry platform 3 feet 3 inches in diameter about 2 feet below and 1 foot above ground with the usual upper markstone. Observed in 1882-83. (<i>Nepal and Champaran</i>).</p>                                                                                                       | 27 31 3 11  | 84 8 29 11                | 1319                                | ...                        | 1      | Feet ...                            |
| Harha West h.s.                         | <p>A temporary station, reported to have been destroyed by the Nepalese. Observed in 1882-83. (<i>Nepal and Champaran</i>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 30 53 03 | 84 8 14 57                | 1315                                | ...                        | 2      | ...                                 |
| Katáha h.s.                             | <p>On the highest part of the knoll on the watershed and boundary between Nepal and Champaran and 2 miles north of Katáha village. A path-way leads over a depression into Nepal about a hundred yards or so to the east of the knoll.</p> <p>The station consists of a circular masonry platform 3 feet 3 inches in diameter, about 2 feet below and 1 foot above the ground. Observed in 1882-83. (<i>Nepal and Champaran</i>).</p>                                                                                                                | 27 20 48 02 | 84 34 9 47                | 1283                                | ...                        | 1      | ...                                 |
| Kumkarna h.s.                           | <p>On the highest part of the forest clad hill of that name on the watershed and boundary between Nepal and Champaran. The station may be reached from a ravine which runs towards the S.E., or from Chegraha <i>nadi</i> which runs due south past Jhamoli village about 3½ miles from the station.</p> <p>The station consists of a masonry platform 3 feet 3 inches in diameter, about 2 feet below and 1 foot above ground with the usual mark-stone. Observed in 1882-83. (<i>Nepal and Champaran</i>).</p>                                     | 27 21 39 13 | 84 28 53 88               | 2156                                | ...                        | 3      | ...                                 |
| Mandewa h.s.                            | <p>On a rather commanding hill opposite the village of that name. The eastern end of the hill is somewhat higher than the point on which the station has been built. The hill is on the watershed and boundary between Nepal and Champaran, is precipitous to the south and is rather difficult to ascend on account of the soft and friable nature of the sandstone.</p> <p>The station consists of a masonry platform 3 feet 3 inches in diameter, about 2 feet below and 1 foot above ground. Observed in 1883. (<i>Nepal and Champaran</i>).</p> | 27 22 11 64 | 84 25 18 93               | 2199                                | ...                        | 4      | ...                                 |
| Naurangia h.s.                          | <p>On the highest hill in the neighbourhood, at the head of the Pachnad river and of the Marha river which flows north and then west into Nepal.</p> <p>The station consists of a masonry platform 3 feet 3 inches in diameter, about 2 feet below and 1 foot above the ground level. This station was reported in 1885 to have been destroyed by the Nepalese. Observed in 1882-83. (<i>Raj Bánnagar, Champaran</i>).</p>                                                                                                                           | 27 27 5 99  | 84 3 47 18                | 1145                                | ...                        | 2      | ...                                 |

## DEGREE SHEET No. 72 A, between Lats. 27° - 28° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mil in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                    |                              |
| Parsauni East                           | s. On a peg on the N. end of a bank which is here cut off by the encroaching river, just south of Parsauni village on the opposite or left bank of the stream. Observed in 1882-83. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                        | 27 16 7.11  | 84 36 43.71               | 398                                 | ...                        | 2      | Feet<br>...                                        | 1257                         |
| Parsauni West                           | s. Close to bank of a stream in Raj Rámnagar, the road from Shikárpur thána to Nepal boundary passes about 2½ miles to the west and Ratanpur village is close S.W. of the station. Observed in 1882-83. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                    | 27 15 52.95 | 84 35 6.94                | ...                                 | ...                        | ...    | ...                                                | 1258,<br>1259                |
| Rámnagar, LXX                           | ( <i>vide page 20—1</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 9 4.09   | 84 19 35.56               | 342                                 | ...                        | 3      | ...                                                | 76                           |
| †Ratwal                                 | s. On left bank of the Gandak and S.E. of town of that name.<br>A square trench having a wooden pin driven into the ground for its centre, marks the station. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                              | 27 0 35.62  | 84 11 55.85               | ...                                 | ...                        | ...    | ...                                                | ...                          |
| Sikta, LXXIV                            | ( <i>vide page 21—1</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 1 44.04  | 84 40 54.56               | 289                                 | ...                        | 2      | ...                                                | 80                           |
| Someshwar Fort                          | h.s. On the N.W. corner of the ruins of Someshwar Fort. A path leads over from Gobardhanna village into Nepal about ¼ mile to the east of the station at a point where there is a temple. A portion of the rubble wall to the depth of about 3½ feet was removed and the station built in and then the rubble filled up again.<br>The station consists of a masonry platform 3 feet 3 inches in diameter, having the usual mark-stone on its upper surface about 5 feet higher than the level of the floor of the fort. Observed in 1882-83. ( <i>Raj Rámnagar, Champaran</i> ). | 27 23 15.30 | 84 18 26.26               | 2887                                | ...                        | 2      | ...                                                | 1236,<br>1237                |
| Someshwar                               | h.s. On the highest part of the eastern end of the hill before it dips down to a much lower level. A rough pathway leads along the ridge to the station from Someshwar Fort h.s., but is said not to be practicable beyond.<br>The station consists of a masonry platform 3 feet 3 inches in diameter with the usual mark-stone on its upper surface. Observed in 1882-83. ( <i>Raj Rámnagar, Champaran</i> ).                                                                                                                                                                   | 27 22 26.31 | 84 21 18.47               | 2739                                | ...                        | 3      | ...                                                | 1238,<br>1239                |
| Tarharwa, LXXII                         | ( <i>vide page 21—1</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 6 6.27   | 84 30 31.57               | 304                                 | ...                        | 2      | ...                                                | 78                           |
| Upasai, LXVII                           | ( <i>vide page 20—1</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 4 56.05  | 84 1 28.63                | 313                                 | ...                        | 2      | ...                                                | 73                           |
| Yamowli                                 | h.s. On a knoll on the Someshwar ridge above and to the west of the villages of Nirindi and Yamowli in Nepal. The hill is precipitous towards the north. There is another knoll about 4 feet higher towards the N.W., distant about ¼ mile. The whole range is forest clad and is composed of soft sandstone rocks.<br>The station consists of a masonry platform 3 feet 3 inches in diameter with the usual mark-stone. This station was reported in 1885 to have been destroyed by the Nepalese. Observed in 1882-83. ( <i>Nepal and Champaran</i> ).                          | 27 25 48.20 | 84 16 21.88               | 2088                                | ...                        | 3      | ...                                                | 1246,<br>1247                |

† This station appertains to the Hurisong Meridional Series.

## DEGREE SHEET No. 72 A, between Lats. 27° - 28° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                               |
| <u>Pk.1</u><br><u>72 A</u>              | ... Peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                     | 27 46 43    | 84 6 57                   | ...                                 | 3                          | ...    | 0'0                                                 | ...                           |
| <u>Pk.2</u><br><u>72 A</u>              | ... Well-defined peak. Observed in 1882-83. ( <i>Nepal</i> ).                                        | 27 46 42    | 84 3 0                    | 5830                                | 3                          | 4      | 0'1                                                 | ...                           |
| <u>Pk.3</u><br><u>72 A</u>              | ... Peak. Centre of mass. Observed in 1882-83. ( <i>Nepal</i> ).                                     | 27 46 37    | 84 13 20                  | ...                                 | 3                          | ...    | 0'7                                                 | ...                           |
| <u>Pk.4</u><br><u>72 A</u>              | ... Undefined peak. Observed in 1882-83. ( <i>Nepal</i> ).                                           | 27 46 15    | 84 0 34                   | ...                                 | 3                          | ...    | 1'4                                                 | ...                           |
| <u>Pk.5</u><br><u>72 A</u>              | ... See Deochili Peak, page 433— <i>I.</i>                                                           | 27 46 1     | 84 10 55                  | 6350                                | ...                        | 5      | ...                                                 | 1248,<br>1240                 |
| <u>Pk.6</u><br><u>72 A</u>              | ... Peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                     | 27 46 0     | 84 4 22                   | ...                                 | 3                          | ...    | 0'8                                                 | ...                           |
| <u>Pk.7<sup>1</sup></u><br><u>72 A</u>  | ... West peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                | 27 45 56    | 84 8 18                   | ...                                 | 3                          | ...    | 1'0                                                 | ...                           |
| <u>Pk.7<sup>2</sup></u><br><u>72 A</u>  | ... East peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                | 27 45 48    | 84 8 31                   | ...                                 | 3                          | ...    | 0'1                                                 | ...                           |
| <u>Pk.8</u><br><u>72 A</u>              | ... Conical peak. Observed in 1882-83. ( <i>Nepal</i> ).                                             | 27 45 32    | 84 12 4                   | ...                                 | 3                          | ...    | 0'2                                                 | ...                           |
| <u>Pk.9</u><br><u>72 A</u>              | ... Peak. Centre of mass. Observed in 1882-83. ( <i>Nepal</i> ).                                     | 27 52 47    | 84 29 51                  | 7020                                | 3                          | 2      | 1'5                                                 | ...                           |
| <u>Pk.10</u><br><u>72 A</u>             | ... Peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                     | 27 47 9     | 84 17 4                   | 3920                                | 3                          | 3      | 3'7                                                 | ...                           |
| <u>Pk.11</u><br><u>72 A</u>             | ... Isolated peak. Observed in 1882-83. ( <i>Nepal</i> ).                                            | 27 43 39    | 84 24 40                  | 1910                                | 3                          | 2      | 0'2                                                 | ...                           |
| <u>Pk.12</u><br><u>72 A</u>             | ... Peak. Centre of mass. Observed in 1882-83. ( <i>Nepal</i> ).                                     | 27 45 44    | 84 38 0                   | ...                                 | 3                          | ...    | 1'7                                                 | ...                           |
| <u>Pk.13</u><br><u>72 A</u>             | ... Snow peak. Low range. Observed in 1882-83. ( <i>Nepal</i> ).                                     | 27 42 48    | 84 41 43                  | 6380                                | 3                          | 3      | 1'0                                                 | ...                           |
| <u>Pk.14</u><br><u>72 A</u>             | ... Peak. West end of range. Observed in 1882-83. ( <i>Nepal</i> ).                                  | 27 41 51    | 84 54 23                  | ...                                 | 3                          | ...    | 0'3                                                 | ...                           |
| <u>Pk.15</u><br><u>72 A</u>             | ... Left of gap; well defined black conical peak, very sharp. Observed in 1882-83. ( <i>Nepal</i> ). | 27 41 10    | 84 46 55                  | 6370                                | 3                          | 1      | 2'0                                                 | ...                           |
| <u>Pk.16</u><br><u>72 A</u>             | ... Right of gap; round peak; right of gorge. Observed in 1882-83. ( <i>Nepal</i> ).                 | 27 40 11    | 84 47 58                  | ...                                 | 3                          | ...    | 3'9                                                 | ...                           |
| <u>Pk.17</u><br><u>72 A</u>             | ... Peak. Observed in 1882-83. ( <i>Nepal</i> ).                                                     | 27 31 56    | 84 57 19                  | ...                                 | 3                          | ...    | 0'6                                                 | ...                           |



## DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°.

| Name or Designation of Station or Point | Description                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Bádarjimi Imámbára                     | Top <i>kalas</i> . ( <i>Saran</i> ).                                                                                                                             | 26 21 22.8  | 84 21 59.8                | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Bádrám                                 | House Paka house, S. face, W. corner. ( <i>Saran</i> ).                                                                                                          | 26 9 35.9   | 84 23 12.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bághai s.                              | In a field and on the southern bank of a dry rivulet, marked by a square trench with a pin in its centre; thána Bettiah, pargana Majhauwa. ( <i>Champaran</i> ). | 26 46 3.31  | 84 27 25.26               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bágra                                  | House S.W. corner. ( <i>Muzaffarpur</i> ).                                                                                                                       | 26 15 16.4  | 84 55 9.7                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Barbarwa                               | Temple ( <i>Champaran</i> ).                                                                                                                                     | 26 51 5.7   | 84 27 28.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Baryárpur                              | Gola Flag. ( <i>Champaran</i> ).                                                                                                                                 | 26 37 44.6  | 84 28 4.3                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Batwaia, LXXVIII                        | ( <i>Vide page 22—<u>I</u></i> ).                                                                                                                                | 26 49 50.81 | 84 56 34.36               | 243                                 | ...                        | 2      | ...                                                 | 84                           |
| *Bettiah                                | Chapel Cross of Roman Catholic chapel. ( <i>Champaran</i> ).                                                                                                     | 26 48 10.4  | 84 30 19.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Palace Rája's palace, white building, N. turret. ( <i>Champaran</i> ).                                                                                           | 26 48 6.2   | 84 30 14.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Rája's House Window of Rája's house. ( <i>Champaran</i> ).                                                                                                       | 26 48 6.4   | 84 30 12.7                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah s.                             | On gateway of Rája's house. ( <i>Champaran</i> ).                                                                                                                | 26 48 6.82  | 84 30 19.22               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 1 Mahádeo temple. ( <i>Champaran</i> ).                                                                                                               | 26 47 56.6  | 84 30 44.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 2 Golden <i>kalas</i> of Rája's temple on tank bank. ( <i>Champaran</i> ).                                                                            | 26 47 56.5  | 84 30 44.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 3 Shivji's temple. ( <i>Champaran</i> ).                                                                                                              | 26 47 59.6  | 84 31 43.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 4 Double spire temple in city, N. spire. ( <i>Champaran</i> ).                                                                                        | 26 48 8.0   | 84 30 20.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 4 Double spire temple in city, S. spire. ( <i>Champaran</i> ).                                                                                        | 26 48 7.6   | 84 30 20.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 5 Pathal Darwáza temple, N. <i>kalas</i> . ( <i>Champaran</i> ).                                                                                      | 26 48 7.9   | 84 30 19.9                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bettiah                                | Temple No. 5 Pathal Darwáza temple, S. <i>kalas</i> . ( <i>Champaran</i> ).                                                                                      | 26 48 7.4   | 84 30 19.9                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bhgvár                                 | Temple <i>Kalas</i> . ( <i>Saran</i> ).                                                                                                                          | 26 27 22.0  | 84 37 29.6                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Biarwa, LXXV                            | ( <i>Vide page 21—<u>I</u></i> ).                                                                                                                                | 26 51 42.57 | 84 39 52.80               | 261                                 | ...                        | 2      | ...                                                 | 81                           |
| Bigoia, LXXVII                          | ( <i>Vide page 22—<u>I</u></i> ).                                                                                                                                | 26 45 56.02 | 84 47 49.09               | 253                                 | ...                        | 2      | ...                                                 | 83                           |

\* These points appertain to the Hurilong Meridional Series.

DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                      |                              |
| *Binharwa, XXIX                         | Stands in an extensive sandy plain; it is situated on the right bank of the Gandak, and is distant 1½ miles N. by E. of the village of Binharwa: thána Bagaha, pargana Majhauwa, district Champaran.<br>The station is marked by a perforated pillar 30 feet high, having the usual mark-stones at the basement, and another at the summit. The distances and bearings of surrounding places are:—Naugawa Factory Bungalow, ¼ miles W.; Raghunáthpur village, 1¼ miles N.N.W.; and Kharáta Chotatola, 6¼ miles E.S.E. Observed in 1852. ( <i>Champaran</i> ). | 26 52 50.12 | 84 11 59.68               | 288                                 | ...                        | ...    | Feet                                                 | ...                          |
| *Bitáha s.                              | On the northern bank of a large lake, 0.4 of a mile N.N.W. of the village so called and in the same direction 1.8 miles from Khada masjid; marked by a square trench with a pin in its centre: thána Bettial, pargana Majhauwa. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                         | 26 46 46.89 | 84 28 54.67               | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Chuhari Chapel                         | Cross of the Roman Catholic chapel. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 53 33.1  | 84 29 24.4                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Daha Nadi Bridge                       | On road, S. face, E. pillar. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 23 16.2  | 84 21 48.9                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Daniári Factory                        | S.E. corner of roof of bungalow. ( <i>Gorakhpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 38 35.0  | 84 19 11.0                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Darauli Temple No. 1                   | High. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 4 26.3   | 84 7 50.0                 | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Darauli Temple No. 2                   | Square, with dome. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 4 26.3   | 84 7 50.3                 | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Daunáha, XXVII                         | Stands on an elevated mound about half a mile N.E. of the village of Daunáha: thána Turya Suján, tahsil Parauna, pargana Sidhua Jobna, district Gorakhpur.<br>The station is marked by a perforated pillar 20 feet high, having the usual mark-stones at the basement, and another at the summit. The distances and bearings of surrounding villages are:—Tumkoti, 3 miles W.S.W.; Sahibganj, about 1¼ miles N.E.; Ahrauli, 1½ miles N.W.; and Sumahi, 1¼ miles S.E. Observed in 1852. ( <i>Gorakhpur</i> ).                                                  | 26 42 16.85 | 84 13 21.91               | 291                                 | ...                        | ...    | ...                                                  | ...                          |
| *Dekáha Temple                          | Kalas. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 17 47.0  | 84 49 41.7                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Dhúmnagar Karbala                      | ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 46 9     | 84 31 7                   | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Diúr Tomb                              | Top of dome of Rája Bain's tomb. ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 20 1.4   | 84 51 25.2                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Domath Imámbára                        | ( <i>Gorakhpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 40 44.2  | 84 16 21.2                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Dumarbar s.                            | On a high mound in the village of that name at junction of the Gogra and Chhoti Gandak nádi and 0.9 of a mile S.S.E. of Mairitaur village; thána Darauli ( <i>Saran</i> ). (Called Gogra River No. 40 s. in Synoptical Vol. XVIII).                                                                                                                                                                                                                                                                                                                           | 26 6 51.83  | 84 3 32.13                | ...                                 | ...                        | ...    | ...                                                  | ...                          |
| *Dunaria Temple                         | Kalas. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 22 48.5  | 84 43 13.8                | ...                                 | ...                        | ...    | ...                                                  | ...                          |

\* These points appertain to the Hurilaong Meridional Series.

DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Garaulia Temple                        | ( <i>Champaran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 50 41.8  | 84 28 46.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Gidaha, XXV                            | Stands in an open field at a distance of about 400 yards N. N. W. of the village of Gidaha, a hamlet of which lies about 100 yards S. of the station: thána Bárugaon, pargana Kuari, district Saran.<br>The station is marked by a perforated pillar 30 feet high, "having mark-stones at the basement, one below and the other above". The distances and bearings of surrounding villages are:—Gopálpur, 2 miles E. S. E.; Bungai, nearly 1½ miles W. N. W.; Kaliánpur, 3 miles S. W.; and Lachimpur, 2½ miles E. N. E. Observed in 1852. ( <i>Saran</i> ).                                    | 26 30 14.10 | 84 12 43.76               | 279                                 | ...                        | ...    | ...                                                 | ...                          |
| *Goiti House                            | Tiled, E. corner. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 7 50.5   | 84 15 33.6                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Harnáhi, LXXVI                          | ( <i>Vide page 21—<i>r</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 55 55.15 | 84 48 51.96               | 273                                 | ...                        | 2      | ...                                                 | 82                           |
| *Hasanpura Temple                       | ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 4 36.9   | 84 21 38.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Hathuwa Masjid                         | Centre dome. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 21 47.0  | 84 19 7.4                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Hathuwa, Rája's Mahal                  | Chimney, S. E. corner. ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 21 37.3  | 84 17 53.7                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Hálta Temple                           | ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 5 6.4    | 84 20 10.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Jalálpur, XX                           | Stands in an open plain at a distance of about 500 yards W. of the village of Jalálpur, and 2 miles S. E. of the bazar of Hasanpura or Rojanpura: thána Maharájanj, pargana Báí, district Saran.<br>The station consists of a tower 40 feet high, having mark-stones embedded in it "at vertical intervals of 5 feet." The distances and bearings of surrounding villages are:—Khwájepur, about 1 mile W. S. W.; Firozpur, 1½ miles N. by E.; Dibi, 1½ miles E.; Kotawa, 1½ miles S. E. by E.; and Madhuapur, 2 miles S. Observed in 1851 and 1852. ( <i>Saran</i> ).                           | 26 3 39.42  | 84 23 9.46                | 232                                 | ...                        | ...    | ...                                                 | ...                          |
| *Jámanpura Temple                       | ( <i>Saran</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 5 4.8    | 84 16 55.9                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Jhánápur, XXII                         | Is situated about half a mile S. E. of the village of Jhánápur: thána Sewan or Aliganj, pargana Bára, district Saran.<br>The station as originally built consisted of a square tower 32 feet high; over this a pillar 15 feet high was subsequently added, having around it a bamboo scaffolding for the accommodation of the observatory tent. The distances and bearings of surrounding villages are:—Akhopur, 1 mile N. by W.; Ukhai, ¼ mile N. N. E.; Bri Muwári, nearly ¼ mile E. S. E.; and the town of Sewan or Aliganj, about 2½ miles to the S. W. Observed in 1852. ( <i>Saran</i> ). | 26 14 16.12 | 84 23 23.19               | 253                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Hurilong Meridional Series.

## DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Distances in miles in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                 |                              |
| *Katwárpur, XXI                         | Stands on a mound adjoining the village of Katwárpur: thána Darauli, pargana Andar, district Saran.<br>The station consists of a tower 31 feet high, having mark-stones embedded in it "at vertical intervals of 6 feet." The distances and bearings of surrounding villages are:—Bardaha, nearly 1½ miles N.N.W.; Biswania, 1½ miles W. by S.; Hododipur, nearly 1½ miles S.E. by S; and Pachokhar, 1½ miles E.N.E. Observed in 1851 and 1852. (Saran).                                                                     | 26 7 18·61  | 84 13 3·79                | 255                                 | ...                        | ...    | Feet                                            | ...                          |
| *Khájápur House                         | Turret. (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 3 19·7   | 84 22 15·3                | ...                                 | ...                        | ...    | ...                                             | ...                          |
| *Lakri Dargáh                           | Highest cupola. (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 21 37·7  | 84 23 35·5                | ...                                 | ...                        | ...    | ...                                             | ...                          |
| *Lakri (?) Temple                       | (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 22 34·8  | 84 23 9·2                 | ...                                 | ...                        | ...    | ...                                             | ...                          |
| *Mathenia, XXVI                         | Stands on the bund constructed along the right bank of the Gandak river, and is situated on the east side of the village of Mathenia: thána Bárngaon, pargana Kuari, district Saran.<br>The station is marked by a perforated pillar 30 feet high, having two mark-stones at the basement and another at the summit. The distances and bearings of surrounding villages are:—Sipahi, about 2½ miles S.S.E.; Rámpur Mokund, about 1½ miles W.; and Dauchak, nearly ¾ mile N. by W. Observed in 1852. (Saran).                 | 26 36 32·76 | 84 21 21·11               | 272                                 | ...                        | ...    | ...                                             | ...                          |
| *Mírganj House                          | Paka house, S.E. corner. (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 21 52·5  | 84 20 22·1                | ...                                 | ...                        | ...    | ...                                             | ...                          |
| Naonangarhi, LXXI                       | ( <i>Vide</i> page 21— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 59 10·19 | 84 23 46·86               | 344                                 | ...                        | I      | ...                                             | 77                           |
| *Nautan, XXIII                          | Stands on the east bank of a watercourse, and is distant about ¼ mile S. of the village of Nautan: thána Sewan, pargana Chaubár, district Saran.<br>The station consists of a tower 32 feet high, having mark-stones embedded in it "at vertical intervals of 6 feet". The distances and bearings of surrounding villages are:—Chupáwa, about 1½ miles W.; Sagraha, 1 mile S.E. by E.; Nautan tola, nearly ¾ mile E.; and Hathuwa, 6 miles N.E. by E. Observed in 1852. (Saran).                                             | 26 19 7·98  | 84 12 46·29               | 255                                 | ...                        | ...    | ...                                             | ...                          |
| *Nawáda Temple                          | Kalas. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 29 2·8   | 84 39 22·3                | ...                                 | ...                        | ...    | ...                                             | ...                          |
| *Nawalpur Gola                          | Flag. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 55 11·4  | 84 17 1·7                 | ...                                 | ...                        | ...    | ...                                             | ...                          |
| *Patjirwa, XXVIII                       | Stands on a small mound (formed by the ruins of an old fort) about ¼ mile S.S.W. of the village of Patjirwa: thána Bettiah, pargana Majhauwa, district Champaran.<br>The station is marked by a perforated pillar 20 feet high, having the usual mark-stones in the basement, and another at the summit. The distances and bearings of surrounding villages are:—Paighambarpur tola, 1½ miles S.E.; Baudrahi, ½ mile N.N.E.; Rámkot, ¼ mile N.N.W.; and the town of Bettiah, about 8 miles E. Observed in 1852. (Champaran). | 26 48 35·15 | 84 23 14·64               | 261·41†                             | ...                        | ...    | ...                                             | ...                          |

\* These points appertain to the Hurilang Meridional Series.

† This height is determined by Spirit-Levelling and refers to the mark-stone let into the ground floor of the tower.

## DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Pokarbinda Temple                      | (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 28 21.7  | 84 17 47.0                | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Pucharis Sugar Manufactory             | Engine house chimney. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 27 23.5  | 84 42 24.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Pujáha s.                              | In an extensive plain, on a boundary mark between the grounds of Pujáha and Ranáha villages, 1.1 miles S. of the former and 0.9 of a mile S.W. of the latter village; marked by a square trench with a pin in its centre: thána Bettiah, pargana Majhauwa. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 47 16.27 | 84 22 51.38               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Rúpdí, LXXIX                            | ( <i>vide</i> page 22— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 40 3.20  | 84 57 19.38               | 239.64†                             | ...                        | ...    | ...                                                 | 85                           |
| *Sakbwa Temple                          | Kalas. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 30 5.5   | 84 34 45.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Salimpur Factory                       | Bungalow chimney (in ruins). (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 28 2.4   | 84 38 53.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Salimpur Temple                        | Kalas. (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 27 41.3  | 84 39 38.4                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Saráha s.                              | On the eastern bank of a large mun or lake, 0.6 of a mile S.W. of village so called and 0.2 of a mile N.W. of Ujwáli; marked by a square trench with a pin in its centre: thána Bettiah, pargana Majhauwa. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 47 14.53 | 84 27 6.31                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Sathwaria, LXXIII                       | ( <i>vide</i> page 21— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 57 40.75 | 84 32 2.73                | 272                                 | ...                        | 2      | ...                                                 | 79                           |
| *Sirsia s.                              | On the western bank of a mun or lake that stretches south and north through a patch of jungle, 0.4 of a mile S.E. of the village so called; marked by a square trench with a pin in its centre: thána Bettiah, pargana Majhauwa. (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 47 15.55 | 84 24 49.26               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Sisáwa Turret                          | (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 2 20     | 84 20 45                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Sundari Siwála                         | (Saran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 19 52.9  | 84 24 20.8                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Tadháwa s.                             | On a road running S. of a dry rivulet, 1.3 miles N. of the village so called and 0.4 of a mile E. of Nandpur village; marked by a square trench with a pin in its centre: thána Bettiah, pargana Majhauwa (Champaran).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 45 58.76 | 84 26 0.13                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Tháwa, XXIV                            | Stands on rising ground about 500 yards W. of the village of Tháwa which is pretty well known in this part of the district from the circumstance of an annual fair being held here in honour of a <i>devi</i> (Hindu deity) whose temple is situated at the distance of $\frac{1}{4}$ a mile S.E. by S. from the station: thána Gopálganj, pargana Sipah, district Saran. The station consists of a tower 32 feet high, having mark-stones imbedded in it "at vertical intervals of 6 feet". The distances and bearings of surrounding places are:—Pipra masjid (temple), 1 mile W.N.W.; Jangmalua village, 2½ miles E.S.E.; and the town of Baragan, about 7 miles W.S.W. Observed in 1852. (Saran). | 26 26 2.87  | 84 23 34.66               | 255                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Hurilang Meridional Series.

† Determined by Spirit-Levelling.

## DEGREE SHEET No. 72 B, between Lats. 26° - 27° and Longs. 84° - 85°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                    | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                |               |                           |                                     | Position                   | Height |                                                     |                              |
| *Trijunction Mark X                     | s. Same as the Revenue Survey pillar P, is on a small mound between the parganas Kalyánpur Kuwári, Gopálganj and Sidhua Jobna. ( <i>Saran and Gorakhpur</i> ). | 26 36 51' 43" | 84 22 56' 37"             | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Trijunction Mark Y                     | s. Same as the Revenue Survey pillar Y between the parganas Kalyánpur Kuwári, Sipáhi and Majhauwa. ( <i>Saran and Champaran</i> ).                             | 26 35 13' 24" | 84 24 35' 70"             | ...                                 | ...                        | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 72 E, between Lats. 27° - 28° and Longs. 85° - 86°.

| <u>Pk.1</u><br><u>72 E</u>              | ... | Knoll on lower range knoll on flat. Observed in 1882-83. ( <i>Nepal</i> ).                    | 27 36 44" | 85 1 46"  | 8560 | 3 | 3   | 0'0  | ... |
|-----------------------------------------|-----|-----------------------------------------------------------------------------------------------|-----------|-----------|------|---|-----|------|-----|
| <u>Pk.2</u><br><u>72 E</u>              | ... | Knoll on lower range. Knoll on flat. Observed in 1882-83. ( <i>Nepal</i> ).                   | 27 35 37" | 85 5 26"  | 8490 | 3 | 2   | 0'1  | ... |
| <u>Pk.3</u><br><u>72 E</u>              | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 30 48" | 85 9 15"  | 8030 | 3 | 1   | 18'2 | ... |
| <u>Pk.4</u><br><u>72 E</u>              | ... | Lower range. Observed in 1882-83. ( <i>Nepal</i> ).                                           | 27 30 38" | 85 9 45"  | 8270 | 3 | 2   | 0'9  | ... |
| <u>Pk.5</u><br><u>72 E</u>              | ... | A tree on a well defined conical peak to right of gap. Observed in 1882-83. ( <i>Nepal</i> ). | 27 28 40" | 85 10 28" | 7390 | 3 | 2   | 1'3  | ... |
| <u>Pk.6</u><br><u>72 E</u>              | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 28 27" | 85 12 5"  | ...  | 3 | ... | 7'7  | ... |
| <u>Pk.7</u><br><u>72 E</u>              | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 29 58" | 85 28 57" | ...  | 3 | ... | 5'7  | ... |
| <u>Pk.8</u><br><u>72 E</u>              | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 29 37" | 85 28 13" | ...  | 4 | ... | 1'0  | ... |
| <u>Pk.9</u><br><u>72 E</u>              | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 29 17" | 85 29 34" | ...  | 3 | ... | 4'9  | ... |
| <u>Pk.10</u><br><u>72 E</u>             | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 29 2"  | 85 29 10" | ...  | 3 | ... | 10'6 | ... |
| <u>Pk.11<sup>1</sup></u><br><u>72 E</u> | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 28 21" | 85 22 19" | ...  | 3 | ... | 8'7  | ... |
| <u>Pk.11<sup>2</sup></u><br><u>72 E</u> | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 28 18" | 85 22 32" | ...  | 5 | ... | 0'5  | ... |
| <u>Pk.12</u><br><u>72 E</u>             | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 28 44" | 85 30 54" | ...  | 3 | ... | 10'8 | ... |
| <u>Pk.13</u><br><u>72 E</u>             | ... | Lower range. Observed in 1884. ( <i>Nepal</i> ).                                              | 27 28 41" | 85 31 26" | ...  | 3 | ... | 15'8 | ... |

\* These points appertain to the Hurilong Meridional Series.

## DEGREE SHEET No. 72 E, between Lats. 27° - 28° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pk.14<br>72 E                           | ... Lower range. Observed in 1884. (Nepal).    | 27 27 43    | 85 34 20                  | ...                                 | 4                          | ...    | <i>Feet</i><br>1·8                                  | ...                          |
| Pk.15<br>72 E                           | ... Lower range. Observed in 1884. (Nepal).    | 27 27 40    | 85 33 32                  | ...                                 | 4                          | ...    | 2·0                                                 | ...                          |
| Pk.16<br>72 E                           | ... Lower range. Observed in 1884. (Nepal).    | 27 26 7     | 85 35 52                  | ...                                 | 3                          | ...    | 11·6                                                | ...                          |
| Pk.17<br>72 E                           | ... Lower range. Observed in 1884-85. (Nepal). | 27 24 24    | 85 43 3                   | 7810                                | 3                          | 1      | 3·9                                                 | ...                          |
| Pk.18<br>72 E                           | ... Observed in 1884. (Nepal).                 | 27 52 2     | 85 56 9                   | 16500                               | 3                          | 2      | 3·9                                                 | ...                          |

## DEGREE SHEET No. 72 F, between Lats. 26° - 27° and Longs. 85° - 86°.

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |             |         |     |     |     |     |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|---------|-----|-----|-----|-----|
| Anwa, LXXXIII            | ( <i>Vide</i> page 23—7.).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 35 44·89 | 85 16 43·58 | 241     | ... | 2   | ... | 89  |
| Barahi Boundary Pillar   | 1½ miles E. of Barahi village and about 1½ miles N.N.E. of Sursand Asli. Observed in 1848-49. (Nepal and Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 39 50    | 85 44 21    | ...     | ... | ... | ... | ... |
| Barahi Temple            | In the village of that name about 1½ miles N. of Sursund Asli. Observed in 1848-49. (Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 40 0     | 85 43 10    | ...     | ... | ... | ... | ... |
| Barwi Boundary Pillar    | About 3¼ miles N.E. of Naranga on the road from Bathnaha Jujharpatti to Nepal. Observed in 1848-49. (Nepal and Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 50 11    | 85 41 47    | ...     | ... | ... | ... | ... |
| *Basantpur, XV           | Stands in the centre of a grass jungle, about 1·32 miles N.W. of the large village of Aghāra and 7 miles nearly S.E. of the civil station of Darbhanga; pargana Aghāra, thāna and district Darbhanga.<br>The station consists of a tower of brick-work 22½ feet in height, but no details of its construction are forthcoming. The azimuths and perambulated distances of the circumjacent villages are:—Andama 166° 43', miles 1·09; Joghāra 117° 8', miles 2·13; Madoban 72° 45', miles 1·08; Basantpur 41° 26', mile 0·47; Pansilia 20° 1', mile 0·96; and Kokat 252° 4', mile 0·51. Observed in 1852. (Darbhanga). | 26 4 15·40  | 85 59 26·87 | 146·39† | ... | ... | ... | ... |
| Bathnaha Boundary Pillar | About 1 mile N. of Barahi. Observed in 1848-49. (Nepal and Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 40 53    | 85 43 37    | ...     | ... | ... | ... | ... |
| Bharsand Boundary Pillar | 1½ miles N.W. of Kanhauli village at the junction of the roads from Matiar Kalān and Malai. Observed in 1848-49. (Nepal and Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 48 59    | 85 30 37    | ...     | ... | ... | ... | ... |
| Bhia Boundary Pillar     | About ¼ of a mile N.W. of Sarkhandi Bitha. Observed in 1848-49. (Nepal and Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 37 47    | 85 46 19    | ...     | ... | ... | ... | ... |
| ‡Bhikanpur Sugar Factory | W. chimney of the engine house. (Muzaffarpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 10 23·4  | 85 23 48·1  | ...     | ... | ... | ... | ... |

\* This station appertains to the North Paraanath Meridional Series.

† This height is determined by Spirit-levelling and refers to the upper surface of the stone let into the ground floor of the tower.

‡ This point appertains to the Chandwar Meridional Series.

## DEGREE SHEET No. 72 F, between Lats. 26° - 27° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Bulákipur, LXXXIV                       | ( <i>Vide</i> page 23— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 40 55.73 | 85 26 31.01               | 258                                 | ...                        | 3      | Feet<br>...                                         | 90                           |
| Chandarsanpur, XCI                      | ( <i>Vide</i> page 24— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 22 30.86 | 85 58 56.17               | 202                                 | ...                        | 2      | ...                                                 | 97                           |
| Chillari Boundary Pillar                | About a mile N.W. of the village so called on the road from Sítámarhi to Nepal and about a mile S.W. of Sonbarsa town on the same road. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 50 27    | 85 34 6                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Chotaipati, XVII                       | Stands in the cultivated lands of the village of Chotaipati, about 7 miles N.E. of the civil station of Darbhanga and 1½ miles N.W. by N. of the large village of Laowán: thána Darbhanga, pargana Gopálpur, district Darbhanga.<br>The station consists of a tower of burnt and sun-dried bricks 24 88 feet in height, but no details of its construction are forthcoming. The azimuths and perambulated distances of the circumjacent villages are:—Bedaul 48° 3', mile 0 63; Dhobgaon 84° 31', miles 1 88; Tilakwára 114° 3', mile 0 99; Bolia 144° 48', mile 0 78; and Chotaipati 276° 27', mile 0 98. Observed in 1852. ( <i>Darbhanga</i> ).                                                                                                                                                | 26 13 55.89 | 85 59 0.86                | 155.86†                             | ...                        | ...    | ...                                                 | ...                          |
| Dain Chapra Factory                     | Chimney. Observed in 1848-49. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 43 40    | 85 27 10                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Darbhanga Temple                       | Spire of centre dome; also called Nargana. ( <i>Darbhanga</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 10 2.3   | 85 54 13.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Dipáhi, LXXX                            | ( <i>Vide</i> page 22— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 45 10.71 | 85 5 30.11                | 260                                 | ...                        | 2      | ...                                                 | 86                           |
| †Ghosauth, XXIV                         | Stands on a slight swell of ground distant 0.6 mile N.W. of the village of Ghosauth, and a mile N. of the Burh Gandak river: pargana Morwahkalán, thána and district Muzaffarpur.<br>The station consists of a tower of unburnt bricks—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry 25 feet high, 6½ feet square at base and 4 feet in diameter at top; the latter has a mark-stone at its summit, in the normal of which—it is assumed—other mark-stones have been fixed in the solid pillar. The distances and bearings of surrounding villages are:—Surjan Pakri, 1.6 miles N. by E.; Dharpur, about 1½ miles E.N.E.; Madhuban Kánti, about 1½ miles S.E.; and Mursandi, 3 miles W. Observed in 1846. ( <i>Muzaffarpur</i> ). | 26 17 24.49 | 85 17 0.95                | 214                                 | ...                        | ...    | ...                                                 | ...                          |
| Gopálpur Boundary Pillar                | About 1½ miles E. by S. of Sursand Asli. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 38 19    | 85 45 3                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Halukwari Factory                       | Chimney. Observed in 1848-49. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 45 6     | 85 26 32                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the North Paranath Meridional Series.

† This height is determined by Spirit-Leveling and refers to the mark-stone let into the ground floor of the tower.

‡ This station appertains to the Chendwar Meridional Series.



## DEGREE SHEET No. 72 F, between Lats. 26° - 27° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| †Harpur, XXII                           | Stands on the elevated bank of a tank, and is distant 0.3 mile S. of the village of Harpur: pargana Bisara Chakla Garjaul, thana and district Muzaffarpur.<br>The station consists of a tower of unburnt bricks—with diameters at top and bottom, respectively, of 16 and 27 feet—enclosing a central solid pillar of masonry 30 feet high, 6 feet in diameter at base and 4 feet at top; the latter has a mark-stone at its summit, another at the ground floor, and others—it is assumed—fixed intermediately. The distances and bearings of surrounding villages are:—Rathunia, 1.3 miles S. S.W.; Mitanpura, 0.4 mile N.W.; Madhup Machia, 0.2 mile E.N.E.; and Madhuban, 1.1 miles S. by E. Observed in 1845-46. ( <i>Muzaffarpur</i> ). | 26 8 0.53   | 85 17 54.01               | 177.30†                             | ...                        | ...    | <i>Feet</i><br>...                                  | ...                          |
| Humaunpur, LXXXVII                      | ( <i>Vide page 23—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 29 13.89 | 85 37 46.32               | 213                                 | ...                        | 2      | ...                                                 | 93                           |
| Jarol, XC                               | ( <i>Vide page 24—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 30 55.00 | 85 55 32.11               | 220                                 | ...                        | 2      | ...                                                 | 96                           |
| Juahi Boundary Pillar                   | About 2 miles E. by S. of Sursand Asli. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 38 11    | 85 45 42                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Khalimpur Mosque                       | Dome. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 10 54.8  | 85 26 2.7                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Khap Boundary Pillar                    | A mile E. of Bharsand and 1½ miles N.W. of Kanhauli. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 48 48    | 85 30 9                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Madanpur, LXXXV                         | ( <i>Vide page 23—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 31 5.45  | 85 26 21.02               | 226                                 | ...                        | 1      | ...                                                 | 91                           |
| Manera Boundary Pillar                  | About a mile E. of Sarsian and 3¼ miles N.E. of Pariharpur. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 44 14    | 85 44 11                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Masaha, LXXXI                           | ( <i>Vide page 22—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 37 4.95  | 85 8 6.07                 | 235                                 | ...                        | 2      | ...                                                 | 87                           |
| †Musahri Indigo Factory                 | Large chimney of the engine room. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 6 56.5   | 85 26 52.5                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Muzaffarpur House                      | Large yellow house, S.E. corner of portico. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 7 54.5   | 85 23 17.5                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Muzaffarpur Kachahri                   | Flag on roof of Collector's Kachahri. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 7 23.8   | 85 24 25.4                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Muzaffarpur Temple No. 1               | Kalas of Kaula Path's temple. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 7 34.7   | 85 23 37.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Muzaffarpur Temple No. 2               | Golden kalas of Fateh Chand's temple. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 7 32.6   | 85 23 18.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Narkatia Boundary Pillar                | On the left bank of Goga nadi about 1½ miles N.E. of Sanbaha village. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 51 27    | 85 36 34                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Nepal Territory Masjid                  | Observed in 1848-49. ( <i>Nepal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 49 7     | 85 31 3                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |

† These points appertain to the Chendwar Meridional Series.

† This height is determined by Spirit-Levelling and refers to the mark-stone let into the ground floor of the tower.

## DEGREE SHEET No. 72 F, between Lats. 26° - 27° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille of triangles | Excesses Number of Triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                      |                              |
| †Paládpur, XXI                          | Stands on a slight swell of ground distant 0.5 mile E. of the village of Paládpur: pargana Bisára Chakla Garjaul, thána and district Muzaffarpur.<br>The station consists of a tower of unburnt bricks—with diameters at top and bottom, respectively, of 16 and 24 feet—enclosing a central solid pillar of masonry 32 feet high, 6 feet in diameter at base and 3½ feet at top; the latter has a mark-stone at its summit, another at the ground floor, and others—it is assumed—fixed intermediately. The distances and bearings of surrounding places are:—Gangapur village, 0.8 mile N.N.W.; Musahri Indigo Factory, 3.2 miles N. by W.; Nawáda village, 0.4 mile E.N.E.; and Chapra village, 1.1 miles S.E. by S. Observed in 1845. ( <i>Muzaffarpur</i> ). | 26 4 21.01  | 85 27 13.16               | 175.01†                             | ...                        | ...    | Feet                                 | ...                          |
| Pargáwa, LXXXVIII                       | ( <i>Fide page 23—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 34 6.93  | 85 46 27.86               | 213                                 | ...                        | 2      | ...                                  | 94                           |
| Pariharpur Factory                      | Chimney. Observed in 1848-49. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 42 43    | 85 41 6                   | ...                                 | ...                        | ...    | ...                                  | ...                          |
| Pipra Temple                            | Observed in 1848-49. ( <i>Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 39 47    | 85 42 7                   | ...                                 | ...                        | ...    | ...                                  | ...                          |
| *Piri Temple                            | Spire, on ghát. ( <i>Darbhanga</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 6 48.2   | 85 58 9.9                 | ...                                 | ...                        | ...    | ...                                  | ...                          |
| †Pota, XXV                              | Stands on an artificial mound situated N.W. of the village of Pota: pargana Tilakchánd, thána and district Muzaffarpur.<br>The station consists of a tower of unburnt bricks—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry 26 feet high, 6½ feet square at base and 4 feet in diameter at top; the latter has a mark-stone at its summit, in the normal of which—it is assumed—other mark-stones have been fixed in the solid pillar. The distances and bearings of surrounding villages are:—Nonnara, 0.7 mile N.W. by W.; Kharka, 1.3 miles N.N.E.; and Ráipur, nearly 2 miles S.E. by S. Observed in 1846. ( <i>Muzaffarpur</i> ).                                                             | 26 22 40.13 | 85 26 20.33               | 222                                 | ...                        | ...    | ...                                  | ...                          |
| Rámnagar Boundary Pillar                | About 1½ miles S.W. of Sanbarsa village and 3 miles N.E. of Kanbauli village. Observed in 1848-49 ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 50 3     | 85 33 21                  | ...                                 | ...                        | ...    | ...                                  | ...                          |
| Rámnagar Tola Pillar                    | About 3½ miles N.E. of Pariharpur village. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 44 58    | 85 43 52                  | ...                                 | ...                        | ...    | ...                                  | ...                          |
| †Rámpur, XXVI                           | Stands on the N.E. corner of a tank bank distant about 600 yards N.E. by N. of the village of Rámpur Keso: thána Shiuhar, pargana Babra, district Muzaffarpur.<br>The station consists of a tower of unburnt bricks—with diameters at top and bottom, respectively, of 14 and 20 feet—enclosing a central solid pillar of masonry 30 feet high, 6½ feet square at base and 4 feet in diameter at top; the latter has a mark-stone at its summit, in the normal of which—it is assumed—other mark-stones have been fixed in the solid pillar. The distances and bearings of surrounding villages are:—Bowara, 1.9 miles S.S.W.; Dúna, 1.3 miles N.N.E.; Rúpwará, 2.3 miles E.N.E.; and Hairama 1.2 miles E.S.E. Observed in 1846. ( <i>Muzaffarpur</i> ).          | 26 27 0.92  | 85 16 29.96               | 224                                 | ...                        | ...    | ...                                  | ...                          |

‡ These stations appertain to the Chendwar Meridional Series.

† This height is determined by Spirit-levelling and refers to the mark-stone let into the ground floor of the tower.

\* This point appertains to the North Parasnath Meridional Series.

## DEGREE SHEET No. 72 F, between Lats. 26° - 27° and Longs. 85° - 86°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common-sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| Samsi Khanuna Pillar                    | On the road from Sarsand Asli to Nepal about $\frac{1}{2}$ mile N. of Bela Khurd. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 48 10    | 85 43 51                  | ...                                 | ...                        | ...    | Feet<br>...                                         | ...                          |
| Sanbarsa Boundary Pillar                | About 1 mile N. of Sanbarsa village on the road from Sitamarhi to Nepal. Observed in 1848-49. ( <i>Nepal and Muzaffarpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 51 30    | 85 35 10                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Sáwajpur, XXIII                        | Stands on the site of an old village elevated about 10 feet above the surrounding low ground and distant about 450 yards N.W. by N. of the village of Sáwajpur; pargana Morwahkhurd, thána and district Muzaffarpur.<br>The station consists of a tower of unburnt bricks— with diameters at top and bottom, respectively, of 16 and 25 feet—enclosing a central solid pillar of masonry 32 feet high, 6 feet square at base and 4 feet in diameter at top; the latter has a mark-stone at its summit, another at the ground floor, and others—it is assumed—fixed intermediately. The distances and bearings of surrounding villages are:—Básudeb tola (of Semraha), 0.6 mile S.W.; Madhupur, 0.8 mile N.; Páranwara, 1 mile N.E. by N.; and Charkurwa, 0.6 mile S. Observed in 1845-46. ( <i>Muzaffarpur</i> ). | 26 13 34.13 | 85 27 12.30               | 176.29†                             | ...                        | ...    | ...                                                 | ...                          |
| Sháhpur, LXXXIX                         | ( <i>vide page 24—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 24 42.37 | 85 47 25.37               | 198                                 | ...                        | 2      | ...                                                 | 95                           |
| Sinaris, LXXXII                         | ( <i>vide page 22—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 45 12.55 | 85 15 54.25               | 269                                 | ...                        | 2      | ...                                                 | 88                           |
| Sondahi, LXXXVI                         | ( <i>vide page 23—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 37 43.27 | 85 35 51.85               | 227                                 | ...                        | 2      | ...                                                 | 92                           |

## DEGREE SHEET No. 72 I, between Lats. 27° - 28° and Longs. 86° - 87°.

|              |               |                                                   |            |            |       |   |     |             |     |
|--------------|---------------|---------------------------------------------------|------------|------------|-------|---|-----|-------------|-----|
| Pk.1<br>72 I | ...           | Peak. Observed in 1884. ( <i>Nepal</i> ).         | 27 57 35   | 86 6 12    | ...   | 3 | ... | Feet<br>6.1 | ... |
| Pk.2<br>72 I | ...           | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ). | 27 57 28.8 | 86 6 41.7  | 19550 | 3 | 3   | 0.0         | ... |
| Pk.3<br>72 I | ...           | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ). | 27 58 17.3 | 86 26 5.9  | 23560 | 4 | 6   | 0.1         | ... |
| Pk.4<br>72 I | ...           | Peak. Observed in 1884. ( <i>Nepal</i> ).         | 27 58 11   | 86 25 9    | ...   | 5 | ... | 0.0         | ... |
| Pk.5<br>72 I | ...           | Peak. Observed in 1884. ( <i>Nepal</i> ).         | 27 58 6    | 86 25 35   | ...   | 3 | ... | 2.0         | ... |
| Pk.6<br>72 I | (Gaurisankar) | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ). | 27 57 52.0 | 86 20 16.1 | 23440 | 5 | 6   | 0.1         | ... |
| Pk.7<br>72 I | ...           | Peak. Observed in 1884. ( <i>Nepal</i> ).         | 27 57 23   | 86 29 49   | 23300 | 3 | 2   | 10.8        | ... |

† This station appertains to the Chendwar Meridional Series.

† This height is determined by Spirit-Levelling and refers to the mark-stone let into the ground floor of the tower.

DEGREE SHEET No. 72 I, between Lats. 27° - 28° and Longs. 86° - 87°—(Continued).

| Name or Designation of Station or Point | Description                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per cent in comparison of triangles | Reference of Triangles |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|---------------------------------------------------|------------------------|
|                                         |                                                                                                    |             |                           |                                     | Position                   | Height |                                                   |                        |
| <u>Pk. 8</u><br><u>72 I</u>             | ... Peak. Observed in 1884. (Nepal).                                                               | 27 57 23    | 86 20 24                  | ...                                 | 5                          | ...    | Feet<br>0.3                                       | ...                    |
| <u>Pk. 9</u><br><u>72 I</u>             | ... Peak. Observed in 1884. (Nepal).                                                               | 27 57 5     | 86 20 45                  | ...                                 | 5                          | ...    | 0.3                                               | ...                    |
| <u>Pk. 10</u><br><u>72 I</u>            | ... Peak in dip. Observed in 1884. (Nepal).                                                        | 27 57 2     | 86 22 42                  | 18940                               | 4                          | 1      | 13.9                                              | ...                    |
| <u>Pk. 11</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 56 9     | 86 20 58                  | ...                                 | 5                          | ...    | 0.1                                               | ...                    |
| <u>Pk. 12</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 54 55    | 86 25 55                  | 20670                               | 3                          | 1      | 0.3                                               | ...                    |
| <u>Pk. 13</u><br><u>72 I</u>            | ... Snow peak. Observed in 1849-50. (Nepal).                                                       | 27 52 50.5  | 86 29 31.4                | 21980                               | 3                          | 1      | 0.2                                               | ...                    |
| <u>Pk. 14</u><br><u>72 I</u>            | ... Shoulder of peak. Observed in 1884. (Nepal).                                                   | 27 49 42    | 86 29 49                  | ...                                 | 3                          | ...    | 12.3                                              | ...                    |
| <u>Pk. 15</u><br><u>72 I</u>            | ... Right of round flat snow peak. Observed in 1884. (Nepal).                                      | 27 54 27    | 86 31 46                  | ...                                 | 2                          | ...    | ...                                               | ...                    |
| <u>Pk. 16</u><br><u>72 I</u>            | ... Right end of flat snow peak. Prominent roundish left end. Observed in 1885. (Nepal).           | 27 52 51    | 86 32 47                  | 21960                               | 2                          | 1      | ...                                               | ...                    |
| <u>Pk. 17</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 52 46    | 86 30 2                   | 21230                               | 3                          | 2      | 3.2                                               | ...                    |
| <u>Pk. 18</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 52 30    | 86 30 45                  | 22250                               | 5                          | 1      | 0.0                                               | ...                    |
| <u>Pk. 19</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 51 32    | 86 33 31                  | 22700                               | 3                          | 2      | 0.5                                               | ...                    |
| <u>Pk. 20</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 51 11    | 86 34 17                  | ...                                 | 3                          | ...    | 6.2                                               | ...                    |
| <u>Pk. 21</u><br><u>72 I</u>            | ... Peak. Very round top. Observed in 1885. (Nepal).                                               | 27 48 37    | 86 33 3                   | ...                                 | 2                          | ...    | ...                                               | ...                    |
| <u>Pk. 22</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 48 17    | 86 31 34                  | 21750                               | 5                          | 4      | 0.4                                               | ...                    |
| <u>Pk. 23</u><br><u>72 I</u>            | ... Conical peak. Observed in 1884. (Nepal).                                                       | 27 48 12    | 86 34 10                  | 21850                               | 5                          | 2      | 0.4                                               | ...                    |
| <u>Pk. 24</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 48 4     | 86 32 24                  | ...                                 | 3                          | ...    | 5.1                                               | ...                    |
| <u>Pk. 25</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 47 55    | 86 31 43                  | 21720                               | 3                          | 2      | 1.2                                               | ...                    |
| <u>Pk. 26</u><br><u>72 I</u>            | ... Peak. Observed in 1884. (Nepal).                                                               | 27 47 43    | 86 34 19                  | ...                                 | 4                          | ...    | 0.0                                               | ...                    |
| <u>Pk. 27</u><br><u>72 I</u>            | ... Distinct sharp conical peak, left corner black, right corner white. Observed in 1884. (Nepal). | 27 47 35    | 86 38 43                  | 20320                               | 3                          | 2      | 1.0                                               | ...                    |

DEGREE SHEET No. 72 I, between Lats. 27° - 28° and Longs. 86° - 87°—(Continued).

| Name or Designation of Station or Point     | Description                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                             |                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.28</u><br><u>72 I</u> ...             | Little round peak. Observed in 1884. ( <i>Nepal</i> ).                                                | 27 46 58    | 86 33 48                  | ...                                 | 3                          | ...    | <i>Feet</i><br>2'3                                  | ...                          |
| <u>Pk.29</u><br><u>72 I</u> ...             | Peak. Observed in 1884. ( <i>Nepal</i> ).                                                             | 27 45 43    | 86 34 7                   | ...                                 | 4                          | ...    | 0'0                                                 | ...                          |
| <u>Pk.30</u><br><u>72 I</u> ...             | Shoulder of peak. Observed in 1884. ( <i>Nepal</i> ).                                                 | 27 45 24    | 86 35 53                  | 22250                               | 4                          | 2      | 0'0                                                 | ...                          |
| <u>Pk.31</u><br><u>72 I</u> ...             | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ).                                                     | 27 45 15'5  | 86 34 30'9                | 22817                               | 4                          | 10     | 0'0                                                 | ...                          |
| <u>Pk.32</u><br><u>72 I</u> ...             | Peak. Observed in 1884. ( <i>Nepal</i> ).                                                             | 27 44 0     | 86 36 51                  | 21360                               | 4                          | 5      | 1'4                                                 | ...                          |
| <u>Pk.33</u><br><u>72 I</u> ...             | Point below <u>Pk.31</u><br><u>72 I</u> . Observed in 1884. ( <i>Nepal</i> ).                         | 27 43 44    | 86 36 55                  | 21920                               | 3                          | 2      | 1'5                                                 | ...                          |
| <u>Pk.34</u><br><u>72 I</u> ...             | Peak. Observed in 1884. ( <i>Nepal</i> ).                                                             | 27 43 38    | 86 37 20                  | ...                                 | 4                          | ...    | 0'3                                                 | ...                          |
| <u>Pk.35</u><br><u>72 I</u> ...             | N. W. of the most westerly sharp snow peak of snow range. Observed in 1881-82. ( <i>Nepal</i> ).      | 27 43 0     | 86 34 5                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.36</u><br><u>72 I</u> ...             | Shoulder of peak. Observed in 1885. ( <i>Nepal</i> ).                                                 | 27 42 32    | 86 37 52                  | ...                                 | 3                          | ...    | 2'9                                                 | ...                          |
| <u>Pk.37</u><br><u>72 I</u> (Mount Everest) | Snow peak. Observed in 1846-48. ( <i>Nepal</i> ).                                                     | 27 59 16'2  | 86 55 39'9                | 29002                               | 5                          | 6      | 0'1                                                 | ...                          |
| <u>Pk.38</u><br><u>72 I</u> ...             | Very round smooth snow peak. Angular spur of Everest. Observed in 1884. ( <i>Nepal</i> ).             | 27 57 20    | 86 58 3                   | ...                                 | 3                          | ...    | 1'8                                                 | ...                          |
| <u>Pk.39</u><br><u>72 I</u> ...             | Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                          | 27 52 8     | 86 59 16                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.40</u><br><u>72 I</u> ...             | Triple peak. Observed in 1884. ( <i>Nepal</i> ).                                                      | 27 47 25    | 86 47 16                  | 21730                               | 3                          | 1      | 2'5                                                 | ...                          |
| <u>Pk.41<sup>1</sup></u><br><u>72 I</u> ... | Snow peak. Observed in 1883. ( <i>Nepal</i> ).                                                        | 27 46 31    | 86 54 29                  | 21870                               | 3                          | 1      | 2'5                                                 | ...                          |
| <u>Pk.41<sup>2</sup></u><br><u>72 I</u> ... | Snow peak. Left of Great Triple peak. "Highest of double". Observed in 1884. ( <i>Nepal</i> ).        | 27 46 27    | 86 54 41                  | 21830                               | 3                          | 2      | 1'3                                                 | ...                          |
| <u>Pk.42</u><br><u>72 I</u> (Chamlang)      | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ).                                                     | 27 46 30'9  | 86 58 55'5                | 24012                               | 3                          | 2      | 0'3                                                 | ...                          |
| <u>Pk.43</u><br><u>72 I</u> ...             | Snow peak. Observed in 1849-50. ( <i>Nepal</i> ).                                                     | 27 45 19'4  | 86 49 29'9                | 22208                               | 3                          | 4      | 0'3                                                 | ...                          |
| <u>Pk.44</u><br><u>72 I</u> ...             | Sharp knoll. Left spur of <u>Pk.42</u><br><u>72 I</u> (Chamlang). Observed in 1885. ( <i>Nepal</i> ). | 27 44 39    | 86 57 18                  | ...                                 | 3                          | ...    | 8'0                                                 | ...                          |
| <u>Pk.45</u><br><u>72 I</u> ...             | Snow peak appearing above range. Observed in 1884. ( <i>Nepal</i> ).                                  | 27 43 51    | 86 47 28                  | ...                                 | 3                          | ...    | 0'9                                                 | ...                          |
| <u>Pk.46</u><br><u>72 I</u> ...             | Snow knoll. Observed in 1879-80. ( <i>Nepal</i> ).                                                    | 27 42 29    | 86 52 21                  | 21120                               | 3                          | 2      | 7'0                                                 | ...                          |

## DEGREE SHEET No. 72 I, between Lats. 27° - 28° and Longs. 86° - 87°—(Continued).

| Name or Designation of Station or Point | Description                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mille of triangles | Reference Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|--------------------|
|                                         |                                                                                           |             |                           |                                     | Position                   | Height |                                      |                    |
| <u>Pk. 47</u><br><u>72 I</u>            | ... Centre of flat snow peak. Observed in 1894. ( <i>Nepal</i> ).                         | 27 41 16    | 86 54 17                  | ...                                 | 3                          | ...    | 0.5                                  | ...                |
| <u>Pk. 48</u><br><u>72 I</u>            | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                          | 27 30 42    | 86 56 33                  | 13380                               | 3                          | 2      | 2.2                                  | ...                |
| <u>Pk. 49</u><br><u>72 I</u>            | ... South of most westerly sharp snow peak. Observed in 1879-80. ( <i>Nepal</i> ).        | 27 27 35    | 86 56 39                  | 13600                               | 3                          | 1      | 1.3                                  | ...                |
| <u>Pk. 50</u><br><u>72 I</u>            | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                          | 27 22 18    | 86 55 26                  | 11850                               | 3                          | 2      | 1.1                                  | ...                |
| <u>Pk. 51</u><br><u>72 I</u>            | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                          | 27 15 12    | 86 54 4                   | ...                                 | 3                          | ...    | 4.5                                  | ...                |
| <u>Pk. 52</u><br><u>72 I</u>            | ... Conspicuous conical peak. Observed in 1879-80. ( <i>Nepal</i> ).                      | 27 10 15    | 86 55 1                   | 9860                                | 3                          | 2      | 7.7                                  | ...                |
| <u>Pk. 53</u><br><u>72 I</u>            | ... South of <u>Pk. 52</u> . Centre, a small tree. Observed in 1879-80. ( <i>Nepal</i> ). | 27 6 57     | 86 54 4                   | 8950                                | 3                          | 1      | 3.4                                  | ...                |
| <u>Pk. 54</u><br><u>72 I</u>            | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                          | 27 4 3      | 86 57 35                  | 7850                                | 2                          | 1      | ...                                  | ...                |
| <u>Pk. 55</u><br><u>72 I</u>            | ... Most southerly point of <u>Pk. 52</u> . Observed in 1879-80. ( <i>Nepal</i> ).        | 27 2 59     | 86 59 8                   | ...                                 | 3                          | ...    | 2.9                                  | ...                |

## DEGREE SHEET No. 72 J, between Lats. 26° - 27° and Longs. 86° - 87°.

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |             |     |     |     |     |     |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----|-----|-----|-----|-----|
| *Achalpur, XVI | Stands in the cultivated lands of Achalpur village, about 5 miles N. by W. of Bahera village and 13 miles E. of the civil station of Darbhanga: thána Bahera, pargana Laowan, district Darbhanga.<br>The station consists of a tower of brick-work 22½ feet in height, but no details of its construction are forthcoming. The azimuths and perambulated distances of the following villages are:—Bilahi 164° 13', miles 1.11; Achalpur 82° 29', mile 0.69; and Maujampur 21° 38', miles 1.08. Observed in 1852. ( <i>Darbhanga</i> ). | 26 7 55.85  | 86 8 25.24  | 177 | ... | ... | ... | ... |
| Baisi, CIV     | ( <i>Fide</i> page 26— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 25 24.70 | 86 56 2.25  | 234 | ... | 3   | ... | 115 |
| Barhata, CI    | ( <i>Fide</i> page 26— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 13 10.47 | 86 45 36.24 | 195 | ... | 2   | ... | 107 |
| Barsam, XCV    | ( <i>Fide</i> page 24— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 21 22.96 | 86 18 59.45 | 209 | ... | 2   | ... | 101 |
| Bhela, XCVII   | ( <i>Fide</i> page 25— <i>I</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 19 0.04  | 86 28 24.60 | 200 | ... | 2   | ... | 108 |

\* This station appertains to the North Parasnath Meridional Series.

## DEGREE SHEET No. 72 J, between Lats. 26° - 27° and Longs. 86° - 87°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Biehanpur, XCIII                        | ( <i>Vide</i> page 24— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 22 48·38 | 86 8 46·61                | 206                                 | ...                        | 1      | ...                                                 | 99                           |
| Diwanganj, CII                          | ( <i>Vide</i> page 26— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 16 49·97 | 86 54 21·55               | 212·03†                             | ...                        | ...    | ...                                                 | 108                          |
| •Harpur, XVIII                          | Stands within a few yards of the residence of Babu Harmanjha, about 7 miles S.E. of the Dhowarah Police Station and 3½ miles E. of Pundaub on road to the civil station of Darbhanga, thána Madhubani, pargana Hâti, district Darbhanga.<br>The station consists of a tower of burnt bricks 29·67 feet in height, but no details of its construction are forthcoming. The azimuths and perambulated distances of the circumjacent villages are:—Harpur 41° 40', mile 0·64; Bhaur 223° 53', miles 1·20; and Gurmha 130° 12', mile 0·46. Observed in 1852. ( <i>Darbhanga</i> ). | 26 15 24·81 | 86 8 15·05                | 163·21‡                             | ...                        | ...    | ...                                                 | ...                          |
| Harpur, C                               | ( <i>Vide</i> page 25— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 22 25·23 | 86 46 31·92               | 219                                 | ...                        | 2      | ...                                                 | 106                          |
| Janjipati, XCVI                         | ( <i>Vide</i> page 25— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 28 26·48 | 86 26 45·20               | 255                                 | ...                        | 2      | ...                                                 | 102                          |
| Ladnia, XCVIII                          | ( <i>Vide</i> page 25— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 25 50·32 | 86 37 15·04               | 235                                 | ...                        | 2      | ...                                                 | 104                          |
| Latona, CIII                            | ( <i>Vide</i> page 26— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 7 23·33  | 86 53 19·44               | 199·39†                             | ...                        | ...    | ...                                                 | 109                          |
| Mirzapur, XCIV                          | ( <i>Vide</i> page 24— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 31 2·15  | 86 16 38·09               | 245                                 | ...                        | 2      | ...                                                 | 100                          |
| Narhar, XCII                            | ( <i>Vide</i> page 24— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 31 45·64 | 86 6 10·68                | 229                                 | ...                        | 3      | ...                                                 | 98                           |
| Semraha, XCIX                           | ( <i>Vide</i> page 25— <i>I</i> .).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 15 48·71 | 86 37 21·54               | 192                                 | ...                        | 2      | ...                                                 | 105                          |
| Pk.1<br>72 J                            | ... High peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 55 47    | 86 41 14                  | 4400                                | 3                          | 1      | 17·4                                                | ...                          |
| Pk.2<br>72 J                            | ... Peak on range beyond. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 59 18    | 86 49 45                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 72 M, between Lats. 27° - 28° and Longs. 87° - 88°.

|                       |                                                            |            |           |       |   |   |     |     |
|-----------------------|------------------------------------------------------------|------------|-----------|-------|---|---|-----|-----|
| Pk.1<br>72 M          | ... Snow peak. Observed in 1879-80. ( <i>Nepal</i> ).      | 27 55 47   | 87 6 44   | 25413 | 3 | 2 | 6·8 | ... |
| Pk.2<br>72 M (Makalu) | ... Snow peak. Observed in 1846-48. ( <i>Nepal</i> ).      | 27 53 22·5 | 87 5 28·6 | 27790 | 5 | 6 | 0·0 | ... |
| Pk.3<br>72 M          | ... Snow peak on spur. Observed in 1884. ( <i>Nepal</i> ). | 27 50 0    | 87 7 46   | 20530 | 3 | 1 | 4·1 | ... |

\* This station appertains to the North Parasnath Meridional Series.

† Determined by Spirit-Levelling.

‡ This height is determined by Spirit-Levelling and refers to the upper surface of the stone let into the ground floor of the tower.

DEGREE SHEET No. 72 M, between Lats. 27° - 28° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                    |             |                           |                                     | Position                    | Height |                                                     |                              |
| <u>Pk.4</u><br><u>72 M</u>              | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                                      | 27 49 37    | 87 3 3                    | 22150                               | 3                           | 2      | 1'2                                                 | ...                          |
| <u>Pk.5</u><br><u>72 M</u>              | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                                      | 27 49 20    | 87 10 23                  | 21010                               | 3                           | 1      | 2'5                                                 | ...                          |
| <u>Pk.6</u><br><u>72 M</u>              | ... Snow Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                              | 27 46 15    | 87 6 11                   | 22110                               | 3                           | 2      | 2'3                                                 | ...                          |
| <u>Pk.7</u><br><u>72 M</u>              | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                                      | 27 45 1     | 87 7 44                   | ...                                 | 2                           | ...    | ...                                                 | ...                          |
| <u>Pk.8</u><br><u>72 M</u>              | ... Snow peak. Observed in 1846-48. ( <i>Nepal</i> ).                                                              | 27 39 58.7  | 87 5 30.2                 | ...                                 | 2                           | ...    | ...                                                 | ...                          |
| <u>Pk.9</u><br><u>72 M</u>              | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                                   | 27 18 42    | 87 0 55                   | ...                                 | 3                           | ...    | 4'4                                                 | ...                          |
| <u>Pk.10</u><br><u>72 M</u>             | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                                   | 27 34 31    | 87 29 34                  | 15700                               | 3                           | 1      | 6'5                                                 | ...                          |
| <u>Pk.11</u><br><u>72 M</u>             | ... Peak. Observed in 1879-80. ( <i>Nepal</i> ).                                                                   | 27 30 38    | 87 27 48                  | 15680                               | 3                           | 2      | 2'5                                                 | ...                          |
| <u>Pk.12</u><br><u>72 M</u>             | ... Peak, very steep fall to south. North of <u>Pk.13</u><br><u>72 M</u><br>Observed in 1879-80. ( <i>Nepal</i> ). | 27 27 51    | 87 27 23                  | 14050                               | 3                           | 1      | 0'9                                                 | ...                          |
| <u>Pk.13</u><br><u>72 M</u>             | ... Peak, centre of round mass, loaf-shaped. Observed in 1879-80. ( <i>Nepal</i> ).                                | 27 22 59    | 87 27 38                  | 12020                               | 3                           | 2      | 0'9                                                 | ...                          |
| <u>Pk.14</u><br><u>72 M</u>             | ... Peak. South of broad western knoll ( <u>Pk.36</u><br><u>72 M</u> ). Observed in 1879-80. ( <i>Nepal</i> ).     | 27 15 13    | 87 28 54                  | 10100                               | 3                           | 1      | 0'1                                                 | ...                          |
| <u>Pk.15</u><br><u>72 M</u>             | ... Peak, bare side, north of black rock ( <u>Pk.17</u><br><u>72 M</u> ). Observed in 1879-80. ( <i>Nepal</i> ).   | 27 11 53    | 87 28 27                  | ...                                 | 3                           | ...    | 1'0                                                 | ...                          |
| <u>Pk.16</u><br><u>72 M</u>             | ... Peak, west of black rock ( <u>Pk.17</u><br><u>72 M</u> ). Observed in 1879-80. ( <i>Nepal</i> ).               | 27 10 47    | 87 26 9                   | ...                                 | 3                           | ...    | 5'5                                                 | ...                          |
| <u>Pk.17</u><br><u>72 M</u>             | ... Northern end of great black rock on summit of hill. Observed in 1879-80. ( <i>Nepal</i> ).                     | 27 10 42    | 87 27 17                  | 9970                                | 3                           | 2      | 4'0                                                 | ...                          |
| <u>Pk.18</u><br><u>72 M</u>             | ... Peak, south of black rock ( <u>Pk.17</u><br><u>72 M</u> ). Observed in 1879-80. ( <i>Nepal</i> ).              | 27 10 25    | 87 27 32                  | ...                                 | 3                           | ...    | 0'6                                                 | ...                          |
| <u>Pk.19</u><br><u>72 M</u>             | ... Peak, double-headed low in saddle. Observed in 1879-80. ( <i>Nepal</i> ).                                      | 27 7 44     | 87 23 43                  | 8250                                | 3                           | 1      | 4'2                                                 | ...                          |
| <u>Pk.20</u><br><u>72 M</u>             | ... Peak, broad high hill, N. End. Observed in 1879-80. ( <i>Nepal</i> ).                                          | 27 5 55     | 87 23 49                  | 8900                                | 3                           | 1      | 0'2                                                 | ...                          |
| <u>Pk.21</u><br><u>72 M</u>             | ... Peak. Observed in 1881-82. ( <i>Nepal</i> ).                                                                   | 27 2 57     | 87 20 12                  | ...                                 | 2                           | ...    | ...                                                 | ...                          |
| <u>Pk.22</u><br><u>72 M</u>             | ... Conical double-headed peak. Observed in 1879-80. ( <i>Nepal</i> ).                                             | 27 2 49     | 87 19 49                  | 7400                                | 3                           | 1      | 3'5                                                 | ...                          |
| <u>Pk.23</u><br><u>72 M</u>             | ... Peak precipitous to N. side. Observed in 1879-80. ( <i>Nepal</i> ).                                            | 27 2 41     | 87 20 44                  | 7400                                | 3                           | 1      | 5'1                                                 | ...                          |



## DEGREE SHEET No. 72 M, between Lats. 27° - 28° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point | Description                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk 24</u><br><u>72 M</u>             | ... Low knoll on snow peak. Observed in 1879-80. ( <i>Nepal</i> ).                                | 27 50 54    | 87 42 31                  | 19080                               | 3                          | 2      | 5.9                                                 | ...                          |
| <u>Pk.25</u><br><u>72 M</u>             | ... Knoll east of <u>Pk 26</u><br><u>72 M</u> . Observed in 1879-80. ( <i>Nepal</i> ).            | 27 49 44    | 87 40 20                  | 19000                               | 3                          | 1      | 1.2                                                 | ...                          |
| <u>Pk.26</u><br><u>72 M</u>             | ... Snow peak; west knoll. Observed in 1879-80. ( <i>Nepal</i> ).                                 | 27 46 36    | 87 40 19                  | 18610                               | 3                          | 2      | 7.8                                                 | ...                          |
| <u>Pk 27</u><br><u>72 M</u>             | ... Centre knoll of snow. Observed in 1879-80. ( <i>Nepal</i> ).                                  | 27 42 40    | 87 37 33                  | 18900                               | 3                          | 1      | 0.1                                                 | ...                          |
| <u>Pk.28</u><br><u>72 M</u>             | ... Very white snow peak. Observed in 1884. ( <i>Nepal</i> ).                                     | 27 42 35    | 87 38 30                  | ...                                 | 3                          | ...    | 0.1                                                 | ...                          |
| <u>Pk.29</u><br><u>72 M</u>             | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                     | 27 41 58    | 87 36 55                  | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| <u>Pk.30</u><br><u>72 M</u>             | ... Flat snow peak; centre of two spikes. Observed in 1879-80. ( <i>Nepal</i> ).                  | 27 41 23    | 87 41 49                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.31</u><br><u>72 M</u>             | ... Snow peak on spur. Observed in 1879-80. ( <i>Nepal</i> ).                                     | 27 40 44    | 87 38 11                  | 17150                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.32</u><br><u>72 M</u>             | ... Round snow-capped peak. Observed in 1884. ( <i>Nepal</i> ).                                   | 27 39 5     | 87 32 9                   | ...                                 | 3                          | ...    | 0.6                                                 | ...                          |
| <u>Pk.33</u><br><u>72 M</u>             | ... Peak very sharp south of snow range. Observed in 1879-80. ( <i>Nepal</i> ).                   | 27 31 0     | 87 40 21                  | 13950                               | 3                          | 2      | 3.3                                                 | ...                          |
| <u>Pk.34</u><br><u>72 M</u>             | ... Low end of spur near S. of broad mass. Observed in 1879-80. ( <i>Nepal</i> ).                 | 27 24 9     | 87 34 37                  | 8500                                | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.35</u><br><u>72 M</u>             | ... Peak east of Taplang Dzong. Observed in 1879-80. ( <i>Nepal</i> ).                            | 27 21 8     | 87 43 12                  | 8900                                | 3                          | 1      | 0.3                                                 | ...                          |
| <u>Pk.36</u><br><u>72 M</u>             | ... Centre of broad peak west of Taplang Dzong. Observed in 1879-80. ( <i>Nepal</i> ).            | 27 17 54    | 87 31 11                  | 10250                               | 3                          | 1      | 0.6                                                 | ...                          |
| <u>Pk.37</u><br><u>72 M</u>             | ... Peak on spur; rock. Observed in 1879-80. ( <i>Nepal</i> ).                                    | 27 9 49     | 87 35 14                  | 7100                                | 3                          | 1      | 6.4                                                 | ...                          |
| <u>Pk.38</u><br><u>72 M</u>             | ... Knoll; end of spur from double-headed hill, two trees. Observed in 1879-80. ( <i>Nepal</i> ). | 27 3 35     | 87 36 35                  | 5800                                | 3                          | 2      | 1.4                                                 | ...                          |
| <u>Pk.39</u><br><u>72 M</u>             | ... Knoll; left bank of Tambur river. Observed in 1879-80. ( <i>Nepal</i> ).                      | 27 1 19     | 87 32 33                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.40</u><br><u>72 M</u>             | ... Knoll; dark trees. Observed in 1879-80. ( <i>Nepal</i> ).                                     | 27 1 5      | 87 41 42                  | 7800                                | 3                          | 1      | 0.8                                                 | ...                          |
| <u>Pk 41</u><br><u>72 M</u>             | ... Farthest of three knolls. Observed in 1879-80. ( <i>Nepal</i> ).                              | 27 52 39    | 87 46 45                  | ...                                 | 3                          | ...    | 5.1                                                 | ...                          |
| <u>Pk.42</u><br><u>72 M</u>             | ... Snow knoll. Observed in 1881-82. ( <i>Nepal</i> ).                                            | 27 52 37    | 87 46 24                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.43</u><br><u>72 M</u>             | ... Snow peak, most westerly of cluster. Observed in 1879-80. ( <i>Nepal</i> ).                   | 27 49 57    | 87 45 51                  | 20450                               | 3                          | 2      | 1.1                                                 | ...                          |

## DEGREE SHEET No. 72 M, between Lats. 27° - 28° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point | Description                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangles |
|-----------------------------------------|---------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|-------------------------------|
|                                         |                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                               |
| <u>Pk.44</u><br><u>72 M</u>             | ... Snow peak. Eastern knoll. Observed in 1879-80. ( <i>Nepal</i> ).                              | 27 45 12    | 87 55 18                  | 21030                               | 3                          | 2      | Feet<br>4.6                                         | ...                           |
| <u>Pk.45</u><br><u>72 M</u>             | ... Peak. Round mass west of <u>Pk.44</u><br><u>72 M</u> . Observed in 1879-80. ( <i>Nepal</i> ). | 27 42 36    | 87 54 52                  | 20200                               | 3                          | 1      | 3.8                                                 | ...                           |
| <u>Pk.46</u><br><u>72 M</u>             | ... Centre one of cluster of black rocks. Observed in 1879-80. ( <i>Nepal</i> ).                  | 27 35 36    | 87 57 43                  | ...                                 | 2                          | ...    | ...                                                 | ...                           |
| <u>Pk.47</u><br><u>72 M</u>             | ... Knoll in hollow, highest part, speck of white. Observed in 1879-80. ( <i>Nepal</i> ).         | 27 35 12    | 87 50 12                  | 13750                               | 3                          | 1      | 0.6                                                 | ...                           |
| <u>Pk.48</u><br><u>72 M</u>             | ... Knoll in hollow. Observed in 1879-80. ( <i>Nepal</i> ).                                       | 27 31 49    | 87 52 28                  | 12950                               | 3                          | 1      | 2.6                                                 | ...                           |
| <u>Pk.49</u><br><u>72 M</u>             | ... Black rock. Western hill. Observed in 1879-80. ( <i>Nepal</i> ).                              | 27 31 47    | 87 58 36                  | 16060                               | 2                          | 2      | ...                                                 | ...                           |
| <u>Pk.50</u><br><u>72 M</u>             | ... Easterly knoll from <u>Pk.51</u><br><u>72 M</u> . Observed in 1879-80. ( <i>Nepal</i> ).      | 27 38 49    | 87 51 54                  | 12900                               | 3                          | 1      | 1.3                                                 | ...                           |
| <u>Pk.51</u><br><u>72 M</u>             | ... Round hill. Observed in 1879-80. ( <i>Nepal</i> ).                                            | 27 25 43    | 87 46 12                  | 12460                               | 3                          | 2      | 0.8                                                 | ...                           |
| <u>Pk.52</u><br><u>72 M</u>             | ... High and sharp peak near bare knoll. Observed in 1879-80. ( <i>Nepal</i> ).                   | 27 19 40    | 87 56 11                  | 11550                               | 3                          | 1      | 1.4                                                 | ...                           |
| <u>Pk.53</u><br><u>72 M</u>             | ... Same range as <u>Pk.54</u><br><u>72 M</u> . Observed in 1879-80. ( <i>Nepal</i> ).            | 27 5 36     | 87 54 47                  | 10850                               | 3                          | 1      | 1.3                                                 | ...                           |
| <u>Pk.54</u><br><u>72 M</u>             | ... Near round mass. Observed in 1879-80. ( <i>Nepal</i> ).                                       | 27 3 16     | 87 50 51                  | ...                                 | 2                          | ...    | ...                                                 | ...                           |

## DEGREE SHEET No. 72 N, between Lats. 26° - 27° and Longs. 87° - 88°.

|                         |                                            |             |             |     |     |     |             |     |
|-------------------------|--------------------------------------------|-------------|-------------|-----|-----|-----|-------------|-----|
| Bandarjula, CXVIII      | ( <i>vide</i> page 28— <i>I.</i> ).        | 26 22 5.06  | 87 57 57.94 | 238 | ... | 2   | Feet<br>... | 126 |
| Banghora, CXIII         | ( <i>vide</i> page 27— <i>I.</i> ).        | 26 13 17.06 | 87 32 6.23  | 193 | ... | 2   | ...         | 121 |
| Baturbári Mosque        | Observed in 1849-50. ( <i>Purnea</i> ).    | 26 14 12    | 87 28 34    | ... | ... | ... | ...         | ... |
| Bhag Punas Mosque No. 1 | Observed in 1849-50. ( <i>Purnea</i> ).    | 26 10 26    | 87 47 32    | ... | ... | ... | ...         | ... |
| Bhag Punas Mosque No. 2 | Observed in 1849-50. ( <i>Purnea</i> ).    | 26 10 50    | 87 47 51    | ... | ... | ... | ...         | ... |
| Chuni, CVI              | ( <i>vide</i> page 26— <i>I.</i> ).        | 26 11 4.72  | 87 2 52.80  | 197 | ... | 3   | ...         | 110 |
| Debiganj                | s. Observed in 1884-85. ( <i>Purnea</i> ). | 26 18 44    | 87 9 16     | 238 | ... | ... | ...         | ... |

## DEGREE SHEET No. 72 N, between Lats. 26° - 27° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Dipnagar, CXIV                          | ( <i>vide</i> page 28— <i>I</i> ).                                                                                                                                                         | 26 21 14.19 | 87 36 47.57               | 226                                 | ...                        | 2      | ...                                                 | 122                          |
| Ghiba, CLX                              | ( <i>vide</i> page 27— <i>I</i> ).                                                                                                                                                         | 26 14 1.19  | 87 12 4.47                | 206.94*                             | ...                        | ...    | ...                                                 | 117                          |
| Illam House                             | Centre of roof of the largest house. Observed in 1882. ( <i>Nepal</i> ).                                                                                                                   | 26 54 45    | 87 55 54                  | 4161                                | ...                        | ...    | ...                                                 | ...                          |
| Kamaldaha, CXII                         | ( <i>vide</i> page 27— <i>I</i> ).                                                                                                                                                         | 26 21 9.93  | 87 25 46.53               | 220                                 | ...                        | 2      | ...                                                 | 120                          |
| Kishanganj Magistrate's Kachahri        | Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                                                    | 26 7 31     | 87 54 55                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kishanganj Munsiff's Kachahri           | Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                                                    | 26 7 28     | 87 55 48                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kishanganj Rájá's Naubatkhána           | Flag on Rájá's Naubatkhána. Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                        | 26 6 18     | 87 56 56                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kosi river                              | s. On the right bank of the Kosi river just opposite to Náthpur village. Observed in 1884-85. ( <i>Bhágapur</i> ).                                                                         | 26 19 36    | 87 4 12                   | 218                                 | ...                        | ...    | ...                                                 | ...                          |
| Lachmipur, CXVI                         | ( <i>vide</i> page 28— <i>I</i> ).                                                                                                                                                         | 26 21 43.11 | 87 48 14.82               | 224                                 | ...                        | 2      | ...                                                 | 124                          |
| Madhubani                               | s. 3 miles west of Burduba factory and close to the road to Bhawánipur. The Railway station of Partárganj is about 2½ miles west of the station. Observed in 1884-85. ( <i>Bhágapur</i> ). | 26 18 55    | 87 0 22                   | 299                                 | ...                        | ...    | ...                                                 | ...                          |
| Mánikpur, CXI                           | ( <i>vide</i> page 27— <i>I</i> ).                                                                                                                                                         | 26 12 16.49 | 87 21 13.43               | 204                                 | ...                        | 2      | ...                                                 | 119                          |
| Manúla, CVIII                           | ( <i>vide</i> page 27— <i>I</i> ).                                                                                                                                                         | 26 4 46.20  | 87 10 49.37               | 185                                 | ...                        | 2      | ...                                                 | 114                          |
| Minni, CV                               | ( <i>vide</i> page 26— <i>I</i> ).                                                                                                                                                         | 26 20 24.69 | 87 3 56.26                | 228                                 | ...                        | 3      | ...                                                 | 111                          |
| Mohara Mosque                           | Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                                                    | 26 9 41     | 87 47 33                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Musaldanga, CXV                         | ( <i>vide</i> page 28— <i>I</i> ).                                                                                                                                                         | 26 13 1.80  | 87 42 33.81               | 191                                 | ...                        | 2      | ...                                                 | 123                          |
| Nirpur, CX                              | ( <i>vide</i> page 27— <i>I</i> ).                                                                                                                                                         | 26 21 59.77 | 87 15 19.15               | 231                                 | ...                        | 2      | ...                                                 | 118                          |
| Rámnagar, CVII                          | ( <i>vide</i> page 26— <i>I</i> ).                                                                                                                                                         | 26 2 9.05   | 87 1 37.09                | 180.30*                             | ...                        | ...    | ...                                                 | 113                          |
| Tagria, CXVII                           | ( <i>vide</i> page 28— <i>I</i> ).                                                                                                                                                         | 26 13 10.72 | 87 53 25.79               | 189                                 | ...                        | 2      | ...                                                 | 125                          |
| Tangtangia Mosque                       | Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                                                    | 26 14 21    | 87 43 17                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* Determined by Spirit-Levelling.

## DEGREE SHEET No. 72 N, between Lats. 26° - 27° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|---------------------|
|                                         |                                                                                                             |             |                           |                                     | Position                    | Height |                                                     |                     |
| <u>Pk. 1</u><br><u>72 N</u>             | ... Westerly of two bare knolls. Observed in 1879-80. ( <i>Nepal</i> ).                                     | 26 57 53    | 87 14 29                  | 5440                                | 3                           | 2      | Feet<br>3'1                                         | ...                 |
| <u>Pk. 2</u><br><u>72 N</u>             | ... Knoll. Observed in 1879-80. ( <i>Nepal</i> ).                                                           | 26 57 43    | 87 4 39                   | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 3</u><br><u>72 N</u>             | ... Westerly and highest of three knolls. Observed in 1879-80. ( <i>Nepal</i> ).                            | 26 52 29    | 87 5 0                    | 4050                                | 3                           | 1      | 9'7                                                 | ...                 |
| <u>Pk. 4</u><br><u>72 N</u>             | ... Low end of spur above Tamhur river. Observed in 1879-80. ( <i>Nepal</i> ).                              | 26 57 11    | 87 21 30                  | 4400                                | 3                           | 1      | 6'6                                                 | ...                 |
| <u>Pk. 5</u><br><u>72 N</u>             | ... Broad peak above land slip. Observed in 1879-80. ( <i>Nepal</i> ).                                      | 26 53 14    | 87 22 48                  | 6350                                | 3                           | 1      | 2'4                                                 | ...                 |
| <u>Pk. 6</u><br><u>72 N</u>             | ... Round knoll. Observed in 1884. ( <i>Nepal</i> ).                                                        | 26 52 12    | 87 15 8                   | ...                                 | 3                           | ...    | 2'2                                                 | ...                 |
| <u>Pk. 7</u><br><u>72 N</u>             | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                               | 26 52 3     | 87 16 34                  | ...                                 | 3                           | ...    | 1'2                                                 | ...                 |
| <u>Pk. 8</u><br><u>72 N</u>             | ... Same range as $\frac{\text{Pk. 14}}{72 \text{ N}}$ . Observed in 1879-80. ( <i>Nepal</i> ).             | 26 51 56    | 87 23 40                  | 6750                                | 3                           | 1      | 4'9                                                 | ...                 |
| <u>Pk. 9</u><br><u>72 N</u>             | ... Peak. Observed in 1884. ( <i>Nepal</i> ).                                                               | 26 51 52    | 87 15 33                  | ...                                 | 3                           | ...    | 0'6                                                 | ...                 |
| <u>Pk. 10</u><br><u>72 N</u>            | ... Same range as $\frac{\text{Pk. 13}}{72 \text{ N}}$ . Observed in 1879-80. ( <i>Nepal</i> ).             | 26 51 48    | 87 28 53                  | 6600                                | 3                           | 1      | 1'8                                                 | ...                 |
| <u>Pk. 11</u><br><u>72 N</u>            | ... Double-headed hill, west knoll. Observed in 1879-80. ( <i>Nepal</i> ).                                  | 26 57 53    | 87 37 2                   | 7300                                | 3                           | 1      | 2'5                                                 | ...                 |
| <u>Pk. 12</u><br><u>72 N</u>            | ... Dark bluff on a spur from $\frac{\text{Pk. 13}}{72 \text{ N}}$ . Observed in 1879-80. ( <i>Nepal</i> ). | 26 52 15    | 87 40 30                  | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 13</u><br><u>72 N</u>            | ... Sharp high cone. Observed in 1879-80. ( <i>Nepal</i> ).                                                 | 26 51 40    | 87 35 57                  | 7950                                | 3                           | 2      | 4'3                                                 | ...                 |
| <u>Pk. 14</u><br><u>72 N</u>            | ... Observed in 1879-80. ( <i>Nepal</i> ).                                                                  | 26 51 24    | 87 34 26                  | 7550                                | 3                           | 1      | 1'8                                                 | ...                 |
| <u>Pk. 15</u><br><u>72 N</u>            | ... Knoll; range above plains. Observed in 1879-80. ( <i>Nepal</i> ).                                       | 26 46 42    | 87 41 14                  | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 16</u><br><u>72 N</u>            | ... Knoll; range above plains. Observed in 1879-80. ( <i>Nepal</i> ).                                       | 26 45 27    | 87 42 2                   | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 17</u><br><u>72 N</u>            | ... Knoll, same range as $\frac{\text{Pk. 16}}{72 \text{ N}}$ . Observed in 1879-80. ( <i>Nepal</i> ).      | 26 57 6     | 87 51 27                  | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 18</u><br><u>72 N</u>            | ... Sharp knoll. Observed in 1879-80. ( <i>Nepal</i> ).                                                     | 26 51 40    | 87 51 41                  | 5050                                | 2                           | 1      | ...                                                 | ...                 |
| <u>Pk. 19</u><br><u>72 N</u>            | ... Knoll, same range as $\frac{\text{Pk. 2}}{78 \text{ B}}$ . Observed in 1879-80. ( <i>Nepal</i> ).       | 26 50 33    | 87 57 56                  | ...                                 | 2                           | ...    | ...                                                 | ...                 |
| <u>Pk. 20</u><br><u>72 N</u>            | ... Peak. Observed in 1881-82. ( <i>Nepal</i> ).                                                            | 26 50 23    | 87 55 27                  | ...                                 | 2                           | ...    | ...                                                 | ...                 |

## DEGREE SHEET No. 72 N, between Lats. 26° - 27° and Longs. 87° - 88°—(Continued).

| Name or Designation of Station or Point  | Description                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| $\frac{\text{Pk. 21}}{72 \text{ N}}$ ... | Low knoll on low range above plains. Observed in 1879-80. ( <i>Nepal</i> ).         | 26 43 58    | 87 46 13                  | ...                                 | 2                          | ...    | Feet                                                | ...                          |
| $\frac{\text{Pk. 22}}{72 \text{ N}}$ ... | Far range above plains; high knoll. Observed in 1879-80. ( <i>Nepal</i> ).          | 26 41 35    | 87 49 13                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| $\frac{\text{Pk. 23}}{72 \text{ N}}$ ... | Far range above plains; centre, broad knoll. Observed in 1879-80. ( <i>Nepal</i> ). | 26 41 26    | 87 53 58                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 77 D, between Lats. 28° - 29° and Longs. 88° - 89°.

|                                         |                                                                                                                                                                                                                                                                           |         |          |       |     |     |      |     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|-------|-----|-----|------|-----|
| Giaogong Pass                           | Is situated about 1½ miles N. of Giaogong, close to and E. of the Darjeeling-Kam-pa Dzong road: the Serpubu La (pass) on the northern frontier of Sikkim is about 7 miles to the N.; the Cholamo lake is about 9 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).  | 28 2 19 | 88 36 45 | 15600 | ... | ... | Feet | ... |
| Very distant bare hill                  | Observed in 1883-84. ( <i>Tibet</i> ).                                                                                                                                                                                                                                    | 28 0 20 | 88 20 48 | 19900 | ... | ... | ...  | ... |
| $\frac{\text{Pk. 1}}{77 \text{ D}}$ ... | Peak west of Giaogong Pass. Is on a spur about 2 miles N.W. of Giaogong Pass and about 3 miles N.E. of $\frac{\text{Pk. 2}}{77 \text{ D}}$ ; the Serpubu La (pass) on frontier of Sikkim and Tibet is about 7 miles to the north. Observed in 1883-84. ( <i>Sikkim</i> ). | 28 2 50 | 88 35 23 | 18700 | ... | ... | ...  | ... |
| $\frac{\text{Pk. 2}}{77 \text{ D}}$ ... | Rounded top. Is situated on the main spur between the Lungma Chu and Lachen river, about 6 miles R.S.E. of the Naru La (pass) and about 4 miles W. of Giaogong on the Darjeeling-Kam-pa Dzong road. Observed in 1878-80. ( <i>Sikkim</i> ).                               | 28 2 0  | 88 32 52 | 22430 | 3   | 3   | 4'0  | ... |

## DEGREE SHEET No. 77 H, between Lats. 28° - 29° and Longs. 89° - 90°.

|                                         |                                                                                                                                                |        |          |       |   |   |      |     |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|-------|---|---|------|-----|
| $\frac{\text{Pk. 1}}{77 \text{ H}}$ ... | On spur starting N.W. from Chakha and distant about 5 miles W. of the western edge of the Bam Tso lake. Observed in 1881-82. ( <i>Tibet</i> ). | 28 5 1 | 89 12 13 | 17800 | 2 | 1 | Feet | ... |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|-------|---|---|------|-----|

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°.

|            |                                                                                                                                                                                                                                                                            |            |             |      |     |     |      |               |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|------|-----|-----|------|---------------|
| Bara Hatta | h.s. Observed in 1882-83. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                           | 27 4 38    | 88 5 48     | ...  | ... | ... | Feet | ...           |
| Chakung    | h.s. Also called Rimlotjong. Is situated on a spur about a mile above the Rumnam river and about 3 miles N.W. of the junction of the Little Rangit river with the Rumnam river: the Hobling Monastery is about 3 miles to the N.W. Observed in 1879-80. ( <i>Sikkim</i> ). | 27 8 46.14 | 88 15 29.81 | 5189 | ... | 3   | ...  | 1444,<br>1445 |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                           |                                     | Position                   | Height |                                                     |                              |
| Chamaigaon No. 1 h.s.                   | Is situated on a spur about a mile E. of Daling and about 5 miles S.E. of Pan-kasari hill; Thosum La. hill is about 5 miles to the N.E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                  | 27 1 4' 90   | 88 43 44' 45              | 5195                                | ...                        | 3      | ...                                                 | 1415,<br>1416                |
| Chedam Hill Mark                        | About 7 miles due south of Tendong h.s., and about 3 miles N.W. of junction of Great Rangit and Rungpo rivers. The Namchi Monastery is about 4 miles to the N.W. Observed in 1878-79. ( <i>Sikkim</i> ).                                                                                                                                                                                                                             | 27 7 6' 4    | 88 24 48' 7               | 5800                                | ...                        | 2      | ...                                                 | 1474                         |
| Cho La s.                               | Is situated close to and north of the pass of the same name: Chum-bi is about 7 miles to the E.N.E.; the Darjeeling-Chum-bi road at the Dza-lep La (pass) is about 6 miles to the S.E. Observed in 1879-80. ( <i>Sikkim-Tibet</i> ).                                                                                                                                                                                                 | 27 25 9      | 88 47 58                  | 14500                               | ...                        | ...    | ...                                                 | ...                          |
| Chongtong Guard h.s.                    | Is situated about 2950 feet above Chongtong upper factory and lies close to S.W. of a puka triangular pillar about 20 feet from it. The puka pillar is the extreme N.E. pillar of a set of pillars defining Chongtong Guard location.<br>The station consists of a ⊙ mark cut on a stone embedded flush with the surface of the ground and covered over with a pile of stones and earth. Observed in 1881-82. ( <i>Darjeeling</i> ). | 27 3 1       | 88 12 13                  | 4705                                | ...                        | ...    | ...                                                 | ...                          |
| Chukarchi h.s.                          | Is situated on the boundary ridge separating Sikkim from Tibet and is about 2 miles E. of the Nuhui La (pass); the Dza-lep La (pass) is about 2 miles to the S. Chum-bi is about 6 miles to the N.N.E. Observed in 1881-82. ( <i>Sikkim-Tibet</i> ).                                                                                                                                                                                 | 27 23 9' 35  | 88 51 49' 33              | 15279                               | ...                        | 3      | ...                                                 | 1502,<br>1503                |
| Chumsering h.s.                         | Is situated on the spur which runs in a north-easterly direction from Kalimpong to the Rungpo river and is about 5 miles S.E. of the junction of the Tista and Rungpo rivers; the Chumsering Monastery is about 3 miles to the S.E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                      | 27 8 1' 96   | 88 35 10' 60              | 6936                                | ...                        | 3      | ...                                                 | 1372,<br>1373                |
| Daiu La h.s.                            | Is situated on a spur about 2 miles E. of the high boundary ridge between Nepal and Sikkim, about 5 miles S.E. of the Chumbal La (pass); Yampung is 3 miles to the S. and the Dubdi Monastery about 9 miles to the E.S.E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                    | 27 25 33' 51 | 88 5 35' 25               | 15233                               | ...                        | 4      | ...                                                 | 1458                         |
| Daling Fort h.s.                        | Is at the fort of the same name which is in ruins and is situated on the watershed between the Daling Chu and Ambioikhola; the village of Daling Ma is about 14 miles to the south. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                      | 27 1 4' 48   | 88 42 40' 45              | 3546                                | ...                        | 3      | ...                                                 | 1396,<br>1397                |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                           |                                     | Position                   | Height |                                                     |                              |
| Daling h.s.                             | Is situated about 500 feet N.W. of the N.W. corner of the village of Daling Ma: the junction of the Ambioh stream with the Chel river is about 3000 feet to the W.N.W. of the station and the Daling Fort is about 1½ miles to the N.N.E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 0 8' 12"  | 88 42 18' 35"             | 3027                                | ...                        | 2      | Feet<br>...                                         | 1398,<br>1399                |
| Damsong h.s.                            | Is situated about 600 yards N.W. of Chumsering h.s., on the spur which runs in a north-easterly direction from Kalimpong to the Rungpo river and is about 5 miles S.E. of the junction of the Tista and Rungpo rivers: the Chumsering Monastery is about 3 miles to the S.E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                            | 27 8 17' 36" | 88 35 45' 01"             | 6309                                | ...                        | 3      | ...                                                 | 1492,<br>1493                |
| Danda h.s.                              | Observed in 1882-83. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 27 8 17      | 88 5 21                   | 6864                                | ...                        | ...    | ...                                                 | ...                          |
| Darjeeling, Birch Hill h.s.             | Is situated about the centre of the "People's Park" and a little over a mile N.W. from the Observatory hill, the site of the old Darjeeling h.s. The approach to the station is from the western Birch Hill road passing about 50 yards from Birch Ville house.<br>The station mark is cut on a large rock in situ about 11 x 6 feet and about 4 feet high. Observed in 1847-48. The station was revisited by the Darjeeling Party in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                               | 27 3 26' 24" | 88 15 26' 80"             | 6874                                | ...                        | 3      | ...                                                 | 1271,<br>1272                |
| Darjeeling h.s.                         | Is within the sanatorium of that name on the Sub-Himalaya mountains on territory made over to the British Government by the Rája of Sikkin, and is situated on the same knoll as the ruined Lepcha Monastery, about 25 yards to the south of it and only a short distance S.E. of the Darjeeling Church.<br>The station is denoted by a platform of stone and earth 2½ feet high and 13 feet square, with a central isolated pillar of masonry 4½ feet in diameter for the theodolite, and there is a mark-stone about 2 inches below the surface of the pillar. This station was destroyed by some one for the purpose of clearing a site for Meteorological Observatory. Observed in 1847. ( <i>Darjeeling</i> ). | 27 2 49' 13" | 88 16 14' 75"             | 7158                                | ...                        | 3      | ...                                                 | 1270                         |
| Darjeeling, Jalapahár h.s.              | Is within the Cantonment limits of Jalapahár. On the northern end of flat spur immediately above and south of the Jalapahár depôt cemetery mark. The site of the old station is now occupied by a barrack.<br>A circular pillar of masonry 3 feet in diameter countersunk 2 feet marks the station, the upper surface being flush with the                                                                                                                                                                                                                                                                                                                                                                          | 27 0 54' 26" | 88 15 31' 46"             | 7886                                | ...                        | 3      | ...                                                 | 1283,<br>1284                |

DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 85° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| Darjeeling, Jalapshár h.s.<br>(Contd.)  | ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the pillar. Observed in 1878-79. (Darjeeling).                                                                                                                                                                                                                                                                                                                                                                                          | 27 0 54.26  | 88 15 31.46               | 7886                                | ...                        | 3      | ...                                                 | 1283,<br>1284                |
| Darjeeling, Mount Vernon h.s.           | Is situated on the knoll south of St. Paul's School. The present Meteorological Observatory is about 3 feet south of the station.<br><br>A circular pillar of masonry 3 feet in diameter countersunk 2 feet marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the pillar. Observed in 1878-79. (Darjeeling).                                                                                                                    | 27 1 47.21  | 88 16 0.81                | 7591                                | ...                        | 3      | ...                                                 | 1288,<br>1289                |
| Darjeeling Observatory h.s.             | Is situated on the same knoll on which at a former period stood a Lepcha monastery. The station known as Darjeeling h.s. was destroyed by some one (not known) for the purpose of clearing a site for a Meteorological Observatory. The present station said to have been originally built by Mr. E. T. S. Johnson was adopted and fresh values for it obtained from G.T. stations whose positions were verified.<br><br>The station is denoted by a square paka masonry pillar 5'x5'x5' with a dot and concentric circle. There is a mark-stone on top of pillar embedded in the masonry flush with the surface. Observed in 1878-79. (Darjeeling). | 27 2 50.01  | 88 16 14.63               | 7162                                | ...                        | 3      | ...                                                 | 1276,<br>1277,<br>1278       |
| Darjeeling, St. Paul's School h.s.      | Observed in 1878-79. (Darjeeling).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27 2 4      | 88 15 58                  | 7275                                | ...                        | ...    | ...                                                 | ...                          |
| Dawaipani h.s.                          | Observed in 1882-83. (Darjeeling).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27 5 38     | 88 5 24                   | 6712                                | ...                        | ...    | ...                                                 | ...                          |
| Deolo h.s.                              | Is situated on a spur about 5 miles E. of the junction of the Rungpo with the Great Rangit river. Kalimpong is about 3 miles to the S.W. Observed in 1878-79. (Darjeeling).                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 27 5 17.45  | 88 30 19.06               | 5579                                | ...                        | 3      | ...                                                 | 1370,<br>1371                |
| Deotharim h.s.                          | Is situated on the same ridge and about a mile N.N.W. of the Runjung Manager's Bungalow; Gallingon is about a mile to the N.E. and Pagrianghong about $\frac{1}{2}$ of a mile to the S.W.; Longael is about a mile to the E. Observed in 1883-84. (Darjeeling).                                                                                                                                                                                                                                                                                                                                                                                      | 27 0 9.65   | 88 37 43.93               | ...                                 | ...                        | ...    | ...                                                 | 1421,<br>1422                |



## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Endong                                  | h. s. Is situated on a hill about 5 miles N.E. of Tumlong and about 6 miles S.E. of the junction of the Talung Chu and Zemu Chu rivers: Tingchum on the Darjeeling-Kam-pa Dzong road is about 6 miles to the W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                        | 27 28 42.28 | 88 37 35.14               | 12089                               | ...                        | 3      | Feet<br>...                                         | 1507                         |
| Fadung                                  | h. s. Is situated at Tumlong near the Darjeeling-Kam-pa Dzong road: the Detong Monastery is about 4 miles to the W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27 24 47    | 88 35 14                  | 5900                                | ...                        | ...    | ...                                                 | ...                          |
| Foungong                                | h. s. Is situated on a spur about 7 miles E. of Tumlong and about the same distance W. of the Cho La (pass): Gangtok is about 7 miles to the S.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 27 24 49    | 88 41 42                  | 12100                               | ...                        | ...    | ...                                                 | ...                          |
| Gyi-mo-chi                              | h. s. Also called Dochi La. Is situated on the well known hill of the same name at the trijunction Sikkim-Tibet-Bhutan: the Bidang Tso lake is about 6 miles to the N.W. and the Lingtu hill over which the road from Kalimpong to Chum-bi passes is about 10 miles to the W. Observed in 1881-82. ( <i>Sikkim-Tibet-Bhutan</i> ).                                                                                                                                                                                                                                                                                                             | 27 16 25.68 | 88 54 9.39                | 14518                               | ...                        | 3      | ...                                                 | 1496,<br>1497                |
| Jandorhi                                | h. s. Is situated on a hill about 2 miles E. of the Dza-lep La (pass) which passes over the ridge separating Sikkim from Tibet: the Pembiringo La (pass) is about 2 miles to the S.: Chum-bi in Tibet is about 6 miles to the N. Observed in 1881-82. ( <i>Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                        | 27 22 10.36 | 88 53 58.63               | 15512                               | ...                        | 2      | ...                                                 | 1500,<br>1501                |
| Jongmai                                 | h. s. This station has received its name from that of the river which takes its rise there. It is situated on the highest part of the hill among a cluster of rocks, and is on the watershed boundary Nepal-British Sikkim. Tonglu G.T.S. lies with respect to it a little south of due east and in a direct line about 2 miles: to get to it the main road has to be followed for about 1½ miles, then a foot-path following the watershed should be taken.<br>It is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1881-82. ( <i>Nepal-Darjeeling</i> ). | 27 2 11.67  | 88 2 53.17                | 10068                               | ...                        | 2      | ...                                                 | 1287                         |
| Kabur                                   | h. s. Is situated on a spur about 6 miles E. of Kangla hill on the frontier ridge between Nepal and Sikkim: Kabru hill is about 8 miles to the N.N.W.: Thangme is 2 miles to the E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                    | 27 30 23.76 | 88 9 17.78                | 15814                               | ...                        | 3      | ...                                                 | 1461                         |
| Kalimpong Bungalow                      | Asst. Commissioner's old bungalow. Is situated about ¼ mile S. E. of the bazar: the centre of gable of bungalow has been fixed. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27 3 32     | 88 28 9                   | 4150                                | ...                        | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point |            | Description                                                                                                                                                                                                                                                                                                                                                           | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |            |                                                                                                                                                                                                                                                                                                                                                                       |               |                           |                                     | Position                   | Height |                                                     |                              |
| Kalimpong                               | h.s.       | Is situated at the Forest Officer's bungalow on the right of the road from Darjeeling to Lingtu and about 500 yards south of the Kalimpong bazar. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                         | 27 3 43' 50"  | 88 28 16' 19"             | 4075                                | ...                        | 2      | Feet<br>...                                         | 1468,<br>1470                |
| Kangrang La                             | h.s.       | Also called Dhonga La. Is situated on a spur about 2 miles W. of the high ridge which divides Nepal from Sikkim, about 15 miles due N. of the trijunction Nepal-Sikkim-Darjeeling; the Dechenrol Monastery is about 10 miles to the N. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                         | 27 24 54' 85" | 88 1 26' 77"              | 14705                               | ...                        | 5      | ...                                                 | 1452,<br>1459                |
| Khampung                                | h.s.       | On the south end of the hill of that name. Road from Risium to Daling passes about 150 feet below and 200 yards west of the station. Large trees in a point almost level with the station obstruct the view towards the north. A masonry platform with mark-stone flush with the surface of the ground marks the station. Observed in 1883-84. ( <i>Darjeeling</i> ). | 27 5 42' 60"  | 88 39 10' 76"             | 7801                                | ...                        | 3      | ...                                                 | 1477,<br>1478,<br>1479       |
| Kimjong                                 | h.s.       | Is situated on a spur between the Zemu Chu and Lachung rivers and about 3 miles N. of the junction of the same at which there is the Cheangtong Monastery; Denga on the Darjeeling—Kam-pa Dzong road is about 3 miles to the W. Observed in 1878-79. ( <i>Sikkim</i> ).                                                                                               | 27 38 27      | 88 38 49                  | 15100                               | ...                        | ...    | ...                                                 | ...                          |
| Kirsong                                 | h.s.       | Is situated on a hill about 8 miles due N. of the hill of Moinam and about 9 miles S.W. of the junction of the Talung Chu and Lachung rivers; Tumlong is about 10 miles to the E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                             | 27 26 26' 29" | 88 25 7' 85"              | 12248                               | ...                        | 3      | ...                                                 | 1450,<br>1451                |
| Komai                                   | No. 1 h.s. | Is situated on a spur between the Soksok Khola and Murti river about $\frac{1}{2}$ of a mile N.W. of Galligaon and about $1\frac{1}{4}$ miles N. of Komai; Soksok is about a mile to the S.E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                             | 27 0 34' 37"  | 88 49 27' 28"             | 3018                                | ...                        | 2      | ...                                                 | 1425<br>1426                 |
| Komai                                   | No. 2 h.s. | Is situated about 2 miles north of Komai and $\frac{1}{4}$ of a mile N. of Galligaon; Sam-singbong is about 2 miles to the W. The Soksok Khola going to the south and the Kharpani to the W., both take their rise from close to this station. The station mark is on the side of the hill. Observed in 1883-84. ( <i>Darjeeling</i> ).                               | 27 1 7' 64"   | 88 49 42' 89"             | 3469                                | ...                        | 3      | ...                                                 | 1428<br>1429                 |
| Komuthangu                              | h.s.       | Is situated on a spur about 8 miles S.W. of Kangchenjhou hill and about 4 miles N.E. of Thango on the Darjeeling—Kam-pa Dzong road; the Sibu La (pass) is about 6 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                             | 27 55 25      | 88 33 29                  | 16600                               | ...                        | ...    | ...                                                 | ...                          |
| Kumba                                   | h.s.       | Observed in 1882-83. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                           | 27 7 24       | 88 6 19                   | 6638                                | ...                        | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mille in common sides of triangles | Reference Number of Triangle    |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|---------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                   | Height |                                                      |                                 |
| Lampheram                               | h.s. A $\odot$ on rock on the very highest part of Lampheram hill to east of and about 1000 feet above road which runs along the main watershed. Thick rhododendron jungle clothes the slopes of the hill. Observed in 1879-80. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                  | 27 20 5'55  | 88 4 12'51                | 12808                               | ...                        | 5      | ...                                                  | 1454,<br>1455                   |
| Lenkabui                                | h.s. Is situated on a spur about 12 miles E. of the high boundary ridge between Nepal and Sikkim; the Dubdi Monastery is about 3 miles to the S. and Maltung is about 6 miles to the E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                           | 27 24 26'23 | 88 14 45'03               | 10914                               | ...                        | 3      | ...                                                  | 1464                            |
| Lingpui                                 | Monastery Is about 14½ miles north of Daling Fort and about 4 miles west of Lingtamtho village on the road from Kalimpong to Chum-bi. Observed in 1881-82. ( <i>Sikkim</i> ).                                                                                                                                                                                                                             | 27 13 38'3  | 88 40 12'9                | 4400                                | ...                        | 1      | ...                                                  | 1510,<br>1511                   |
| Lingtu                                  | h.s. Is situated on a hill about half-way between Lingtamtho and Nathang or Gnatong and is close to the road from Kalimpong to the Dza-lep La (pass) and on the boundary ridge between Sikkim and Bhutan. Observed in 1878-79. ( <i>Sikkim-Bhutan</i> ).                                                                                                                                                  | 27 16 5'95  | 88 47 42'66               | 12613                               | ...                        | 4      | ...                                                  | 1483,<br>1484,<br>1485,<br>1486 |
| Lintee                                  | Monastery About 10 miles due north of the Darjeeling Observatory Station. The village of Dong is about 4 miles east of the monastery and village of Langyong about 5 miles to the north-east. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                     | 27 11 5'7   | 88 16 1'2                 | 5535                                | ...                        | 1      | ...                                                  | 1448,<br>1449                   |
| Longjong                                | b.s. Also called Giucha La h.s. Is situated on a hill about 7 miles due north of the Dubdi Monastery and about 11 miles E. of the Chumbat La (pass); Thangme is about 5 miles to the N.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                         | 27 27 52'17 | 88 13 56'67               | 15484                               | ...                        | 4      | ...                                                  | 1462,<br>1463                   |
| Longsol                                 | h.s. Is situated on a spur about ¼ of a mile south of Gálliazaon and about a mile S.E. of Longsol; the Runjung Manager's Bungalow is about 1½ miles to the S.; the junction of the Chamong Chu with the Jit river is about 1½ miles to the N.W. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                               | 27 0 20'78  | 88 37 59'93               | 4612                                | ...                        | 2      | ...                                                  | 1393,<br>1394                   |
| Mangwa                                  | h.s. Is situated on a prominent knoll of the Mangwa spur and on the point where that spur bifurcates into two spurs, one running north-east to the junction of the Rungiak with the Tista, called the Mangwa, and the other running south-east to the junction of the Rangu with the Tista called the Sidiang.<br>It is marked by a staff and pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ). | 27 2 31'62  | 88 23 38'86               | 5113                                | ...                        | 2      | ...                                                  | 1348,<br>1349                   |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                     |
| Memphurang                              | h.s. Is situated on a spur about 2 miles N. of the Thanka La (pass) and about 6 miles E.S.E. of the Lachung Monastery; Kendum is about 9 miles to the S.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 39 59    | 88 49 36                  | 15000                               | ...                        | ...    | Feet<br>...                                         |
| Merug La                                | h.s. Is situated on a peak about 1½ miles E. of the boundary ridge between Sikkim and Tibet and about 4 miles to the N.W. of Senchel La hill: Chum-bi in Tibet is about 9 miles to the N. and Gyi-mo-chi hill 4 miles to the S.S.W. Observed in 1881-82. ( <i>Tibet</i> ).                                                                                                                                                                                                                                                                                                                                                                                               | 27 20 11.80 | 88 56 17.31               | 15266                               | ...                        | 1      | ...                                                 |
| Mo Chu                                  | h.s. Is situated about 1½ miles N.E. of Yang-gong and about 2½ miles north of Komai h.s. Block No. 22 of the Daling Hills Survey is to the S. and W. and the Komai and Rungo Government Forest Reserve to the N. and E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                      | 27 2 26.27  | 88 49 13.69               | 4956                                | ...                        | 3      | ...                                                 |
| Moinam                                  | h.s. Is situated on a hill west of the Tista river and about ¼ mile S.W. of the Moinam rock: Kasair on the Darjeeling-Tumlong road is about 5 miles to the E.; the Daling Monastery is about 6 miles to the S.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                 | 27 19 58.56 | 88 23 46.42               | 10639                               | ...                        | 3      | ...                                                 |
| Nachegoh                                | h.s. Is situated on a spur about 2 miles W. of the Lhonakh river and about 5 miles E.S.E. of the The La (pass); Sirchum and Pangri on the Darjeeling-Kam-pa Dzong road are about 6 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 48 16    | 88 27 36                  | 16610                               | ...                        | ...    | ...                                                 |
| Namchi                                  | Monastery On a spur running in a south-westerly direction from Tendong h.s. to Kietam on the Great Hangit river. The village of Dong is about 2 miles west of the monastery and Kietam village about 4 miles to the S.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                         | 27 10 23.3  | 88 22 26.6                | 5580                                | ...                        | 2      | ...                                                 |
| Neor                                    | h.s. Is situated on the Neor spur on a small and inconspicuous knoll, the ground about which is rather flat and undulating. The road from Kanchalia Guard to Ghok, thence on to Darjeeling, passes to the east of the station at a distance of about 350 feet. It has a masonry circular pillar 4 inches above surface of ground, 18 inches in depth and 2½ feet in diameter. There are two mark-stones indicating its position, one vertically over the other; the lower one on the foundation and the upper flush with the top of the pillar. These mark-stones have a dot and concentric circle engraved on each of them. Observed in 1881-82. ( <i>Darjeeling</i> ). | 27 5 2      | 88 10 44                  | 5650                                | ...                        | ...    | ...                                                 |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                  | Latitude N.  | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                              |              |                           |                                     | Position                   | Height |                                                     |                              |
| Nim No. 1 h.s.                          | Is situated about $\frac{1}{4}$ of a mile S.E. of Nim and about the same distance from Doká-thang: Nimju h.s. is about $\frac{1}{4}$ mile to the S.W. The Runjung Government Forest Reserve runs along to the south of the station. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                              | 27 0 51' 20" | 88 40 50' 77"             | 3687                                | ...                        | 2      | ...                                                 | 1403,<br>1404                |
| Nim No. 2 h.s.                          | Is situated on the side of a spur about $\frac{1}{4}$ of a mile N.W. of Nim: Nimju h.s. is about $\frac{1}{4}$ mile to the S. and Nimlu h.s. is about $\frac{1}{4}$ miles to the W.: the junction of the Páshor Khola with the Nim Clu is about $\frac{1}{4}$ mile to the N. Observed in 1883-84. ( <i>Darjeeling</i> ).                     | 27 1 2' 47"  | 88 40 26' 73"             | 3858                                | ...                        | 2      | ...                                                 | 1410,<br>1411                |
| Nimju h.s.                              | Is situated on top of a hill about $\frac{1}{4}$ mile S.W. of Nim and about 1 mile N.W. of Namdáburing: there is a masonry pillar about 200 yards E. of the station. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                             | 27 0 42' 04" | 88 40 25' 10"             | 4597                                | ...                        | 2      | ...                                                 | 1395                         |
| Nimkdu h.s.                             | Is situated on a spur about 8 miles E. of Kalimpong Bázár and about 4 miles S. of the Chumsering Monastery: Risum hill is about 2 miles to the N.W. and Pankasari hill about 5 miles to the E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                   | 27 4 20' 92" | 88 37 19' 88"             | 7099                                | ...                        | 4      | ...                                                 | 1430,<br>1431                |
| Nimlu h.s.                              | Is on the top of a hill situated on the ridge which separates the Daling hills from the Runjung Government Forest Reserve: Alubari is about $\frac{1}{2}$ of a mile to the N., and a cane bridge over the Jit river on the road from Kalimpong to Runjung is about $\frac{1}{4}$ miles to the W. Observed in 1883-84. ( <i>Darjeeling</i> ). | 27 1 9' 54"  | 88 39 13' 99"             | 5948                                | ...                        | 3      | ...                                                 | 1378,<br>1379                |
| Nok h.s.                                | About 3 miles N.W. of Daling, 6 miles S.E. of Chumsering and 12 miles E. of Kalimpong. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                           | 27 1 58' 77" | 88 38 12' 16"             | ...                                 | ...                        | ...    | ...                                                 | 1407                         |
| Padanglu Hill Mark                      | Is situated on a spur about 2 $\frac{1}{4}$ miles N.W. of Risum No. 1 h.s. and about 1 mile N. of the road from Kalimpong to Daling: the Chumsering Monastery is about 3 miles to the E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                         | 27 7 24' 0"  | 88 34 54' 4"              | 6908                                | ...                        | 2      | ...                                                 | 1490,<br>1491                |
| Pankasari h.s.                          | Is situated on the hill of the same name about 5 miles north of Daling: Bichi La hill is about 4 miles to the N.E. and Thosun La hill about 6 miles to the E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                    | 27 5 0' 77"  | 88 41 49' 97"             | 8102                                | ...                        | 2      | ...                                                 | 1494,<br>1495                |
| Pembiringo h.s.                         | Is situated about a mile due N. of the Pembiringo La (pass): the road from Kalimpong to Chum-bi in Tibet passes over the ridge about 2 miles to the N.W. Gyi-mo-chi hill is about 7 miles to the S.S.E. of the station. Observed in 1881-82. ( <i>Sikkim-Tibet</i> ).                                                                        | 27 21 1' 99" | 88 53 16' 07"             | ...                                 | ...                        | ...    | ...                                                 | 1506                         |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Pemionchi Monastery                     | Brass spire in centre of roof. Is situated on a hill about 15 miles due north of Darjeeling with the village of Sakeu Ung about 4 miles south of the monastery. Sankbung village is about 4 miles to the N.E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                        | 27 18 17.6  | 88 15 15.6                | 6910                                | ...                        | 3      | ...                                                 | 1465, 1466                   |
| Phalluk La                              | h.s. Is situated on a hill about 2 miles from and E. of the Rumman river which forms the boundary between Sikkim and Darjeeling and about 6 miles E. of the trijunction Nepal-Sikkim-Darjeeling; the monastery of Hobling is about 8 miles to the E.S.E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                             | 27 12 12.15 | 88 6 22.32                | 10580                               | ...                        | 6      | ...                                                 | 1456, 1437                   |
| Phallut                                 | h.s. Is situated on the watershed boundary between British Sikkim and Nepal: Pillar No. 1 of the series of pillars defining the said boundary is situated about 30 feet to the north of the station. This boundary pillar again is the trijunction point of British Sikkim, Independent Sikkim and Nepal. The Frontier road terminates about 60 feet north of the station.<br>The station is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1879-80. ( <i>Darjeeling-Nepal-Sikkim</i> ). | 27 12 41.83 | 88 1 0.96                 | 11816                               | ...                        | 3      | ...                                                 | 1430, 1440                   |
| Phalung Flat                            | h.s. Is situated on a spur about 5 miles S.W. of Kangchenjhu peak and about 3 miles W. of the Sibu La (pass): Thango and Kalep on the Darjeeling-Kam-pa Dzong road are about 7 miles to the S.W. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                     | 27 56 38    | 88 37 18                  | 16200                               | ...                        | ...    | ...                                                 | ...                          |
| Phedigaon                               | h.s. Observed in 1862-83. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27 7 47     | 88 3 59                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Piangling Hill Staff                    | On the spur which runs east from Songchonglu h.s. and about 2 miles from it: the village of Kunkibong is about 1½ miles to the N.W. and Daling 8 miles E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                        | 27 0 1.9    | 88 35 31.9                | ...                                 | ...                        | ...    | ...                                                 | 1486                         |
| Pokichu                                 | h.s. Is situated on a spur about 13 miles E.N.E. of Kangchenjhu and about 6 miles S. of the The La (pass): the Yumohho La (pass) is about 8 miles to the E.S.E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                      | 27 46 3     | 88 20 23                  | 14900                               | ...                        | ...    | ...                                                 | ...                          |
| Pongmerong                              | h.s. Is situated on a spur about 5 miles E. of the boundary ridge between Nepal and Sikkim. Yampung is about 3 miles to the S.W. and Dubdi Monastery about 6 miles to the E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                         | 27 23 56.90 | 88 8 5.11                 | 13708                               | ...                        | 3      | ...                                                 | 1459, 1460                   |
| Pongril Lower                           | h.s. Is situated on a spur about 4 miles east of Kunkibong and the same distance S.W. of Pasliteng: Daling is about 6 miles to the E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                            | 27 1 34.46  | 88 37 59.76               | ...                                 | ...                        | ...    | ...                                                 | 1412                         |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N.   | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |                           |                                     | Position                   | Height |                                                     |                              |
| Pongril Upper                           | h.s. Is about 300 yards N.W. of Pongril Lower h.s.: on a spur about 4 miles east of Kunkibong and the same distance S.W. of Pashiteng. Daling is about 6 miles to the E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27 1 44' 30"  | 88 37 50' 78"             | ...                                 | ...                        | ...    | Feet<br>...                                         | 1408,<br>1409                |
| Bangit                                  | h.s. Is situated within a short distance of the termination of the Lebong spur, along which is the principal road from Darjeeling to Tumlong in Independent Sikkim. It is about 9 miles from Darjeeling on a knoll which was once the site of a police station. This knoll overlooks the Rangit river which flows about 1500 feet due north of the station. The junction of the Rangnu and the Rangit rivers is reached after going 1½ miles by the road from a point about 300 yards west of the station.<br>The station consists of a circular platform of masonry 3 feet in diameter countersunk 2 feet, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of a platform. Observed in 1879-80. ( <i>Darjeeling</i> ). | 27 6 3' 08"   | 88 19 52' 77"             | 1897                                | ...                        | 3      | ...                                                 | 1467,<br>1468                |
| Rhenok                                  | h.s. Is situated on the northern boundary between Darjeeling and Sikkim about ¼ mile W. of the Kalimpong-Lingtu road and about the same distance N.W. of the Chongthupa Rhenok Bazar. Observed in 1878-79. ( <i>Sikkim-Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 27 11 6' 30"  | 88 40 34' 41"             | 5263                                | ...                        | 4      | ...                                                 | 1489                         |
| Richi La                                | h.s. Is situated on the frontier ridge which separates the Darjeeling District from Sikkim and is about 6 miles S.E. of where the Kalimpong-Lingtu road crosses the frontier. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27 7 28' 59"  | 88 44 37' 27"             | 10363                               | ...                        | 3      | ...                                                 | 1482                         |
| Rilling                                 | h.s. Is on the highest point of Liringdanda. The junction of the Lirring Khola and the little Rangit lies about 7900 feet to N.E. It is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 27 3 25"      | 88 10 20"                 | 4735                                | ...                        | ...    | ...                                                 | ...                          |
| Rinchipung                              | h.s. Is situated on a spur about 4 miles N. of the Lintse Monastery: the village of Pugzir is about 4 miles to the S.E. and that of Langyong is about 3 miles to the N.E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27 13 42' 50" | 88 16 21' 63"             | 6194                                | ...                        | 3      | ...                                                 | 1446,<br>1447                |
| Rinkinpong                              | h.s. Is situated on a spur about 2 miles south of Kalimpong Bazar and about 3 miles S.E. of the junction of the Rangit and Rungpo rivers: Darjeeling is about 10 miles to the west. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 27 2 13' 51"  | 88 27 49' 53"             | 4696                                | ...                        | 4      | ...                                                 | 1382,<br>1383                |

DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference number of Triangle |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                           |                                     | Position                    | Height |                                                     |                              |
| Risum No. 1 h.s.                        | Is situated at the bungalow at Risum on the road between Kalimpong and Daling; the former place is about 9 miles to the W.S.W. and the latter 8 miles to the S.E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                             | 27 5 57.15  | 88 36 14.74               | 6406                                | ...                         | 3      | ...                                                 | 1487,<br>1488                |
| Risum No. 2 h.s.                        | Is situated on the very N.E. corner of the small terrace on which Risum No. 1 h.s. is built. A circle and dot engraved on a large splinter of rock embedded about 3 feet in the ground and protruding about 2 feet above ground marks the station. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                            | 27 5 57.82  | 88 36 14.56               | 6400                                | ...                         | 3      | ...                                                 | 1508,<br>1509                |
| Rongsa h.s.                             | Is situated on a spur about a mile to the N. of the Lungma Chu river; the The La (pass) is about 7 miles to the S.W. and Thango and Kalep on the Darjeeling-Kam-pa Dzong road are about 7 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                         | 27 52 51    | 88 26 13                  | 17200                               | ...                         | ...    | ...                                                 | ...                          |
| Rose bank h.s.                          | Is situated on a spur known by that name. It is on the Mahārāja of Burdwan's Estate, on a knoll about a quarter of a mile below the Mahārāja's house. The old station could not be found, a Hindu temple occupies the site. The station consists of a circular platform of masonry 3 feet in diameter, with its surface flush with the ground. It has two mark-stones, one on upper surface and the other 2 feet below, with ☉ cut on them. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                   | 27 2 16     | 88 15 11                  | 6090                                | ...                         | ...    | ...                                                 | ...                          |
| Saihur h.s.                             | Is situated on a spur about 8 miles E. of Kalimpong Bazar; Chumsering Monastery is about 5 miles to the N. and Pankasari hill is about 7 miles to the E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                      | 27 3 26.09  | 88 35 2.08                | 5827                                | ...                         | 2      | ...                                                 | 1376,<br>1377                |
| Sakkatak h.s.                           | Also called Sankatak h.s. Is situated about 300 yards S.W. of the junction of the Sakkatak khola with the Nim Chu stream and about the same distance east of the junction of the Nim Chu with the Chel river; the small hamlet of Namdāburing is about ½ mile to the S.W. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                     | 27 0 34.27  | 88 41 29.91               | 2118                                | ...                         | 2      | ...                                                 | 1400                         |
| Samsingam Hill Mark                     | Is situated about 1 mile W. of the Daling Fort and about ¼ of a mile N.W. of Ambiokh. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 27 1 22.5   | 88 41 47.8                | ...                                 | ...                         | ...    | ...                                                 | 1401,<br>1402                |
| Sandakphu No. 1 h.s.                    | Is situated S.W. by W. of the Sandakphu Frontier bungalow and distant about 1300 feet from it. It is on the highest point in the neighbourhood of the bungalow. The most convenient way of approaching it from the road is from the west. There is a large rock (seemingly higher than the station, but which is not so) that stands about 90 yards from it and in the direction of the bungalow. The station is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1879-80. ( <i>Darjeeling-Nepal</i> ). | 27 6 11.65  | 88 0 2.15                 | 11929                               | ...                         | 3      | ...                                                 | 1279,<br>1280                |



## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                            |             |                           |                                     | Position                   | Height |                                                     |                              |
| Sandakphu No. 2 h.s.                    | Is situated on the ridge which separates Nepal from Darjeeling, about 2 miles S.E. of Sandakphu No. 1 h.s.: the trijunction Nepal-Sikkim-Darjeeling is 9 miles to the N. and Darjeeling h.s. is 15 miles to the E. Observed in 1881-82. ( <i>Nepal-Darjeeling</i> ).                                                                                       | 27 5 15'16  | 88 1 24'82                | 10804                               | ...                        | 3      | Feet<br>...                                         | 1285,<br>1286                |
| Sangat h.s.                             | Is situated on the Konkibong spur and about 2800 feet in a direct horizontal line above the village Konkibong, which lies due north with respect to it.<br>It is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1882-83. ( <i>Darjeeling</i> ).                        | 27 5 58     | 88 8 39                   | 5536                                | ...                        | ...    | ...                                                 | ...                          |
| Sathi La h.s.                           | On the extreme south knoll of Richi La or Sathi La mountain and on the position said to have been selected by Mr. Johnson. The station is about 200 yards from Richi La h.s. and commands the whole of the southern horizon.<br>A masonry platform 3 feet in diameter and sunk 3 feet in the ground was built. Observed in 1884-85. ( <i>Darjeeling</i> ). | 27 7 23'87  | 88 44 34'98               | 10356                               | ...                        | 3      | ...                                                 | 1480,<br>1481                |
| Senan Monastery                         | Is situated about 18 miles due north of Darjeeling h.s. and about 10 miles north of Lintee Monastery. Moinam h.s. is 6 miles to the east: the village of Langyong is about 6 miles south of the monastery. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                         | 27 20 32'5  | 88 17 33'1                | 6590                                | ...                        | 2      | ...                                                 | 1475                         |
| Senchel La h.s.                         | Is situated on a hill about 6 miles N.E. of Gyi-mo-chi and about 2 miles S.W. of the A-nam bridge over the Ammu Chu river: the Pembiringo La (pass) is about 6 miles to the N.W. Observed in 1881-82. ( <i>Tibet</i> ).                                                                                                                                    | 27 13 19'11 | 88 58 28'34               | 14531                               | ...                        | 2      | ...                                                 | 1504                         |
| Sibu La h.s.                            | Is situated at the pass of the same name and south of it: the Kangchenjau peak is about 5 miles to the N.: Giao Gong on the Darjeeling-Kam-pa Dzong road is about 10 miles to the N.W. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                             | 27 55 54    | 88 39 37                  | 17600                               | ...                        | ...    | ...                                                 | ...                          |
| Silibong h.s.                           | Is situated about $\frac{1}{2}$ a mile N.E. of Alubari and about a mile W. of Pashor, the Khunruks spur runs east from this station and Nimlu h.s. is about a mile to the S.S.W. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                               | 27 1 49'44  | 88 39 41'71               | 5620                                | ...                        | 1      | ...                                                 | 1405,<br>1406                |
| Silluvok h.s.                           | Is situated on a spur which runs S.W. from the Namchi Monastery to the Great Rangit river and about half-way between. The Darjeeling-Tumlong road is close E. of the station: Darjeeling h.s. is about 9 miles to the S.S.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                       | 27 9 9      | 88 20 37                  | 5670                                | ...                        | ...    | ...                                                 | ...                          |

DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RATS DETERMINING |        | Discrepancies per mile between sides | Reference Number of Triangle |
|-----------------------------------------|------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------|------------------------------|
|                                         |                                    |             |                           |                                     | Position                   | Height |                                      |                              |
| Simm Mendong                            | h.s.                               | 27 30 45    | 88 33 2                   | 5200                                | ...                        | ...    | Feet                                 | ...                          |
| Simugupchurhi                           | h.s.                               | 27 26 50.34 | 88 47 55.82               | 16614                               | ...                        | 3      | ...                                  | 1498, 1499                   |
| Singalila                               | h.s.                               | 27 14 12.98 | 88 1 38.47                | 12108                               | ...                        | 4      | ...                                  | 1441, 1442, 1443             |
| Suberkum                                | h.s.                               | 27 10 9.78  | 88 1 18.29                | 11641                               | ...                        | 3      | ...                                  | 1281, 1282                   |
| Tanglangpong Hill Mark                  | Observed in 1883-84. (Darjeeling). | 27 0 5.2    | 88 41 17.9                | 3000                                | ...                        | 1      | ...                                  | 1432, 1433                   |
| Tempu La                                | h.s.                               | 27 2 5.55   | 88 47 16.97               | 5236                                | ...                        | 2      | ...                                  | 1419                         |
| Tendong Churten (Churten)               | h.s.                               | 27 12 19.9  | 88 24 36.6                | 8670                                | ...                        | 3      | ...                                  | 1471, 1472                   |
| Tendong                                 | h.s.                               | 27 12 19.90 | 88 24 36.86               | 8680                                | ...                        | 4      | ...                                  | 1368, 1369                   |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |             |             |                           |                                     | Position                       | Height |                                                     |                              |
| Topgli                                  | h.s.        | 27 1 53 54  | 88 5 2 93                 | 10073                               | ...                            | 3      | Feet<br>...                                         | 1267                         |
|                                         |             |             |                           |                                     |                                |        |                                                     |                              |
| Tukdah                                  | h.s.        | 27 2 5 24   | 88 20 9 78                | 6760                                | ...                            | 2      | ...                                                 | 1364.<br>1365                |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.1</u><br><u>78 A</u> ...                                  | Very sharp peak. Is situated on the high ridge which separates the north of Sikkim from Tibet and is about 14 miles S.W. of the Cho-ten Nyi-ma La (pass) and about 6 miles N. of the trijunction Nepal-Tibet-Sikkim: the Jongsong La. (pass) is about 6 miles to the south. Observed in 1883-84. ( <i>Sikkim-Tibet</i> ).                                                                                                              | 27 57 0     | 88 11 28                  | 22700                               | ...                        | ...    | <i>Feet</i>                                         | ..                           |
| <u>Pk.2</u><br><u>78 A</u> ...                                  | Is the centre of a great broad mass of snow N.W. of the Jongsong La (pass) and marks the trijunction boundary of Nepal-Tibet-Sikkim. Kinchinjunga snow peak is 12 miles to the south. Observed in 1883-84. ( <i>Nepal-Tibet-Sikkim</i> ).                                                                                                                                                                                              | 27 52 40    | 88 8 35                   | 24344                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.3</u><br><u>78 A</u> ...                                  | Conical peak at back of S.E. of huge mass. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                               | 27 51 23    | 88 11 4                   | 22200                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.4</u><br><u>78 A</u> ...                                  | Peak S.E. of huge mass. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                  | 27 51 14    | 88 12 7                   | 22800                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.5</u><br><u>78 A</u> ...                                  | Snow peak. Is about 9 miles nearly due north of Kinchinjunga and about 4 miles S.S.E. of the Jongsong La (pass). Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                                                         | 27 49 13    | 88 10 34                  | 23400                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.6</u><br><u>78 A</u> ...                                  | Is the centre of a huge mass of snow north of Kanchin and is situated about 7 miles N.N.E. of Kinchinjunga on the high ridge which separates Nepal from Sikkim. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                          | 27 47 15    | 88 11 55                  | 24089                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.7</u><br><u>78 A</u> ...                                  | S.W. of <u>Pk.6</u><br><u>78 A</u> . Is about 5 miles north of Kinchinjunga on boundary ridge between Nepal and Sikkim: one head of the Zemu Chu stream starts from this peak. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                           | 27 46 35    | 88 11 13                  | 23500                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.8</u><br><u>78 A</u> ...                                  | Is situated 4 miles north of Kinchinjunga, on the high ridge which separates Nepal from Sikkim, and is at the head of the Zemu Chu stream. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                               | 27 44 35    | 88 10 33                  | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.9</u><br><u>78 A</u> ( <i>Kambachen</i> )                 | Is situated about 3 miles N.W. of the well known peak of the same name on a spur starting from it; the monastery of Dechenrol is about 15 miles S.S.W. of the peak. Observed in 1883-84. ( <i>Nepal</i> ).                                                                                                                                                                                                                             | 27 42 59    | 88 6 47                   | 25782                               | 3                          | 4      | 1'0                                                 | ..                           |
| <u>Pk.10<sup>1</sup></u><br><u>78 A</u> ( <i>Kinchinjunga</i> ) | Snow peak. This well known peak, the highest point on the high ridge which separates Nepal from Sikkim, is situated about 50 miles north of Darjeeling and about 35 miles N.N.E. of the trijunction Nepal-Sikkim-Darjeeling. The Dechenrol Monastery in Nepal is about 15 miles in a south-west direction from the peak and the Giucha La (pass) in Sikkim is about 10 miles to the S.E. Observed in 1846-48. ( <i>Nepal-Sikkim</i> ). | 27 42 9'1   | 88 9 0'4                  | 28146                               | 8                          | 9      | 0'0                                                 | ..                           |
| <u>Pk.10<sup>2</sup></u><br><u>78 A</u> ( <i>Kinchinjunga</i> ) | Snow peak. Observed in 1847-48. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                                                                                                                                                               | 27 41 30'1  | 88 9 24'1                 | 27803                               | 4                          | 7      | 0'5                                                 | ..                           |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point            | Description                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                                    |                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                       | Height |                                                     |                              |
| <u>Pk. 11</u><br><u>78 A</u> ...                   | Snow peak west of Jano. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                   | 27 41 11    | 88 0 39                   | 21800                               | 3                              | 1      | Feet<br>2'0                                         | ...                          |
| <u>Pk. 12</u><br><u>78 A</u> ...                   | Peak north of Jano. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                       | 27 41 8     | 88 1 42                   | 21880                               | 3                              | 2      | 4'9                                                 | ...                          |
| <u>Pk. 13</u><br><u>78 A</u> ( <i>Jano</i> ) ...   | Snow peak. Is situated about 6 miles W.S.W. of the well known peak of Kinchinjunga, and about the same distance N.E. of the Lhapsong La (pass) and about 12 miles N.E. of the Dechenrol Monastery. Observed in 1846-47. ( <i>Nepal</i> ).                                                        | 27 40 56'1  | 88 2 46'9                 | 25294                               | 8                              | 9      | 0'0                                                 | ...                          |
| <u>Pk. 14</u><br><u>78 A</u> ( <i>Simvo</i> ) ...  | Centre snow peak, east of Kinchin. Is situated about 6 miles E. of Kinchinjunga peak; the well known peak of Kabru is about 10 miles to the S.W.: Tulung Monastery is about 14 miles to the east. Observed in 1879-80. ( <i>Sikkim</i> ).                                                        | 27 40 44    | 88 14 38                  | 22360                               | 2                              | 2      | ...                                                 | ...                          |
| <u>Pk. 15<sup>1</sup></u><br><u>78 A</u> ...       | Snow peak S.W. of Jano. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                   | 27 36 59    | 88 0 2                    | ...                                 | 3                              | ...    | 6'6                                                 | ...                          |
| <u>Pk. 15<sup>2</sup></u><br><u>78 A</u> ...       | Snow peak west of Jano. Is situated about a mile E. of the Jano pass and about 5 miles N. of the Dechenrol Monastery: the well-known peak Kabru on the Nepal-Sikkim frontier ridge is about 7 miles to the E. Observed in 1879-80. ( <i>Nepal</i> ).                                             | 27 36 58    | 88 0 3                    | ...                                 | 2                              | ...    | ...                                                 | ...                          |
| <u>Pk. 16</u><br><u>78 A</u> ( <i>Kabru</i> ) ...  | Is situated on the high ridge which separates Nepal from Sikkim and is about 6 miles N.E. of the Kangla (pass) and about the same distance west of the Giucha La (pass). Observed in 1847. ( <i>Sikkim-Nepal</i> ).                                                                              | 27 36 29'5  | 88 6 49'5                 | 24002                               | 3                              | 2      | 1'8                                                 | ...                          |
| <u>Pk. 17</u><br><u>78 A</u> ...                   | Conical snow peak. Is situated on the frontier ridge between Nepal and Sikkim about 2 miles S.W. of the well-known Kabru peak; the Kangla (pass) is about 4 miles to the south: Kabur h.s. is 7 miles to the S.E. Observed in 1879-80. ( <i>Nepal-Sikkim</i> ).                                  | 27 35 32    | 88 5 30                   | 22000                               | 2                              | 1      | ...                                                 | ...                          |
| <u>Pk. 18</u><br><u>78 A</u> ( <i>Pandim</i> ) ... | Is situated about a mile S.E. of the Giucha La (pass) and about 10 miles in the same direction from Kinchinjunga: the Kangla (pass) is about 10 miles S.W. of the peak. Observed in 1847. ( <i>Sikkim</i> ).                                                                                     | 27 34 37'6  | 88 13 9'6                 | 22010                               | 4                              | 8      | 0'1                                                 | ...                          |
| <u>Pk. 19</u><br><u>78 A</u> ...                   | Is about 3 miles S.E. of Kabru peak on the Nepal-Sikkim boundary ridge and about 5 miles N. of Kabur h.s.: the Giucha La (pass) is about 4 miles to the N.E. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                             | 27 34 17    | 88 8 45                   | ...                                 | 3                              | ...    | 5'4                                                 | ...                          |
| <u>Pk. 20</u><br><u>78 A</u> ...                   | Southerly of two knolls from Pandim. Is situated on a spur between the Nepal-Sikkim boundary ridge and the Tista river about 10 miles east of the Kangla (pass) and about 5 miles south of the Giucha La (pass): Kabur h.s. is 4 miles S.W. of the peak. Observed in 1879-80. ( <i>Sikkim</i> ). | 27 31 38    | 88 13 39                  | 19530                               | 2                              | 2      | ...                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancy per mile in miles of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                            |                              |
| <u>Pk.21</u><br><u>78 A</u>             | ... Called Kangla. Is situated on the high ridge which separates Nepal from Sikkim and is about 16 miles S.S.W. of Kinchinjunga. The Dechenrol Monastery in Nepal is about 6 miles N.W. of the peak and the Kangla (pass) is about 2 miles to the north. Observed in 1879-80. ( <i>Nepal-Sikkim</i> ).                                 | 27 30 56    | 88 3 36                   | 18280                               | 2                          | 2      | Feet<br>...                                | ...                          |
| <u>Pk.22</u><br><u>78 A</u>             | ... Is about 2 miles east of Kangla peak on the high ridge which divides Nepal from Sikkim: the Chumbab La on the same boundary is about 2 miles to the S.W. of the peak. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                      | 27 29 52    | 88 5 16                   | 16970                               | 3                          | 2      | 0'2                                        | ...                          |
| <u>Pk.23</u><br><u>78 A</u>             | ... Black knoll, east of a cluster of black knolls. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                             | 27 29 47    | 88 0 17                   | ...                                 | 2                          | ...    | ...                                        | ...                          |
| <u>Pk.24</u><br><u>78 A</u>             | ... Peak. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                      | 27 24 29    | 88 14 45                  | ...                                 | 2                          | ...    | ...                                        | ...                          |
| <u>Pk.25</u><br><u>78 A</u>             | ... Called Burpendim. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                          | 27 23 22    | 88 8 54                   | 12910                               | 2                          | 2      | ...                                        | ...                          |
| <u>Pk.26</u><br><u>78 A</u>             | ... About 2 miles east of the Nepal-Sikkim boundary ridge and about 10 miles north-east of the trijunction Nepal-Darjeeling-Sikkim: the village of Sihem is about 4 miles due south and the village of Chandernbung about 3 miles due east of the peak. Lampheram l.s. is 2 miles to the west. Observed in 1879-80. ( <i>Sikkim</i> ). | 27 19 35    | 88 6 22                   | 11900                               | 3                          | 1      | 2'3                                        | ...                          |
| <u>Pk.27</u><br><u>78 A</u>             | ... Is situated on the high ridge which separates Nepal from Sikkim, and about 5 miles north of the trijunction Nepal-Darjeeling-Sikkim. The villages of Sihem and Topkogong are in valley to east and about 5 miles distant. Observed in 1879-80. ( <i>Nepal-Sikkim</i> ).                                                            | 27 17 36    | 88 2 51                   | 11800                               | 2                          | 2      | ...                                        | ...                          |
| <u>Pk.28</u><br><u>78 A</u>             | ... Peak. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                      | 27 11 59    | 88 11 16                  | 9370                                | 3                          | 2      | 1'1                                        | ...                          |
| <u>Pk.29</u><br><u>78 A</u>             | ... Distant square snow peak. Observed in 1883-84. ( <i>Sikkim-Nepal</i> ).                                                                                                                                                                                                                                                            | 27 59 20    | 88 21 58                  | 20400                               | ...                        | ...    | ...                                        | ...                          |
| <u>Pk.30</u><br><u>78 A</u>             | ... Is a black peak about a mile south of the northern frontier boundary ridge between Sikkim and Tibet and about 9 miles E. of Cho-ten Nyi-ma La. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                             | 27 59 0     | 88 20 23                  | 20300                               | ...                        | ...    | ...                                        | ...                          |
| <u>Pk.31</u><br><u>78 A</u>             | ... Peak. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                                                                                | 27 57 57    | 88 17 22                  | 21700                               | ...                        | ...    | ...                                        | ...                          |
| <u>Pk.32</u><br><u>78 A</u>             | ... On the Nepal-Sikkim boundary, 4 miles E. of Cho-ten Nyi-ma La. Observed in 1883-84. ( <i>Nepal-Sikkim</i> ).                                                                                                                                                                                                                       | 27 57 55    | 88 18 23                  | 21100                               | ...                        | ...    | ...                                        | ...                          |
| <u>Pk.33</u><br><u>78 A</u>             | ... Peak. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                      | 27 55 35    | 88 28 28                  | 18000                               | ...                        | ...    | ...                                        | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point    | Description                                                                                                                                                                                                                                                                                                                              | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                            |                                                                                                                                                                                                                                                                                                                                          |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk. 34</u><br><u>78 A</u> ...           | Peak. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                            | 27 53 30    | 88 26 3                   | 18300                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 35</u><br><u>78 A</u> ...           | Is one of two sharp conical peaks about 2 miles E.N.E. of Rongsa h.s.: the villages of Thango and Kalep on the Darjeeling-Kam-pa Dzong road, are about 4 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                         | 27 53 15    | 88 27 43                  | 18000                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 36</u><br><u>78 A</u> ...           | Is the higher of two knolls about 4 miles E. of Rongsa h.s. and 6 miles S.W. of Komuthangu h.s.: the villages of Thango and Kalep on the Darjeeling-Kum-pa Dzong road are about 4 miles to the E. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                | 27 52 35    | 88 28 8                   | 18800                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 37</u><br><u>78 A</u> ...           | Peak. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                            | 27 50 40    | 88 24 43                  | 18200                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 38</u><br><u>78 A</u> ...           | Is situated between the Yumehho La (pass) and Zemu Chu stream about 6 miles W. of Lachen Monastery on the Darjeeling-Kam-pa Dzong road. Observed in 1881-82. ( <i>Sikkim</i> ).                                                                                                                                                          | 27 44 47    | 88 27 34                  | ...                                 | 3                          | ...    | 3'9                                                 | ...                          |
| <u>Pk. 39</u><br><u>78 A</u> ...           | On spur leaving Kinchinjunga and running east for about 20 miles before turning to south; about 3 miles due west of the Lachen Monastery and about the same distance E. by N. of the Yumehho La (pass). Observed in 1884-85. ( <i>Sikkim</i> ).                                                                                          | 27 43 58    | 88 29 47                  | 19250                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 40</u><br><u>78 A</u> ...           | Is situated about 9 miles E.N.E. of Kinchinjunga peak and about 2 miles N.W. of Simiolchu peak on a spur from it. Observed in 1883-84. ( <i>Sikkim</i> ).                                                                                                                                                                                | 27 43 20    | 88 18 8                   | 21500                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 41</u><br><u>78 A</u> ...           | Sharp. Low needle. Observed in 1884. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                  | 27 43 1     | 88 23 29                  | ...                                 | 3                          | ...    | 0'0                                                 | ...                          |
| <u>Pk. 42</u><br><u>78 A</u> ...           | Roundish snow-capped needle. Observed in 1884. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                        | 27 42 51    | 88 23 43                  | ...                                 | 3                          | ...    | 1'4                                                 | ...                          |
| <u>Pk. 43</u><br><u>78 A</u> ...           | Is situated on the high spur which runs east from Kinchinjunga peak between the Talung Chu and Zemu Chu (streams) and is about 10 miles from that peak: the Lachen Monastery on the Darjeeling-Kam-pa Dzong road is about 15 miles east of the peak. Observed in 1884-85. ( <i>Sikkim</i> ).                                             | 27 42 40    | 88 19 14                  | 22620                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk. 44</u><br><u>78 A</u> (Narsing) ... | Snow peak. Is situated about 4 miles N.E. of Longjong h.s. and about 8 miles N.W. of Kirsong h.s. The villages of Lo, Mahung and Rufu are 10 miles south of the peak: the Lingthem Monastery is about 10 miles to the east: the Alukthang and Thangue encampments are about 7 miles to the west. Observed in 1846-48. ( <i>Sikkim</i> ). | 27 30 40'0  | 88 17 1'6                 | 19130                               | 5                          | 4      | 0'0                                                 | ...                          |
| <u>Pk. 45</u><br><u>78 A</u> ...           | Highest part of the peak. Is on the same ridge as Kirsong h.s. and about 6 miles N.W. of it: the village Sakyong is 6 miles N.N.E. and Dapia village on the Darjeeling-Kam-pa Dzong road about 10 miles to the east of the peak. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                 | 27 30 13    | 88 22 19                  | 14460                               | 3                          | 2      | 3'7                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Mount. |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|----------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                            |
| <u>Pk. 46</u><br><u>78 A</u>            | ... Is situated equidistant between Lenkabui h.s. and Kirsong h.s. and about 3 miles north of the villages of Mahung and Rufu. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                 | 27 25 40    | 88 19 18                  | 10200                               | 2                          | 1      | ...                                                 | ...                        |
| <u>Pk. 47</u><br><u>78 A</u>            | ... Is situated about 3 miles S.W. of the village of Lingtam Gorrh and about 5 miles W. of Mangshi village on the Darjeeling-Kam-pa Dzong road. Kirsong h.s. is about 3 miles to the N.W. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                      | 27 24 57    | 88 27 40                  | ...                                 | 3                          | ...    | 1.8                                                 | ...                        |
| <u>Pk. 48</u><br><u>78 A</u>            | ... $\frac{1}{2}$ mile N.E. of Moinam h.s. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                     | 27 20 11    | 88 24 20                  | ...                                 | 2                          | ...    | ...                                                 | ...                        |
| <u>Pk. 49</u><br><u>78 A</u>            | ... Centre of western peak. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                                    | 27 20 10    | 88 23 27                  | ...                                 | 3                          | ...    | 4.8                                                 | ...                        |
| <u>Pk. 50</u><br><u>78 A</u>            | ... Is situated about 4 miles due north of the junction of the Rongni Chu with the Tista river. The Phobam La (pass) is 2 miles to the N.E. The village of Turko on the Darjeeling-Kam-pa Dzong road is 4 miles to the S.W. The Ramthek Monastery is about 5 miles to the east. Observed in 1878-79. ( <i>Sikkim</i> ).                                | 27 17 22    | 88 29 58                  | 7950                                | 2                          | 2      | ...                                                 | ...                        |
| <u>Pk. 51</u><br><u>78 A</u>            | ... Is situated about 2 miles S.W. of the Sungmo village and about 4 miles W. of the village of Ben; the Daling Monastery is about a mile N.W. of the station and the road from Darjeeling to Kam-pa Dzong runs about 6 miles to the east. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                     | 27 16 1     | 88 21 13                  | 7890                                | 4                          | 2      | *                                                   | ...                        |
| <u>Pk. 52</u><br><u>78 A</u>            | ... About 6 miles S.E. of Tendong h.s. and about 3 miles S.W. of the junction of Tista and Rungpo rivers. The monastery of Namchi is 6 miles to the west. Observed in 1879-80. ( <i>Sikkim</i> ).                                                                                                                                                      | 27 9 49     | 88 29 51                  | 4690                                | 2                          | 2      | ...                                                 | ...                        |
| <u>Pk. 53</u><br><u>78 A</u>            | ... Is about 4 miles south of the Chumiumo Peak on a spur between the Lungma Chu and Lachen rivers: Gioogong Pass is 6 miles to the N.E. and Komuthangu h.s. about 5 miles to the S.E. Gioogong on the Darjeeling-Kam-pa Dzong road is about 5 miles to the N.E. Observed in 1883-84. ( <i>Sikkim</i> ).                                               | 27 59 20    | 88 30 58                  | 21100                               | ...                        | ...    | ...                                                 | ...                        |
| <u>Pk. 54</u><br><u>78 A</u>            | ... Is situated on a spur running west and about 8 miles from the Donkia Pass: Phalung Flat h.s. is 4 miles to the S.W. and Gioogong Pass about 5 miles to N.N.W. of the peak: Gioogong on the Darjeeling-Kam-pa Dzong road is about 4 miles to the N.W. and the Lhamo Tao (lake) is about 8 miles to the N.E. Observed in 1878-80. ( <i>Sikkim</i> ). | 27 59 10    | 88 39 34                  | 22700                               | 3                          | 3      | 3.3                                                 | ...                        |
| <u>Pk. 55</u><br><u>78 A</u>            | ... Very prominent sharp conical peak. Observed in 1884. ( <i>Sikkim</i> ).                                                                                                                                                                                                                                                                            | 27 58 45    | 88 42 11                  | ...                                 | 4                          | ...    | 0.2                                                 | ...                        |

\* Fixed by single triangles from two different quarters.



## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point  | Description                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.56</u><br><u>78 A</u>              | ... Is situated about 3 miles south of the Sibu La (pass) and Sibu La h.s.: the villages of Thango and Kalep on the Darjeeling-Kam-pa Dzong road are about 8 miles to the west and Yeumtang on the Lachung river is about 6 miles to the S.S.E. Observed in 1883-84. (Sikkim).               | 27 53 50    | 88 38 48                  | 21000                               | ...                        | ...    | Feet                                                | ...                          |
| <u>Pk.57</u><br><u>78 A</u>              | ... Is situated about 4 miles S.W. of Sibu La h.s. and about the same distance south of Phalung flat h.s.: Komuthungu h.s. is 6 miles to the N.W. and the villages of Thango and Kalep on the Darjeeling-Kam-pa Dzong road are about 6 miles to the west. Observed in 1883-84. (Sikkim).     | 27 53 25    | 88 37 13                  | 19200                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.58</u><br><u>78 A</u>              | ... Is a broad peak about 7 miles N.N.W. of the junction of Lhonakh Chu and La Chen rivers; the villages of Yathong and Talun Samdong on the Darjeeling-Kam-pa Dzong road are about 2 and 3 miles respectively to the E.N.E. and E.S.E. of the peak. Observed in 1883-84. (Sikkim).          | 27 50 0     | 88 30 8                   | 17000                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.59</u><br><u>78 A</u>              | ... Round snow peak. Observed in 1879-80. (Sikkim).                                                                                                                                                                                                                                          | 27 43 52    | 88 34 39                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.60</u><br><u>78 A</u>              | ... Conical snow peak. Observed in 1879-80. (Sikkim).                                                                                                                                                                                                                                        | 27 41 44    | 88 32 45                  | 16850                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.61</u><br><u>78 A</u>              | ... Also called Tsateng peak. Is on a ridge between the Zemu Chu and Talung Chu streams about 4 miles E.N.E. of the Talung Monastery and 2 miles south of the Tizong pass. Observed in 1878-80. (Sikkim).                                                                                    | 27 39 1     | 88 32 1                   | 16600                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.62</u><br><u>78 A</u>              | ... Is situated about 6 miles west of the Cheung-tong Monastery on the Darjeeling-Kam-pa Dzong road. The villages of Tong and Nunga on the same road are about 8 miles S.E. of the peak; the villages of Nue and Tingbong are 8 miles to S.W. Observed in 1878-80. (Sikkim).                 | 27 36 19    | 88 34 23                  | 14800                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.63</u><br><u>78 A</u>              | ... Is situated about 8 miles N.E. of the large village of Gang-tok and about 5 miles W.S.W. of the Chola Pass over the ridge which separates Sikkim from Tibet; the Detong Monastery on the Darjeeling-Kam-pa Dzong road is about 12 miles west of the peak. Observed in 1881-82. (Sikkim). | 27 23 45    | 88 43 23                  | 13550                               | 3                          | 2      | 0.4                                                 | ...                          |
| <u>Pk.64</u> <sup>1</sup><br><u>78 A</u> | ... On same spur as Maphila or Nampung. Observed in 1878-80. (Sikkim).                                                                                                                                                                                                                       | 27 21 15    | 88 32 41                  | 8600                                | 3                          | 1      | 0.5                                                 | ...                          |
| <u>Pk.64</u> <sup>2</sup><br><u>78 A</u> | ... Also called Nampung La on S. branch of spur which leaves ridge a little to the south of the Chola Pass. Observed in 1879-80. (Sikkim).                                                                                                                                                   | 27 21 12    | 88 32 30                  | 8700                                | 3                          | 1      | 3.4                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point    | Description                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STATIONS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|--------------------------------|--------|-----------------------------------------------------|------------------------------|
|                                            |                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                       | Height |                                                     |                              |
| <u>Pk. 64<sup>3</sup></u><br><u>78 A</u>   | ...                                                                                                                                                                                                                                                                                              | 27 21 4     | 88 32 37                  | ...                                 | 3                              | ...    | Feet<br>2 6                                         | ...                          |
| <u>Pk. 65</u><br><u>78 A</u>               | ...                                                                                                                                                                                                                                                                                              | 27 19 35    | 88 42 27                  | 10500                               | 2                              | 1      | ...                                                 | ...                          |
| <u>Pk. 66</u><br><u>78 A</u>               | ...                                                                                                                                                                                                                                                                                              | 27 17 59    | 88 31 53                  | 7790                                | 3                              | 2      | 1 2                                                 | ...                          |
| <u>Pk. 67</u><br><u>78 A</u>               | ...                                                                                                                                                                                                                                                                                              | 27 16 25    | 88 40 36                  | 8500                                | 3                              | 1      | 2 5                                                 | ...                          |
| <u>Pk. 68</u><br><u>78 A</u>               | ...                                                                                                                                                                                                                                                                                              | 27 14 5     | 88 33 57                  | 7110                                | 2                              | 3      | ...                                                 | ...                          |
| <u>Pk. 69</u><br><u>78 A</u> (Paahunri)... | The highest point on the ridge to the east of Sikkim which divides Sikkim from Tibet: the Donkia Pass is about 4 miles to the N.W. and Ghora La (pass) about 10 miles to S.; Moine Samdong on the Lachung river is about 9 miles to the W.S.W. of the peak. Observed in 1847-48. (Sikkim-Tibet). | 27 56 56.2  | 88 50 38.7                | 23180                               | 6                              | 2      | 0 4                                                 | ...                          |
| <u>Pk. 70<sup>1</sup></u><br><u>78 A</u>   | ...                                                                                                                                                                                                                                                                                              | 27 55 52    | 88 48 2                   | ...                                 | 3                              | ...    | 2 2                                                 | ...                          |
| <u>Pk. 70<sup>8</sup></u><br><u>78 A</u>   | ...                                                                                                                                                                                                                                                                                              | 27 55 45    | 88 47 48                  | 21600                               | ...                            | ...    | ...                                                 | ...                          |
| <u>Pk. 71</u><br><u>78 A</u>               | ...                                                                                                                                                                                                                                                                                              | 27 55 33    | 88 51 47                  | ...                                 | 3                              | ...    | 2 0                                                 | ...                          |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.72</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 53 46    | 88 55 17                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
|                                         | Is situated on a spur which runs east from Paulunri peak to Tangla Pass and is the eastern end of a square snow peak about 6 miles S.E. of <u>Pk.69</u> (Paulunri) on the ridge separating Sikkim from Tibet and about 5 miles N.N.E. of the Ghora La (pass). Observed in 1881-82. ( <i>Tibet</i> ).                                          |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.73</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 53 0     | 88 52 49                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
|                                         | Peak. Observed in 1879-80. ( <i>Sikkim-Tibet</i> ).                                                                                                                                                                                                                                                                                           |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.74</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 52 39    | 88 59 31                  | ...                                 | 3                          | ...    | 6.8                                                 | ...                          |
|                                         | Is situated about 10 miles S.E. of <u>Pk.69</u> (Paulunri) on the Sikkim-Tibet boundary: the Tangla Pass is about 13 miles to the S.E.; Ghora La (pass) is about 10 miles to the S.W. Observed in 1881-82. ( <i>Tibet</i> ).                                                                                                                  |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.75</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 42 42    | 88 48 17                  | 18310                               | 2                          | 2      | ...                                                 | ...                          |
|                                         | N.E. edge of ridge of snow, second knoll. Is situated about 4 miles E. of Yakcha at the junction of the stream which takes its rise at the Ghora La (pass) with the Lachung river. Memphurang h.s. is about 4 miles to the S. and Lachung Monastery about the same distance to the S.W. Observed in 1879-80. ( <i>Sikkim</i> ).               |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.76</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 38 27    | 88 51 10                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
|                                         | Round peak. Is situated about a mile east of the pass of the same name, on the high ridge which separates Sikkim from Bhutan: the Lachung Monastery is about 5 miles to the N.W. and Chum-bi in Tibet is about 15 miles to the S.S.E. of the peak. Observed in 1881-82. ( <i>Sikkim-Tibet</i> ).                                              |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.77</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 38 2     | 88 59 49                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
|                                         | Snow peak. Is on spur emanating from range between Paulunri and Chumdhari: the Thanka La (pass) on the Sikkim-Tibet boundary is about 10 miles to the W.; Pharijong is about 11 miles to the N.E.; Chum-bi is about 15 miles to the S. and Shamchen 4 miles E. Observed in 1881-82. ( <i>Tibet</i> ).                                         |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.78</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 34 11    | 88 46 13                  | 17560                               | 3                          | 3      | 0.9                                                 | ...                          |
|                                         | Is situated on the high ridge which separates Sikkim from Tibet and is about 10 miles north of <u>Pk.80</u> (Chumunko): Chum-bi in Tibet is about 10 miles to the S.E. and the villages of Tong and Nunga in Sikkim on the road from Darjeeling to Kam-pa Dzong, are about 8 miles to the west. Observed in 1847-48. ( <i>Sikkim-Tibet</i> ). |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.79</u><br>78 A                    | ...                                                                                                                                                                                                                                                                                                                                           | 27 29 18    | 88 47 21                  | 17400                               | 2                          | 2      | ...                                                 | ...                          |
|                                         | High snow peak. Observed in 1879-80. ( <i>Sikkim-Tibet</i> ).                                                                                                                                                                                                                                                                                 |             |                           |                                     |                            |        |                                                     |                              |
| <u>Pk.80</u><br>78 A (Chumunko)         | ...                                                                                                                                                                                                                                                                                                                                           | 27 27 31.0  | 88 47 12.0                | 17310                               | 5                          | 4      | 0.1                                                 | ...                          |
|                                         | Sharp snow peak. Is situated on the high ridge which separates Sikkim from Tibet, and is about 12 miles east of the large village of Tumlong in Sikkim and about 7 miles west of Chum-bi in Tibet: the Chola Pass between Sikkim and Chum-bi is about 2 miles south of the peak. Observed in 1846-48. ( <i>Sikkim-Tibet</i> ).                |             |                           |                                     |                            |        |                                                     |                              |

## DEGREE SHEET No. 78 A, between Lats. 27° - 28° and Longs. 85° - 89°—(Continued).

| Name or Designation of Station or Point  | Description                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                          |                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.81</u><br><u>78 A</u> ...          | Is situated about 4 miles S.E. of <u>Pk.63</u><br><u>79 A</u> and about 3 miles E.N.E. of the Lagyap La (pass); the Dza-lep La (pass) is about 8 miles due east and the village of Náthang or Gnatong on the Kalimpong-Chum-bi road is about 8 miles S.S.E. of the peak. Observed in 1881-82. ( <i>Sikkim</i> ). | 27 21 52    | 88 45 15                  | 13300                               | 2                          | 1      | <i>Feet</i><br>...                                  | ...                          |
| <u>Pk.82</u><br><u>78 A</u> ...          | Snow peak N.E. of <u>Pk.85</u><br><u>78 A</u> (Gyi-mo-chi). Observed in 1883-84-85. ( <i>Tibet</i> ).                                                                                                                                                                                                            | 27 19 59    | 88 56 22                  | 15200                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.83</u><br><u>78 A</u> ...          | Is a flat peak situated about 4 miles N.N.W. of Lingtu h.s. and about 8 miles W.S.W. of the Dza-lep La (pass); the Lagyap La (pass) is 4 miles to the N.W. Observed in 1881-82. ( <i>Sikkim</i> ).                                                                                                               | 27 19 8     | 88 45 38                  | 12500                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.84</u><br><u>78 A</u> ...          | Is situated about 4 miles W.N.W. of Gyi-mo-chi h.s. and about the same distance N.E. of Lingtu h.s. The village of Ná-thang or Gnatong on the Kalimpong-Chumbi road is about a mile to the west of the peak; the Tuko La (pass) is about a mile to the north. Observed in 1881-82. ( <i>Sikkim</i> ).            | 27 18 7     | 88 51 7                   | ...                                 | 3                          | ...    | 0.8                                                 | ...                          |
| <u>Pk.85</u><br><u>78 A</u> (Gyi-mo-chi) | Sharp snow peak. Observed in 1847-48. ( <i>Sikkim-Tibet</i> ).                                                                                                                                                                                                                                                   | 27 16 25.8  | 88 54 9.8                 | 14510                               | 4                          | 2      | 1.6                                                 | ...                          |
| <u>Pk.86</u><br><u>78 A</u> ...          | Is situated on a spur about 3 miles N.N.E. of the Gnachechan La (pass); Tule La (pass) is about 2 miles S.E. Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                                                                                             | 27 8 37     | 88 59 6                   | 10700                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.87</u><br><u>78 A</u> ...          | On spur descending S.E. from Sathi La and distant 7½ miles E. of Pankasari, 8 miles N.E. of Daling and about 6 miles N.W. of Sipchu village in Bhutan; the Di Chu river flows about 4 miles to east of the peak. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                     | 27 4 22     | 88 49 18                  | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.88</u><br><u>78 A</u> ...          | Is situated about 3 miles east of the village of the same name in Bhutan on the Di Chu river which divides Darjeeling from Bhutan. The Tule La (pass) is about 9 miles to the N.E. Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                       | 27 1 43     | 88 56 3                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 86° - 89°.

|             |    |                                                                                                                                                                                       |             |             |     |     |     |                    |     |
|-------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----|-----|-----|--------------------|-----|
| * Amarkhána | s. | On W. bank of a small <i>nala</i> , 0.4 mile E. of Megura village and 0.1 mile S.E. of Amarkhána; táluk Amarkhána, thána and pargana Boda. Observed in 1854-55. ( <i>Jaipurgur</i> ). | 26 18 16.63 | 88 31 38.49 | ... | ... | ... | <i>Feet</i><br>... | ... |
|-------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----|-----|-----|--------------------|-----|

\* This station appertains to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                    | Height |                                                     |                              |
| *A No. 1 s.                             | About $\frac{1}{2}$ mile N. of Kálámágha, $\frac{1}{2}$ of a mile E. of Kahumandal and the same distance W. of Lakkhidhar; thána Thakurgaon, pargana Sálbári. Observed in 1854-55. ( <i>Dinajpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 13 17.03 | 88 31 54.03               | ...                                 | ...                         | ...    | Feet                                                | ...                          |
| *A No. 2 s.                             | About $\frac{1}{2}$ mile S.W. of the Jalpaiguri Rajbári, $\frac{1}{2}$ mile W. of Khuria táluk and $\frac{1}{2}$ mile N. of Dillu Gumáshta's masjid; thána Fakirganj. When revisited in 1881-82 no trace of the station mark was found. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 31 47.08 | 88 42 49.44               | ...                                 | ...                         | ...    | ...                                                 | ...                          |
| *A No. 3 s.                             | On W. bank of Karatoa river, about $\frac{1}{2}$ mile S.W. of the large village of Debiganj and $1\frac{1}{2}$ miles N.W. of Nagar Diwárganj; táluk Debiduba, thána, pargana and tahsil Boda. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 6 55.82  | 88 44 53.59               | ...                                 | ...                         | ...    | ...                                                 | ...                          |
| Bagdogra s.                             | Is situated about 100 feet to the N. of the Nukárbári-Mutigára road, and is inside the Bagdogra Hát.<br>A circular platform about 2.5 feet in diameter and raised 2 feet above surface of ground countersunk 1.5 feet indicates its position. There are two mark-stones with dot and concentric circle engraved on them placed vertically over one another, the upper mark-stone being flush with the top of the pillar. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 40 48.68 | 88 19 41.54               | 425                                 | ...                         | 2      | ...                                                 | 1315                         |
| *Bághdogra Hát Flag                     | On a mango tree adjoining the kachhari. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 7 41.1   | 88 48 46.4                | ...                                 | ...                         | ...    | ...                                                 | ...                          |
| *Bághdogra s.                           | About 1 mile N.W. of Bághdogra Hát and kachhari; táluk Bághdogra, chakla Kájirbát, thána Dimla. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 8 28.91  | 88 48 23.36               | ...                                 | ...                         | ...    | ...                                                 | ...                          |
| *Bahádura s.                            | On a low mound in an open piece of ground surrounded by water during the rains, in the lands of Bhosapára village which is on the opposite side of the Pánga river and distant 0.4 mile S. from the station. The village of Rangipára lies $\frac{1}{2}$ mile W. and a <i>sala</i> to N. and E. meets the Pánga river in two places 150 yards N.W. and $\frac{1}{2}$ mile S.E. of the station; táluk Bahádura, pargana Baikuntpur.<br>The station mark of 1854-55, consisting of the mouth of a <i>chatty</i> (earthen vessel) was found in 1881-82 and a pake masonry pillar 15 inches square and 2 feet high above ground was built having 3 mark-bricks, one in the foundation 1 foot below ground, another at ground level and the third 2 feet above ground at surface of pillar. This pillar was protected by a covering of earth forming a mound 4 feet high and 10 feet in diameter at base. Observed in 1854-55. ( <i>Jalpaiguri</i> ). | 26 30 44.09 | 88 39 45.65               | ...                                 | ...                         | ...    | ...                                                 | ...                          |
| *Bákáli Hát Flag                        | On a <i>kadam</i> tree. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 28 13.1  | 88 46 54.8                | ...                                 | ...                         | ...    | ...                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Bálapára, VII                          | Is on the high road between Thákurganj and Ghoramára, and about 3 miles from the former; thána Dimla, pargana Kájirhát, district Rangpur.<br>The pillar is perforated and 30.08 feet in height. It has a mark in the ground floor. There are several villages near the station, bearing the same name with it. Observed in 1854. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                          | 26 12 55.47 | 88 54 14.44               | 227                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bámania                                | s. About $\frac{1}{2}$ mile N.W. of Borágári village and 2 $\frac{1}{2}$ miles N. of Borágári hát; táluk Bámania, chakia Kájirhát, thána Dimla. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 8 16.61  | 88 51 57.55               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Bandartak                               | h.s. On Bandartak spur, about $\frac{1}{2}$ mile N. of road to Sibhok and the same distance E. of the junction of the Kubi or Jogi stream with the Mahanadi river. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 50 17.40 | 88 23 33.84               | 1612                                | ...                        | 2      | ...                                                 | 1360, 1361                   |
| *Bara Reotha                            | Temple Centre spire of the temple dedicated to Vishnu. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 7 17.7   | 88 47 24.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Barhántal                              | s. On the west bank of the Tista river, 0.9 mile N.E. of the village of the same name and 1.1 miles S.E. of Dadhar jot; táluk Khuria, thána Fakirganj. When revisited in 1881-82 no trace of the station mark was found. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 29 57.19 | 88 44 16.50               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Batasi Hát                              | s. Is situated about 300 yards east of the Nuk-sarbári Khoribári cart-road and north of the Batasi Hát, a well known market place. This hat is on the grounds of Shahiburam jot (estate) in Raniganj village.<br>A circular platform, about 2.5 feet in diameter and raised 2 feet above surface of ground countersunk 1.5 feet, indicates its position. There are two mark-stones with the dot and concentric circle engraved on them placed vertically over one another, the upper mark-stone being flush with the top of the pillar. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                           | 26 36 26.01 | 88 10 55.68               | 373                                 | ...                        | 2      | ...                                                 | 1318                         |
| *Belakuba, III                          | Is in táluk Bahádur, thána Jalpaiguri, tahsil Bahádur, pargana Baikuntpur, district Jalpaiguri.<br>The pillar is perforated and 20.03 feet in height. It has a mark in the ground floor and another at its top. As constructed in 1854 this pillar was 30 feet in height; when revisited in 1855 it was found that this original pillar had fallen down and that its mark-stone had been tampered with; a new mark-stone was therefore established and a new pillar built above it of the smaller height above mentioned. The angles were reobserved in 1856 on the new structure. The high road between Sukani and Jalpaiguri passes by the station, and a <i>nadi</i> is about a mile to W. of it. Observed in 1854. ( <i>Jalpaiguri</i> ). | 26 32 29.97 | 88 36 56.67               | 312                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | 1" discrepancies per mile in common sides of triangles | Reference Number of Triangle |      |
|-----------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|--------------------------------------------------------|------------------------------|------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                                     | Position                   | Height |                                                        |                              |      |
| *Benghári                               | No. 1 s.    | On a low ground, 0.1 mile S.E. of the village of the same name, 0.2 mile E. of Jot Pir Muhammad and 0.4 mile S. of Karja Mágura; táluk Benghári, thána and pargana Boda. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 15 43.13               | 88 32 17.19                         | ...                        | ...    | ...                                                    | ...                          | ...  |
| *Benghári                               | No. 2 s.    | About 1 mile S. of the large village of Kisnaganj and 0.3 mile from Machgam; táluk Benghári, thána and pargana Boda. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 18 8.20                | 88 34 17.46                         | ...                        | ...    | ...                                                    | ...                          | ...  |
| *Bhásárbári                             | s.          | On a low mound in an open piece of cultivated ground in the lands of the village of Chandpára; táluk Khuria, thána Jalpaiguri. The high road from Jalpaiguri to Tentulia meets the Panga river 1 mile to the west of the station and a small water course which empties itself into the Panga is 260 yards to the south.<br>The station site of 1854-55, marked by the mouth of a <i>chatty</i> (earthen vessel) which was found on the ground level, protected by a low mound of earth, was used in 1881-82. On the completion of the observations a solid masonry pillar, 15 inches square and 2 feet high above ground, was built containing 3 marks engraved on bricks, the first 1 foot below ground level, the second flush with the ground and in the exact position of the old mark, and the third 2 feet above the second. The pillar was protected by a mound of earth 4 feet high and 10 feet in diameter at base. The distances and azimuths of the surrounding villages are:—old site of Bhásárbári village 0.2 mile, 24°; Fakirpára 0.7 mile, 57° 44'; Chandpára 0.3 mile, 76° 54'; Porapára 0.5 mile, 249° 0'; Nakandebi 0.5 mile, 321° 14'; and Bhásárbári 0.2 mile, 353° 44'. Observed in 1854-55. ( <i>Jalpaiguri</i> ). | 26 29 46.55               | 88 41 51.80                         | ...                        | ...    | ...                                                    | ...                          | ...  |
| *Bhelái                                 | s.          | Near a large tank in the village of the same name, 0.3 mile E. of Nagarkuri and 0.8 mile N.E. of Bhásái Nagar; thána and pargana Boda. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 13 13.87               | 88 33 49.76                         | ...                        | ...    | ...                                                    | ...                          | ...  |
| Bhír                                    | h.s.        | On a spur between the Ramthi and Jhit Chu <i>nales</i> , about 2 miles N. of Nunmatti; Gris Majlipára is about 3 miles S.E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 55 33.00               | 88 36 9.22                          | 2464                       | ...    | 2                                                      | ...                          | 1887 |
| *B                                      | No. 1 s.    | On road from Fakirganj to Raniganj by Rajbári which is about 1 mile S.W. of the station; thána Fakirganj. When revisited in 1881-82, no trace of the station mark was found. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 32 38.88               | 88 42 25.83                         | ...                        | ...    | ...                                                    | ...                          | ...  |
| *B                                      | No. 2 s.    | About ½ mile S.W. of Bághdogra Hát and Kachhri; táluk Páncsháni Bághdogra, chakla Kájirhát, thána Dimla. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 7 25.68                | 88 48 18.11                         | ...                        | ...    | ...                                                    | ...                          | ...  |

\* These stations appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |
| *Boalmári, II                           | Is on the right bank of the Korto river, and close to the high road from Titalya to Rangpur; tahsil, thána and pargana Boda, district Jalpaiguri.<br>The pillar is perforated and 24.73 feet in height. It has a mark in the ground floor and another at its top. There are several small villages in the vicinity of the station, all bearing the name of Boalmári, and there is a hát called Kaliganj about 2 miles to N.E. of it. The pillar as constructed in 1853 was only 20.4 feet in height. Observed in 1853-55. ( <i>Jalpaiguri</i> ). | 26 15 9.16  | 88 38 8.60                | 240                                 | ...                        | ...    | Feet<br>...                                         |
| *Boda Chakla Hát Flag                   | On a <i>bar</i> tree N. of kachahri. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 11 52.6  | 88 33 33.9                | ...                                 | ...                        | ...    | ...                                                 |
| *Borágári Hát Flag                      | On a <i>kadam</i> tree. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 6 25.3   | 88 51 30.0                | ...                                 | ...                        | ...    | ...                                                 |
| Chamaigaon No. 2 h.s.                   | On a spur between the Mal and Neora <i>nalas</i> , about 1½ miles S.E. of Chamaigaon No. 1 h.s.: Daling Fort is about 4 miles N.W. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                   | 26 59 42.06 | 88 44 53.99               | 3611                                | ...                        | 3      | ...                                                 |
| Chenga h.s.                             | Is situated on a bare-topped hill to the west and about a mile from Panigháta from which a road leads to the station. It is west of and adjoining the Chenga Tea Estate on the site of which now stands the ruins of a chimney.<br>It is marked by a staff and pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                       | 26 47 58.01 | 88 14 0.96                | 1636                                | ...                        | 2      | ...                                                 |
| *Chilaháti, IV                          | Is on the right bank of the old bed of the Tista river, called Buri-Tista; thána Boda, tahsil Berubari, pargana Boda, district Jalpaiguri.<br>The pillar is perforated and 25.25 feet in height. It has a mark in the ground floor. The station is surrounded by villages of the same name, and the large village of Bhaulaganj, where there is a zamindári kachahri, is about 2 miles due S. of it. Observed in 1854. ( <i>Jalpaiguri</i> ).                                                                                                    | 26 18 9.82  | 88 45 27.41               | 245                                 | ...                        | ...    | ...                                                 |
| Chotáki, CXXV                           | ( <i>Vide page 30—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26 10 32.16 | 88 20 18.91               | 224                                 | ...                        | 2      | ...                                                 |
| *Debiduba Factory                       | Eastern chimney of boiling room adjoining the vats. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 7 48.9   | 88 45 24.8                | ...                                 | ...                        | ...    | ...                                                 |
| *Debiduba s.                            | About 1½ miles S.E. of the large village of Debiganj and 1 mile N.E. of Nagar Diwanganj; thána, pargana and tahsil Boda. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                             | 26 6 42.55  | 88 46 36.53               | ...                                 | ...                        | ...    | ...                                                 |
| *Debiganj Hát Flag                      | On a <i>pipal</i> tree. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 7 27.1   | 88 45 25.7                | ...                                 | ...                        | ...    | ...                                                 |
| *Debiganj Temple                        | N. spire of the temple dedicated to Sábíttri. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 7 9.6    | 88 45 38.0                | ...                                 | ...                        | ...    | ...                                                 |

\* These points appertain to the Assam Longitudinal Series.



## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Dharampál                              | s. About 1½ miles S.E. of Borágári hát; táluk Dharampál, Chakla Kájirhát, thána Dimla, tahsil Rangpur. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 5 49.61  | 88 52 56.98               | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Dharampur, V                           | Is on the left bank of the Tista river; thána Jalpaiguri, tahsil Jorpakri, pargana Baikuntpur, district Jalpaiguri.<br>The pillar is perforated and 29.50 feet in height. It has a mark in the ground floor. The well known village and bazar of Bhakali, where a Military Guard is stationed, is 1.20 miles N. of the station. When revisited in 1882 the pillar was found fallen down forming a mound of earth and bricks about 10 feet high; this mound was dug into till the lower mark at ground level was found, which was used for taking observations. On the completion of the observations the mark was covered with a <i>ghara</i> (earthen vessel) and the openings filled up with bricks and earth to protect it. The station is ½ mile E. of Gushári; thána Maynuguri. Observed in 1854-55. ( <i>Jalpaiguri</i> ). | 26 27 26.06 | 88 47 35.69               | 279                                 | ...                        | ...    | ...                                                 | ...                          |
| Dhobijhora                              | h.s. Is situated on a spur from Dow Hill and about 600 feet above the cart-road from where the road to "Singel" leaves it. It is marked by a staff and pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 53 40.26 | 88 17 4.38                | 5365                                | ...                        | 2      | ...                                                 | 1338                         |
| *Dimla Factory                          | No. 1 E. chimney of the boiling room of Mr. Gouldhawke's factory, adjoining the rats. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 8 48.8   | 88 54 59.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dimla Factory                          | No. 2 Flag on the N.W. corner of Babu Jayráam Sen's factory rats. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 8 59.7   | 88 55 3.8                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dimla                                  | House Flag on the S.E. corner of Babu Jayráam Sen's paka house. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 9 4.8    | 88 55 12.7                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dimla                                  | s. About ½ mile E. of Dimla thána and 1½ miles N.E. of Pángahát; táluk Dimla, chakla Kájirhát, thána Dimla, tahsil Kánungotola. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 8 4.78   | 88 55 21.96               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dimla                                  | Thána Flag On a <i>kadam</i> tree at the door. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 8 9.2    | 88 54 45.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Domer                                  | Hát Flag On a <i>pákur</i> tree. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 6 18.5   | 88 49 21.9                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Dow Hill                                | h.s. Is situated just above the old Kurseong-Darjeeling military road and about a mile further up than the Dow Hill Railway Settlement.<br>It is marked by a staff and pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 53 56.01 | 88 17 50.32               | 6444                                | ...                        | 2      | ...                                                 | 1339, 1340                   |
| Dumdangi, CXXIII                        | ( <i>Vide</i> page 29—1.).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 28 30.74 | 88 17 35.31               | 307                                 | ...                        | 3      | ...                                                 | 134                          |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |             |             |                           |                                     | Position                    | Height |                                                     |                              |
| Durbinjhora                             | h.s.        | 26 50 38.72 | 88 15 49.97               | 3589                                | ...                         | 2      | Feet<br>...                                         | 1304,<br>1305                |
| Duteria                                 | No. 1 h.s.  | 26 58 23.05 | 88 13 45.44               | 5570                                | ...                         | 2      | ...                                                 | 1322,<br>1323                |
| Duteria                                 | No. 2 h.s.  | 26 58 40.38 | 88 14 1.56                | 5877                                | ...                         | 3      | ...                                                 | 1324,<br>1325                |
| Garidhura                               | h.s.        | 26 48 24.57 | 88 16 41.84               | 840                                 | ...                         | 2      | ...                                                 | 1310,<br>1311                |
| Geabdat                                 | h.s.        | 26 53 42.29 | 88 27 38.89               | 2704                                | ...                         | 1      | ...                                                 | 1347                         |
| Ghoramara                               | h.s.        | 26 51 46.21 | 88 25 34.50               | 2626                                | ...                         | 2      | ...                                                 | 1354,<br>1355                |

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mic in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                    |                              |
| Ghoramara Nadi                          | s. Is situated about 400 feet from the left bank of the Ghoramara Nadi after which it is named and just south of the Forest road from Sibhok to Sukhna Railway Station. It is marked by a masonry pillar 1.5 feet high. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 50 33.69 | 88 26 49.89               | 542                                 | ...                        | 2      | Feet<br>...                                        | 1362,<br>1363                |
| *Gobrapára, I                           | Is in the midst of a straggling village called Gobrapára; thána Boda, tahsil Berubári, pargana Boda, district Jalpaiguri. The pillar is perforated and 30.1 feet in height. It has a mark in the ground floor. The old village and hát of Nallaganj is about 2 miles N.E. of the station and is surrounded by heavy jungle. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 24 16.66 | 88 38 7.98                | 282                                 | ...                        | ...    | ...                                                | ...                          |
| *Golna                                  | s. Near the road to Rangpur, about 1½ miles S.E. of Golna Kachahri; táluk Golna, thána Dimla, tahsil and pargana Kákina. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 5 0.06   | 88 56 20.98               | ...                                 | ...                        | ...    | ...                                                | ...                          |
| Gorubáthán                              | h.s. On a spur between Chel and Mal nálas. Daling Fort is about 6 miles due north, Rangmatí is about 8 miles S. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 58 0.42  | 88 42 54.49               | 2359                                | ...                        | 2      | ...                                                | 1413,<br>1414                |
| *Halapakori                             | s. Is in the lands of Mandalghát which consists of several hamlets surrounding the station; ¼ mile N.W. of Mandalghát on the Tista, also called Halapakori, ¼ mile N.E. of Bakshipára close to the railway line on the opposite side of the river and about 200 yards W. of the high road from Jalpaiguri to Madárganj; pargana Baikuntpur, táluk Mandalghát, thána Fakírganj. The station mark of 1854-55, consisting of the mouth of a chatty (earthen vessel) was found in 1881-82 and a puka masonry pillar 15 inches square and 2 feet high above ground was built having 3 mark-bricks, one at foundation 1 foot below ground, another at ground level and the third 2 feet above ground at surface of pillar; it was protected by a covering of earth forming a mound 4 feet high and 10 feet in diameter at base. Observed in 1854-55. ( <i>Jalpaiguri</i> ). | 26 28 28.19 | 88 44 50.89               | ...                                 | ...                        | ...    | ...                                                | ...                          |
| Hope Town                               | No. 1 h.s. Is situated about 400 feet nearly due north of the church and on a small bit of rising knoll. The church and station are on the large spur known as the Hope Town Settlement. The main road leading from Sonada Railway Station to the Settlement passes close to and between the church and station. The station consists of a circular masonry platform 3 feet in diameter countersunk 2 feet, having two mark-stones with a dot and concentric circle engraved on them placed one vertically below the other at an interval of about 2 feet, the upper surface being flush with the ground. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                 | 26 56 48.94 | 88 15 29.46               | 5597                                | ...                        | 2      | ...                                                | 1292                         |

\* These stations appertain to the Assam Longitudinal Series.

DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                           |                                     | Position                   | Height |                                                     |
| Hope Town No. 2 h.s.                    | Is situated about 1300 feet S.W. of Hope Town Church on the broad spur known as the Hope Town Settlement. The main road leading from Sonada Railway Station passes about 40 yards to the north of the station. A bungalow on the same ground level with the station, in fact, on the same flat is about 40 yards to the N.E. Two roads branch off from a point immediately above the bungalow, the one leading to Mandakuti and the other to Pulbazar on the Balasan river.<br>A circular platform of masonry 3 feet in diameter countersunk 2 feet marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of a platform. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 56 38.31 | 88 15 13.78               | 5411                                | ...                        | 2      | Feet<br>...                                         |
| Hope Town No. 3 h.s.                    | Is situated at the crossing of roads on the eastern Hope Town spur: the principal road leads down in a south-westerly direction to Mandakuti Tea Estate manager's bungalow about 3300 feet W. of the station. The station is denoted by a ⊙ engraved on a stone flush with the ground and covered over with a pile of stones. Observed in 1882-83. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 56 1.58  | 88 15 2.16                | ...                                 | ...                        | ...    | ...                                                 |
| *Jalpaiguri Masjid                      | Centre spire of Dilla Gumáshta's masjid. Observed in 1864-65. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 31 12.8  | 88 42 46.4                | ...                                 | ...                        | ...    | ...                                                 |
| *Jalpaiguri Palace                      | N.W. corner. Observed in 1864-65. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 32 19.4  | 88 43 12.3                | ...                                 | ...                        | ...    | ...                                                 |
| *Jalpaiguri s.                          | Is situated on "The Point" a projecting piece of land at the junction of the Tista and Kulla rivers.<br>It is marked by a circle and dot engraved on the terraced roof of the Deputy Magistrate's court-house at 36 feet 4 inches from N.W., 26 feet 6 inches from S.W., 33 feet 6 inches from N.E. and 22 feet 3 inches from the S.E. corners, and about 200 feet S. of the Telegraph Office. Its distance and azimuth from the longitude station are 244 feet 3 inches, and 339° 11' respectively. When revisited in 1903-04 by No. 24 Party, the usual mark ⊙ engraved on the roof was found protected by a small brick pillar 18 inches square and 6 inches high. The pillar was subsequently repaired. Observed in 1881-82. ( <i>Jalpaiguri</i> ).                                                                                                                            | 26 31 15.13 | 88 44 13.72               | ...                                 | ...                        | ...    | ...                                                 |
| *Jalpaiguri Telegraph Post              | Conspicuous high post on the right bank of the Tista river. Observed in 1881-82. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 30 27.7  | 88 44 12.2                | ...                                 | ...                        | ...    | ...                                                 |
| Jojilling No. 1 h.s.                    | On spur of the same name, 6½ furlongs north of Jojilling No. 2 h.s. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 51 12.62 | 88 24 11.40               | 2322                                | ...                        | 3      | ...                                                 |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Jojilling No. 2 h.s.                    | Is situated on a bare flat ridge running north and south. The Gulma nadi flows along the east of this ridge. The approach to this station is from the south by a road branching off from the Sibhok-Sukhna road.<br>It is marked by a staff and pile of stones. Observed in 1681-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                  | 26 50 41.18 | 88 24 30.17               | 2097                                | ...                        | 2      | <i>Feet</i><br>...                                  | 1358,<br>1359                |
| Kanehabári, CXXIV                       | ( <i>Vide page 30—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 27 47.73 | 88 25 27.24               | 325                                 | ...                        | 3      | ...                                                 | 133                          |
| *Katanhári                              | s. In an extensive jungle, about 0.2 mile from the E. bank of the Karatos river, 0.5 mile E. of Kázaldighi, 0.4 mile W. of Banguon and 0.5 mile N. of Deb-utar; táluk Katanhári, thána and pargana Boda. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                         | 26 17 38.89 | 88 37 17.88               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Kazira Dábarbhánga                     | s. About $\frac{1}{2}$ mile S.E. of Jhanjhani and 1 $\frac{1}{2}$ miles W. of Tápukhoría village; táluk Kazira Dábarbhánga, thána and pargana Boda. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 15 24.65 | 88 35 28.16               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| †Kesarbári, XLIII                       | Stands on a tank bank immediately S. of the village of the same name and nearly $\frac{1}{2}$ miles E.N.E. of the large village of Dakkhin Batina on the high road from Dinajpur to Titalia; thána Thákurgaon, pargana Shálahári, district Dinajpur.<br>The station consists of a solid tower of sun-dried bricks, enclosing a central pillar of masonry 22.00 feet in height which is marked in the usual manner. The azimuths and perambulated distances of the circumjacent villages are:—Kochubári 353° 57', mile 0.79; Kuárpur 251° 39', mile 0.46; Debipur 155° 2', miles 1.47. Observed in 1848. ( <i>Dinajpur</i> ). | 26 7 41.33  | 88 31 24.07               | 231                                 | ...                        | ...    | ...                                                 | ...                          |
| *Khakrábári, VI                         | Is in a paddy field in the midst of a few small villages of that name belonging to the Rája of Coock Behar; thána Boda, tahsil Debiganj, pargana Boda, district Jalpaiguri.<br>The pillar is perforated and 30.00 feet in height. It has a mark in the ground floor. The large házar of Debiganj on the Korta river is about 3 miles S. of the station and the straggling village of Bhagni about 1 mile N.E. Observed in 1854. ( <i>Jalpaiguri</i> ).                                                                                                                                                                       | 26 8 55.44  | 88 45 31.46               | 221                                 | ...                        | ...    | ...                                                 | ...                          |
| *Kharikatar                             | s. On right of the road from Kharia bandar to Raniganj and in the vicinity of an extensive jungle; táluk Chaut Bahádura, thána Sanási Káta, pargana Daikuntpur. When revisited in 1681-82 no trace of the station mark was found. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                | 26 32 1.94  | 88 41 3.75                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Kharkhari, CXIX                         | ( <i>Vide page 29—<i>I</i></i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 14 6.55  | 88 2 6.94                 | 207                                 | ...                        | 2      | ...                                                 | 127                          |

\* These stations appertain to the Assam Longitudinal Series.

† This station appertains to the Calcutta Meridional Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF STAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|-------------|-------------|---------------------------|-------------------------------------|-----------------------------|--------|-----------------------------------------------------|
|                                         |             |             |                           |                                     | Position                    | Height |                                                     |
| Khoribári                               | s.          | 26 33 17.19 | 88 11 42.73               | 310                                 | ...                         | 2      | Feet<br>...                                         |
| *Kismat Reotha                          | s.          | 26 6 14.94  | 88 49 51.56               | ...                                 | ...                         | ...    | ...                                                 |
| Kurseong                                | h.s.        | 26 52 5.56  | 88 15 54.68               | 4540                                | ...                         | 2      | ...                                                 |
| Latpanohor                              | No. 1 h.s.  | 26 53 12.87 | 88 24 8.47                | 3830                                | ...                         | 2      | ...                                                 |

\* This station appertains to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| Latpanchor No. 2 h.s.                   | On Latpanchor spur adjoining the road to Sibhok and 3 furlongs N.E. of Latpanchor No. 1 h.s. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 53 24.56 | 88 24 27.44               | 3783                                | ...                        | 3      | ...                                                 | 1352, 1353                   |
| Lethidhár                               | Between the Lethi <i>nala</i> and Runjung stream about 4 miles N.N.W. of junction of the latter with the Pugo Chiu river; Rangamati is about 8 miles S.E. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 57 45.77 | 88 39 42.49               | 1198                                | ...                        | 2      | ...                                                 | 1386                         |
| Lethi River                             | On the right bank of the Lethi <i>nala</i> near its junction with Chel <i>nala</i> ; Gris Majlipára is about 1½ miles S.W. and Gatipára about 2 miles S. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 54 22.77 | 88 38 13.72               | 652                                 | ...                        | 1      | ...                                                 | 1388                         |
| †Lobágara, XLII                         | Stands about a mile E. of the Nahara stream; and 7 miles S.W. of the large village of Dakkhin Batina on the high road from Dinajpur to Titania; thána Thákurgaon, pargana Shálbári, district Dinajpur.<br>The station consists of a square solid tower of sun-dried bricks, enclosing a central pillar of masonry 27.17 feet in height which is marked in the usual manner. The azimuths and perambulated distances of the circumjacent villages are:—Lakkipur 215° 56', mile 0.73; Matapur 278° 26', miles 1.30; Raipur 344° 40', mile 0.72; Phakdampur 82° 20', mile 0.44. Observed in 1848. ( <i>Dinajpur</i> ).                                                                                                                                                                                                                                                                                                                    | 26 2 12.04  | 88 21 56.60               | 205                                 | ...                        | ...    | ...                                                 | ...                          |
| Lohagarhi                               | Is situated on an isolated and small range of low hills overlooking the terai which is about ½ of a mile to the south. The Manja Tea Estate is to the south, the hills about the Manja <i>nadi</i> on the east and the Mechi river to the west. The station occupies about the highest of the numerous knolls with which this isolated range appears to be capped. The station is on the Lohagarhi Government Forest Reserve. The approach to the station is from the south or from the Manja Tea Estate above referred to.<br>A circular platform of masonry, 3 feet in diameter countersunk 2 feet, marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 46 59.58 | 88 12 23.14               | 1337                                | ...                        | 3      | ...                                                 | 1306, 1307                   |
| *Madárganj Village Flag                 | On a mango tree. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 27 22.1  | 88 45 40.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* This point appertains to the Assam Longitudinal Series.

† This station appertains to the Calcutta Meridional Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point |            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N.            | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                           |                                     | Position                   | Height |                                                     |                              |
| Mahaldaram                              | h.s.       | Is situated on a flat-topped knoll on the Mahaldaram range. The old military road from Kurseong to Jorbangala passes to the east just below the station. The chimney of an old staging bungalow about 5 miles from Kurseong is about 350 feet N.E. of the station.<br>A circular platform of masonry, 3 feet in diameter countersunk 2 feet, marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 54 46 <sup>30</sup> | 88 18 27 <sup>84</sup>    | 6781                                | ...                        | 2      | Feet<br>...                                         | 1298                         |
| *Mandal Ghát                            | Flag       | On a <i>pipal</i> tree. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 29 4 <sup>5</sup>   | 88 44 21 <sup>6</sup>     | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Manthapára                             | s.         | Is situated 100 yards S.E. of Manthapára village in the lands of which it lies, 0.4 mile E. of junction of two <i>nalas</i> meeting in the Kurkuri stream and $\frac{1}{2}$ mile W. of railway line; táluk Mandal Ghát, thána Fakirganj, pargana Baikunthpur. The station site of 1854-55, marked by the mouth of a <i>chally</i> (earthen vessel) which was found on the ground level, protected by a low mound of earth was used in 1891-92. On the completion of the observations a solid masonry pillar 15 inches square and 2 feet high above ground was built containing three marks engraved on bricks, the first 1 foot below the ground level, the second flush with the ground and in the exact position of the old mark and the third 2 feet above the second. The pillar was protected by a mound of earth 4 feet high and 10 feet in diameter at base. The distances and azimuths of the surrounding villages are:—Manthapára 100 yards, 128° 21'; Baniapára 0.3 mile, 141° 16'; Bakshipára 0.8 mile, 156° 41'; Adapára 0.4 mile, 189° 42'; and Madarganj 0.9 mile, 288° 12'. Observed in 1854-55 ( <i>Jalpaiguri</i> ). | 26 27 32 <sup>78</sup> | 88 44 38 <sup>85</sup>    | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Margaret's Hope                         | No. 1 h.s. | Is situated on a large spur forming the watershed of the Pachim and Rinchingtong rivers. It is about 1500 feet N.N.W. in a direct line from the Margaret's Hope Tea Estate Bungalow. The road branching off from the main cart-road or Railway from the Sonada Barracks and leading to the estate passes about 100 feet below and N.E. of the station. The distance from the cart-road to the station is about 3 miles by the road.<br>A circular platform of masonry, 3 feet in diameter countersunk 2 feet, marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                        | 26 55 32 <sup>55</sup> | 88 16 30 <sup>18</sup>    | 5093                                | ...                        | 2      | ...                                                 | 1299                         |

\* These points appertain to the Assam Longitudinal Series.



## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                           |                                     | Position                   | Height |                                                     |                              |
| Margaret's Hope No. 2 h.s.              | On spur about 1 mile S.W. of Margaret's Hope No. 1 h.s., $\frac{1}{2}$ a mile N.W. from the bend of the Chattakpur stream, 3 miles N.W. of the Kurseong station of the Darjeeling-Himalayan Railway. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                             | 26 54 44.48 | 88 16 0.07                | 4620                                | ...                        | 2      | Feet<br>...                                         | 1341,<br>1342                |
| Marma Bungalow                          | On spur 1 mile north of the Marma stream, the same distance N.W. of the Nuksarbári Hát road where it crosses the Marma stream and $\frac{1}{2}$ miles W. of Kurseong station of the Darjeeling-Himalayan Railway. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                | 26 53 22    | 88 13 10                  | ...                                 | ...                        | ...    | ...                                                 | 1476                         |
| Marma h.s.                              | Is situated about 1600 feet (horizontal distance) N.W. of Marma Tea Factory Bungalow. The station is on the crest of a large spur lying to the south of the Rangbong river. The easy approach to the station is by the Marma Bungalow. The other approaches are over crags and very precipitous ground.<br>The station is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1882-83. ( <i>Darjeeling</i> ). | 26 53 31.39 | 88 12 56.29               | 4486                                | ...                        | 2      | ...                                                 | 1330,<br>1331                |
| *Matukpur Mosque                        | Centre of spire of Shaikh Sanáullah's Mosque. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                       | 26 5 12.6   | 88 52 35.8                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Mekhaliganj, VIII                      | Is on the left bank of the Tista river and about $\frac{1}{2}$ a mile W. of the thána and kachahri of Mekhaliganj, district Cooch Behar.<br>The pillar is perforated and 30.00 feet in height. It has a mark in the ground floor. Observed in 1854. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                  | 26 21 6.56  | 88 54 17.01               | 247                                 | ...                        | ...    | ...                                                 | ...                          |
| Merig h.s.                              | Is situated on a knoll at the junction of the Marma spur with the Rangdong. The south face of the knoll is very precipitous and overlooks the tea estate of Marma.<br>The station is marked by a staff and a pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                     | 26 53 12.36 | 88 11 49.16               | 5587                                | ...                        | 2      | ...                                                 | 1334,<br>1335                |
| Mo Chu s.                               | Is situated in the bed of the river of the same name and lies about 6 miles north of Nagrakúta station of the Bengal-Duars Railway (eastern extension). The best approach to the station is from the small village of Ambote about $\frac{1}{2}$ miles E. on the left bank of the Jaldoka river or De Chu. Observed in 1883-84. ( <i>Jalpaiguri</i> ).                                                                                                                                       | 26 58 0.63  | 88 51 18.00               | 973                                 | ...                        | 2      | ...                                                 | 1427                         |
| Mongpu Rock h.s.                        | Is situated on a very conspicuous rocky knoll on the eastern end of the Mongpu ridge overlooking the Tista river, and about $\frac{1}{2}$ of a mile east of the Manager's Bungalow of the Government Cinchona Garden.<br>A circular masonry platform about 8 feet in diameter and flush with the surface of the hill and marked by two mark-stones, denotes the station. Observed in 1879-80. ( <i>Darjeeling</i> ).                                                                         | 26 58 20.79 | 88 24 10.60               | 3321                                | ...                        | 2      | ...                                                 | 1366,<br>1367                |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| Morapur                                 | s. Is situated in the Manja Tea Estate lands in grass jungle and about 800 feet S.W. of a point where the wide road running north and south from the Manja Bungalow through the tea terminates. The Forest boundary is 500 feet south of the station. It is marked by a masonry pillar 1.5 feet high. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                      | 26 45 52.52 | 88 12 40.21               | 732                                 | ...                        | 2      | Feet<br>...                                         | 1318                         |
| *Nagar Diwanganj Gola                   | Flag on a tamarind tree. Observed in 1855-56. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 6 12.8   | 88 45 48.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Nazzeokh Hill Mark                      | Is situated on a spur about 4 miles S.E. of junction of the Rilli with the Tista river, the latter of which is 3 miles to the W.: Kalimpong h.s. is about 12 miles N. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                      | 26 58 14.9  | 88 27 41.4                | 3600                                | ...                        | 3      | ...                                                 | 1389,<br>1390                |
| Newáni, CXXVI                           | ( <i>Vide page 30—<i>I</i>.</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 16 0.95  | 88 29 11.92               | 267                                 | ...                        | 2      | ...                                                 | 132                          |
| Nuksarbári                              | s. Is situated 200 feet to the W. of the Pankhabári-Nuksarbári road where it branches off to Mátigára Hát about 1000 yards N.E. of the Nuksarbári Hát. A circular platform about 2.5 feet in diameter and raised 2 feet above surface of ground, countersunk 1.5 feet, indicates its position. There are two mark-stones placed vertically over one another at an interval of about 4 feet. The upper mark-stone is flush with the top of the pillar. The mark-stones have the dot and concentric circle engraved on them. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 41 7.77  | 88 12 22.82               | 516                                 | ...                        | 2      | ...                                                 | 1317                         |
| *Pachágarh Hát Flag                     | On a <i>pipal</i> tree. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 19 31.2  | 88 33 16.8                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Pagriangbong                            | h.s. On a spur between Ghish river and Pugo Chu about 1 mile S.W. of Singa h.s.: Daling Fort is about 8 miles E.N.E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                       | 26 59 32.48 | 88 37 13.67               | 3517                                | ...                        | 2      | ...                                                 | 1420                         |
| *Pánga Hát Flag                         | On a high mast in the centre. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 7 30.6   | 88 53 42.1                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Pánga Kaohahri Flag                    | On a <i>pipal</i> tree in the compound. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 7 16.6   | 88 53 10.7                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Pánga                                  | s. On W. bank of the Buri Tista river, about 1½ miles N.W. of Dimlathána and ¼ mile in the same direction of Sundar Khata kaohahri; táluk Pánga, chakla Kájirhát, thána Dimla, tahsil Maiganj. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                | 26 8 56.36  | 88 53 54.18               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Peshagam Hill Mark                      | On spur about 4 miles S.S.W. of Chomatgaon and about the same distance S.S.E. of Daling Fort. Observed in 1888-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 59 28.1  | 88 43 16.6                | ...                                 | ...                        | ...    | ...                                                 | 1434,<br>1435                |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                           |                                     | Position                   | Height |                                                     |                              |
| Phansideva s.                           | Is situated about 120 yards north of the Phansideva-Khoribári road and about 700 yards W. of the Phansideva Bazar.<br>A circular platform about 25 feet in diameter and raised 2 feet above the surface of ground, countersunk 1.5 feet, indicates its position. There are two mark-stones placed vertically over one another at an interval of about 4 feet. The upper mark-stone is flush with the top of the pillar. The mark-stones have the dot and concentric circle engraved on them. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                              | 26 35 18.03 | 88 22 12.49               | 337                                 | ...                        | 2      | Feet<br>...                                         | 1816                         |
| Phubaering h.s.                         | Also called Singballi. Is situated about 2100 feet S.S.W. of the Singballi Bungalow. Some coolie dhuras (huts) are close N.E. of the station. The station is about 1 mile to the west of the Balasan river.<br>The station consists of a circular platform of masonry 3 feet in diameter countersunk 2 feet; the upper surface being flush with the ground. There are two mark-stones vertically over one another at an interval of about 2 feet. The upper mark-stone is on the surface of the platform. The mark-stones have engraved on them a dot and concentric circle. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                              | 26 50 41.42 | 88 13 24.89               | 3795                                | ...                        | 2      | ...                                                 | 1332,<br>1333                |
| Phugarhi h.s.                           | Is situated on the tea estate known as the "Phugarhi" block and about 3 yards north of the Tea Estate Manager's Bungalow. The station is on the main ridge separating the drainage of the Balasan river on the east from that of the Mechi on the west. It occupies the highest point on the tea estate.<br>The station consists of a circular platform of masonry 3 feet in diameter countersunk 2 feet; the upper surface being flush with the ground. There are two mark-stones vertically over one another at an interval of about 2 feet. The upper mark-stone is on the surface of the platform. The mark-stones have engraved on them a dot and concentric circle. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 51 11.92 | 88 11 48.69               | 4661                                | ...                        | 2      | ...                                                 | 1294                         |
| Pubong h.s.                             | On the watershed between the Balasan and Posam rivers, 1½ furlongs west of the Pubong Bungalow. The station is 1½ miles south of the road to Ghum range at 4½ miles west from the Ghum station of the Darjeeling-Himalayan Railway. Observed in 1861-62. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 59 22.10 | 88 11 57.38               | 5722                                | ...                        | 1      | ...                                                 | 1326,<br>1327                |
| Pumongzong h.s.                         | On spur between Ghish river and Lethi adla and about 8 miles N. of the junction of these two streams: Sumlong is about 2 miles to the N. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 58 3.98  | 88 37 50.36               | 3251                                | ...                        | 2      | ...                                                 | 1380,<br>1381                |
| Rámganj, CXXII                          | ( <i>vide page 29—1.</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 18 55.51 | 88 17 30.43               | 249.49†                             | ...                        | ...    | ...                                                 | 130                          |

† Determined by Spirit-Levelling.

DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point |      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
|                                         |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |
| Rangbul                                 | h.s. | Is situated on a knoll on the Duteria spur, about 300 yards to the south of the Rangbul Bazar on the cart-road. The road from Rangbul Bazar to Duteria Tea Estate passes below the station to the south. It is marked by a staff and pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 59 26.12 | 88 15 37.52               | 7096                                | ...                        | 2      | Feet<br>...                                         |
| Ráni Chuten                             | h.s. | Is on a large cairn of stones cemented together with mud. The station could not be put up on the highest point about 5½ feet above and 4½ feet N.E., as it was found to be too sharp and conical. The Tarzum Tea Estate Manager's Bungalow lies S.W. by W. from it and at a distance of about 2020 feet. It is on the main watershed separating the Rangbong from Balasan river. It is marked by a stone flush with the ground having a circle and dot engraved on it and covered over with a pile of stones. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                         | 26 56 58.46 | 88 11 2.78                | 5612                                | ...                        | 2      | ...                                                 |
| *Rániganj                               | s.   | On the bank of the southern and larger of two tanks called Jor Dighi, 0.3 mile S. of the well known village of the same name and 0.4 mile N.W. of Buroárir jot: taluk Páth-káta, thána Fakirganj, pargana Baikunthpur. The station mark of 1854-55, consisting of the mouth of a <i>chatty</i> (earthen vessel) was found in 1881-82 and a paku masonry pillar 15 inches square and 2 feet high, having three mark-bricks, one at foundation 1 foot below ground, another at ground level and the third 2 feet above ground at surface of the pillar, was built and protected by a covering of earth forming a mound 4 feet high and 10 feet in diameter at base. Observed in 1854-55 and 1881-82. ( <i>Jalpaiguri</i> ).                                                                                                                         | 26 33 17.19 | 88 39 8.80                | ...                                 | ...                        | ...    | ...                                                 |
| *Sámeiri                                | s.   | On high ground near a few mango trees, 0.4 mile S.W. of Sámeiri village and 0.5 mile S.E. of Mohanjhar village; taluk Samsiri, thána Nishchintapur or Thakurgaon, pargana Sálbari. Observed in 1854-55. ( <i>Dinajpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 13 36.76 | 88 30 21.23               | ...                                 | ...                        | ...    | ...                                                 |
| Selim                                   | h.s. | Is situated on the grounds of the Selim "Hill" Tea Estate (which must not be confused with Selim or Rohoni Tea Estate). The station is about 400 yards and a little south-west of Selim Tea Estate Manager's Bungalow. It is on a ridge and nearly 270 feet higher than the bungalow. The station is on a conspicuous knoll surrounded by tea bushes. About 350 yards towards N.W. another and slightly higher knoll exists, which is wooded. A circular platform of masonry 3 feet in diameter countersunk 2 feet marks the station, the upper surface being flush with the ground. There are two mark-stones vertically over one another at an interval of about 2 feet. The upper mark-stone is on the surface of the platform. The mark-stones have engraved on them a dot and concentric circle. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 50 56.73 | 88 19 20.77               | 3871                                | ...                        | 2      | ...                                                 |

\* These stations appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 86° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF DAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                           |                                     | Position                   | Height |                                                     |                              |
| Senchal No. 1 h.s.                      | <p>Is situated about 7 miles to the south of Darjeeling, on the same hills and also within the tract of country made over to the British Government by the Rájo of Sikkim along with that sanatorium. Senchal is the local name of the hill, and about <math>\frac{1}{2}</math> of a mile from it is the hill of Majlingjong, the summit of which was cleared of jungle with a view to ascertain its eligibility for a station. A road to Senchal was made for the theodolite, branching off from the high road between Darjeeling and the plains at the first chauki from Darjeeling.</p> <p>The station is in the midst of a dense forest and is denoted by a platform of stones 4 feet high and 12 feet square with a central isolated pillar 3 feet in diameter. There is a mark-stone about 4 inches below the surface of the pillar, a second on a level with the ground and a third buried 3 feet below the ground. The station was revisited by the Darjeeling Party in 1878-79 and adopted for observations. Observed in 1847-48. (<i>Darjeeling</i>).</p> | 26 59 8.25  | 88 17 44.78               | 8599                                | ...                        | 3      | Feet<br>...                                         | 1268,<br>1269                |
| Senchal No. 2 h.s.                      | <p>Is situated on a knoll on the Senchal spur N.W. by W. of the rest-house, formerly known as the armoury, pertaining to the abandoned military cantonments of Senchal. The distance from the said rest-house is about 3500 feet. The knoll has a steep fall in N.W. direction and overlooks Jorbangala in that direction. Jorbangala is distant from it about 3800 feet. The approach to it is by a well made road from Jorbangala leading up to Senchal.</p> <p>A circular platform of masonry 3 feet in diameter countersunk 2 feet marks the station, the upper surface being flush with the ground. There are two mark-stones one vertically over the other at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1878-79. (<i>Darjeeling</i>).</p>                                                                                                                                                                                           | 26 59 59.87 | 88 16 11.13               | 8163                                | ...                        | 3      | ...                                                 | 1290,<br>1291                |
| Seudim h.s.                             | <p>On a hill about <math>6\frac{1}{2}</math> miles E. of Chattakpur which overlooks Sonada Station of the Darjeeling-Himalayan Railway. A road to the Tista river on the E. passes about <math>\frac{1}{4}</math> mile north of the station. Observed in 1879-80. (<i>Darjeeling</i>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 26 56 9.78  | 88 24 31.42               | 4616                                | ...                        | 3      | ...                                                 | 1350,<br>1351                |
| Siliguri Railway Station Mark (helio)   | <p>Is situated a few feet east of the Darjeeling-Himalayan Railway road and 800 yards N.N.W. of the Railway station.</p> <p>A circular pillar 3 feet in diameter, raised 2.3 feet above the surface of ground and countersunk 2 feet, indicates its position. There are two mark-stones placed vertically over one another at an interval of about 4 feet. The upper mark-stone is flush with the top of the pillar. The mark-stones have the dot and concentric circle engraved on them. Observed in 1878-79. (<i>Darjeeling</i>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 42 33.83 | 88 25 49.90               | 420                                 | ...                        | 2      | ...                                                 | 1312                         |

DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 85° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                           |                                     | Position                   | Height |                                                     |                              |
| Siliguri                                | s. Is situated to the west of the Karagola-Darjeeling road and at the angle where it branches off to Pankhabári. A circular pillar about 3 feet in diameter, raised 2 feet above the surface of the ground and countersunk 1.5 feet, indicates its position. There are two mark-stones placed vertically over one another at an interval of about 4 feet. The upper mark-stone is flush with the top of the pillar. The mark-stones have the dot and concentric circle engraved on them. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                           | 26 41 40.37 | 88 24 49.54               | 400                                 | ...                        | 2      | Feet<br>...                                         | 1314                         |
| Singhia                                 | Mosque Observed in 1849-50. ( <i>Purnea</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 10 23    | 88 1 35                   | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Singra                                  | h.s. On a spur between the Ghish and Ohi Chu rivers: Sumlong is about 1½ miles S.E.; Daling Fort is about 9 miles E.N.E. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 59 38.64 | 88 37 51.21               | 4131                                | ...                        | 3      | ...                                                 | 1391,<br>1392                |
| Sitong                                  | h.s. Is situated on a remarkably conspicuous hill well known by that name. It takes its name from two small "pokhris" (lakes) which are situated about 3500 feet to west of the station. A road well known as the Mamrim road passes close by the said pokhris and from thence trends in a southeasterly direction leaving Sitong high up to N.E. The hill is generally known as Mamrimdaura-ka-Matha or head of the Mamrim spur. A circular platform of masonry 3 feet in diameter, countersunk 2 feet, marks the station, the upper surface being flush with the ground. There are two mark-stones placed vertically over one another at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1879-80. ( <i>Darjeeling</i> ). | 26 54 50.69 | 88 23 37.40               | 5572                                | ...                        | 2      | ...                                                 | 1299                         |
| Sonada                                  | h.s. About 60 yards S.E. of Sonada Station of the Darjeeling-Himalayan Railway. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 57 35.82 | 88 16 35.85               | 6588                                | ...                        | 2      | ...                                                 | 1301,<br>1302                |
| Sonakhoda, CXXI                         | ( <i>vide page 29—1.</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 15 21.79 | 88 12 4.43                | 229.76‡                             | ...                        | ...    | ...                                                 | 129                          |
| Songchonglu                             | h.s. Is situated on a spur between the Rilli and Ghish rivers: Shaprong is about 3 miles to the N. and Tassinglu about 4 miles to the W.N.W. Observed in 1883-84. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 59 51.27 | 88 33 27.19               | 6259                                | ...                        | 3      | ...                                                 | 1374,<br>1375                |
| *Sundar Khata Kachari                   | Flag on a <i>kadam</i> tree at the door. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 8 25.4   | 88 54 21.3                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Sundar Khata                           | s. On the E. bank of the Buri Tista river, about ¼ mile S.W. of Dimla thána and ½ mile N.E. of Pángahát; táluk Sundar Khata, obakla Kájrlhát, thána Dimla, tásil Rangpur. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26 7 50.64  | 88 54 17.90               | ...                                 | ...                        | ...    | ...                                                 | ...                          |

‡ Determined by Spirit-Levelling.

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description | Latitude N.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |                        |
|-----------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|------------------------|
|                                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                                     | Position                   | Height |                                                     |                              |                        |
| *Tepa                                   | Hát Flag    | On a <i>kadam</i> tree. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 7 37.3                 | 88 59 6.6                           | ...                        | ...    | ...                                                 | ...                          |                        |
| *Tepa                                   | s.          | About a mile S.W. of Tepa Hát and 2 miles in the same direction of Burir Hát; táluk Tepa, thána Barni, tahsil Madhupur, pargana Fatehpur. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 7 15.13                | 88 58 17.58                         | ...                        | ...    | ...                                                 | ...                          |                        |
| Thakurganj, CXX                         |             | ( <i>Vide page 29—1.</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 25 2.41                | 88 7 45.13                          | 264                        | ...    | 2                                                   | ...                          | 128                    |
| Tiger Hill                              | h.s.        | Is situated on a conspicuous knoll about 2700 feet S.E. by E. of the Sanchal rest-house, known formerly as the armoury of the abandoned military cantonments of Sanchal. There is a cart-road leading up from the rest-house. Within two hundred yards there is a small lake (natural) about 60 feet by 40 feet lying to the west of the station. The station is marked by a circular platform 3 feet in diameter and 4 feet above ground level and has two mark-stones placed vertically over one another, the upper one being flush with the surface of the platform and the lower on ground level. Observed in 1847-48. ( <i>Darjeeling</i> ).                                     | 26 59 39.90               | 88 17 17.07                         | 8507                       | ...    | 3                                                   | ...                          | 1273,<br>1274,<br>1275 |
| Tingling                                | h.s.        | Is situated on the watershed range dividing the drainage of the Balasun river on the east from that of the Mechi on the west. It occupies the highest point on the estate and tea bushes surround the station. The hill on which the station is situated is flat-topped. A circular platform of masonry 3 feet in diameter, countersunk 2 feet, marks the station, the upper surface being flush with the ground. There are two mark-stones placed vertically over one another at an interval of about 2 feet. The mark-stones have engraved on them a dot and concentric circle. The upper mark-stone is on the surface of the platform. Observed in 1878-79. ( <i>Darjeeling</i> ). | 26 50 28.39               | 88 12 22.02                         | 4177                       | ...    | 2                                                   | ...                          | 1296                   |
| Tungsong                                | h.s.        | On Tungsong spur of the Ghum range, 6 furlongs below the Ghum range road and 2 miles west of Ghum station of the Darjeeling-Himalayan Railway. Observed in 1881-82. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 59 26.07               | 88 13 7.32                          | 6014                       | ...    | 2                                                   | ...                          | 1343,<br>1344          |
| Yongri                                  | h.s.        | On spur between the Tista river and Liso wala, about 4 miles E. of the former: Ramsik is about 1½ miles S.W. Observed in 1878-79. ( <i>Darjeeling</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 26 56 50.60               | 88 29 38.86                         | 4717                       | ...    | 3                                                   | ...                          | 1384,<br>1385          |
| Pk.1<br>78 B                            | ...         | Tree on knoll; highest part. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 52 21                  | 88 8 36                             | 6020                       | 4      | 2                                                   | §                            | ...                    |
| Pk.2<br>78 B                            | ...         | Centre tree of group of three. On same range as Pk.1 Pk.4 and Pk.5 78 B, 78 B and 78 B. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 51 58                  | 88 0 19                             | ...                        | 2      | ...                                                 | ...                          | ...                    |

\* These points appertain to the Assam Longitudinal Series.

§ Fixed by single triangles from two different quarters.

## DEGREE SHEET No. 78 B, between Lats. 26° - 27° and Longs. 88° - 89°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                           | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF TRIANGLES DETERMINING |        | Discrepancies per mile in common sides of triangles |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|---------------------------------|--------|-----------------------------------------------------|
|                                         |                                                                                                                                                                                                       |             |                           |                                     | Position                        | Height |                                                     |
| <u>Pk.3</u><br><u>78 B</u> ...          | Tree on square knoll, spur from same range as $\frac{\text{Pk.1}}{78 \text{ B}}$ , $\frac{\text{Pk.4}}{78 \text{ B}}$ and $\frac{\text{Pk.5}}{78 \text{ B}}$ . Observed in 1879-80. ( <i>Nepal</i> ). | 26 50 35    | 88 1 34                   | ...                                 | 2                               | ...    | Feet<br>...                                         |
| <u>Pk.4</u><br><u>78 B</u> ...          | Knoll; same range as $\frac{\text{Pk.1}}{78 \text{ B}}$ and $\frac{\text{Pk.5}}{78 \text{ B}}$ . Observed in 1879-80. ( <i>Nepal</i> ).                                                               | 26 49 55    | 88 5 23                   | 6080                                | 4                               | 2      | \$                                                  |
| <u>Pk.5</u><br><u>78 B</u> ...          | Knoll; trees on hill. Observed in 1879-80. ( <i>Nepal</i> ).                                                                                                                                          | 26 49 11    | 88 8 0                    | ...                                 | 4                               | ...    | \$                                                  |
| <u>Pk.6</u><br><u>78 B</u> ...          | Knoll on spur, trees. Observed in 1881-82. ( <i>Nepal</i> ).                                                                                                                                          | 26 48 33    | 88 3 25                   | ...                                 | 3                               | ...    | 0.8                                                 |
| <u>Pk.7</u><br><u>78 B</u> ...          | West peak. Observed in 1881-82. ( <i>Nepal</i> ).                                                                                                                                                     | 26 47 53    | 88 10 6                   | 2500                                | 2                               | 1      | ...                                                 |

## DEGREE SHEET No. 78 E, between Lats. 27° - 28° and Longs. 89° - 90°.

|                                |                                                                                                                                                                                                                                                   |          |         |       |   |     |             |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|-------|---|-----|-------------|
| <u>Pk.1</u><br><u>78 E</u> ... | Centre of flat snow peak. On spur from range between Pauhunri and Chumalhari: Ghora La (pass) is about 10 miles to the W.N.W. and Phári Dzong is about 10 miles to the E. Observed in 1881-82. ( <i>Tibet</i> ).                                  | 27 45 39 | 89 1 5  | 16900 | 2 | 1   | Feet<br>... |
| <u>Pk.2</u><br><u>78 E</u> ... | Is situated on a spur about 11 miles E. of the Thanks La (pass) and 3 miles W. of Shamchen. Phári Dzong is about 10 miles to the N.E.: Chum-bi is about 16 miles to the S. Observed in 1881-82. ( <i>Tibet</i> ).                                 | 27 39 2  | 89 0 52 | ...   | 2 | ... | ...         |
| <u>Pk.3</u><br><u>78 E</u> ... | Is situated on a spur about midway between Thanks La (pass) on the Sikkim-Tibet boundary to the W. and Pempa La (pass) on the Tibet-Bhutan boundary to the E.: Chum-bi is about 15 miles to the S.S.W. Observed in 1881-82. ( <i>Tibet</i> ).     | 27 37 22 | 89 3 14 | ...   | 2 | ... | ...         |
| <u>Pk.4</u><br><u>78 E</u> ... | Is situated on a spur about 4 miles N.W. of $\frac{\text{Pk.6}}{78 \text{ E}}$ on the Tibet-Bhutan boundary: Pempa La (pass) is about 12 miles E.N.E. and Chum-bi is about 14 miles S.W. Observed in 1881-82. ( <i>Tibet</i> ).                   | 27 34 31 | 89 4 17 | ...   | 2 | ... | ...         |
| <u>Pk.5</u><br><u>78 E</u> ... | Is situated on the boundary ridge between Tibet and Bhutan about 4 miles N.E. of $\frac{\text{Pk.6}}{78 \text{ E}}$ : the Chamfu Monastery is 16 miles E. and Pempa La (pass) is about 7 miles N.E. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ). | 27 34 23 | 89 9 53 | 18500 | 2 | 1   | ...         |
| <u>Pk.6</u><br><u>78 E</u> ... | Is situated on the boundary ridge between Tibet and Bhutan about 15 miles N.E. of Chum-bi in Tibet: the Miru La (pass) is about 8 miles to the S. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                                   | 27 32 36 | 89 7 7  | 18730 | 3 | 2   | 2.9         |

§ Fixed by single triangles from two different quarters.



## DEGREE SHEET No. 78 E, between Lats. 27° - 28° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                       | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF BAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                   |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.7</u><br>78 E                     | ... Is situated on the Tibet-Bhutan frontier ridge and marks a salient angle of it about 4 miles S.E. of $\frac{\text{Pk.6}}{78 \text{ E}}$ ; the Miru La (pass) is about 8 miles S. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                                                | 27 31 13    | 89 9 59                   | 17200                               | 3                          | 1      | 2'1                                                 | ...                          |
| <u>Pk.8</u><br>78 E                     | ... Is situated on the boundary ridge between Tibet and Bhutan about 2 miles S.E. of $\frac{\text{Pk.6}}{78 \text{ E}}$ ; the Miru La (pass) is about 6 miles due S.; Chum-bi is about 15 miles W.S.W. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                              | 27 31 10    | 89 8 39                   | ...                                 | 3                          | ...    | 3'7                                                 | ...                          |
| <u>Pk.9</u><br>78 E                     | ... On ridge separating Tibet and Bhutan about 5 miles S.S.E. of the Miru La (pass); the Ha Monastery is about 4 miles N.E. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                                                                                                         | 27 23 40    | 89 10 6                   | ...                                 | 2                          | ...    | ...                                                 | ...                          |
| <u>Pk.10</u><br>78 E                    | ... On ridge separating Tibet and Bhutan about 6 miles S.S.E. of the Miru La (pass); the Ha Monastery is about 5 miles N.E. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                                                                                                         | 27 23 19    | 89 10 28                  | 15300                               | 3                          | 1      | 0'7                                                 | ...                          |
| <u>Pk.11</u><br>78 E                    | ... Is a conical peak on ridge separating Tibet and Bhutan about 12 miles S. of $\frac{\text{Pk.6}}{78 \text{ E}}$ and 6 miles S. of the Miru La (pass). Observed in 1881-82. ( <i>Tibet-Bhutan</i> ).                                                                                            | 27 21 26    | 89 9 45                   | 15400                               | 3                          | 1      | 1'9                                                 | ...                          |
| <u>Pk.12</u><br>78 E                    | ... Is a conical knoll on high ridge separating Tibet and Bhutan marking a salient angle of the same and is about 9 miles S. of the Miru La (pass) at the point where the ridge suddenly turns to W.S.W. Tumphiong Dzong is about 9 miles to the E. Observed in 1881-82. ( <i>Tibet-Bhutan</i> ). | 27 18 51    | 89 9 57                   | ...                                 | 3                          | ...    | 2'4                                                 | ...                          |
| <u>Pk.13</u><br>78 E                    | ... Is a round snow peak on a spur about 3 miles E. of the ridge between Tibet and Bhutan; Tumphiong Dzong is about 8 miles E.N.E.; the Tegong La (pass) is about 7 miles S.E. Observed in 1881-82. ( <i>Bhutan</i> ).                                                                            | 27 17 25    | 89 11 9                   | 15300                               | 2                          | 1      | ...                                                 | ...                          |
| <u>Pk.14</u><br>78 E                    | ... Western round peak on Ammu Chu-Wong Chu watershed about 4½ miles E.S.E. of Asamthong village on the Ammu Chu river. Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                                                                   | 27 17 4     | 89 4 18                   | 14170                               | 3                          | 2      | 4'9                                                 | ...                          |
| <u>Pk.15</u><br>78 E                    | ... Western peak on Ammu Chu-Wong Chu watershed about 15 miles S.W. of Páro. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                           | 27 16 0     | 89 13 47                  | 14300                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.16</u><br>78 E                    | ... Eastern peak on Ammu Chu-Wong Chu watershed about 15 miles S.S.W. of Páro. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                         | 27 15 0     | 89 14 56                  | 14080                               | ...                        | ...    | ...                                                 | ...                          |
| <u>Pk.17</u><br>78 E                    | ... Is situated about 6 miles E. of Sangbe Dzong Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                                                                                                                                          | 27 7 52     | 89 12 7                   | 10710                               | 3                          | 2      | 1'7                                                 | ...                          |
| <u>Pk.18</u><br>78 E                    | ... On the Tule La range and S.E. of the Tule La (pass) about 6 miles S.W. of Sangbe Dzong; Sipchu on the Di Chu (river) is about 11 miles W. Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                                             | 27 4 17     | 89 4 19                   | 11400                               | 3                          | 1      | 0'5                                                 | ...                          |

## DEGREE SHEET No. 78 E, between Lats. 27° - 28° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point      | Description                                                                                                                                                                                                                                                                                   | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
|                                              |                                                                                                                                                                                                                                                                                               |             |                           |                                     | Position                   | Height |                                                     |
| <u>Pk.19</u><br><u>78 E</u> ...              | Is situated on the boundary ridge between Bhutan and Tibet; about 4 miles E.N.E. of <u>Pk.20</u> (Chumalhari): Lingshi La (pass) is about 6 miles to the E.; Lhegiu in Tibet is about 6 miles to the N.W.; Lingshi Dzong in Bhutan is about 7 miles S.E. Observed in 1881-82. (Tibet-Bhutan). | 27 50 43    | 89 20 14                  | 22300                               | 3                          | 1      | Feet<br>2.1                                         |
| <u>Pk.20</u><br><u>78 E</u> (Chumalhari) ... | On the Tibet-Bhutan boundary, about 11 miles N. of the Tempa La (pass) and 9 miles N.E. by N. of Phari Dzong. Observed in 1847-48. (Tibet-Bhutan).                                                                                                                                            | 27 49 38.9  | 89 16 14.8                | 23930                               | 4                          | 2      | 0.2                                                 |
| <u>Pk.21</u><br><u>78 E</u> ...              | Is situated on a spur about 6 miles E. of Tibet-Bhutan boundary ridge: Lingshi Dzong is about 8 miles N. and Parshong is 7 miles E. The Chamfu Monastery is about 11 miles S. Observed in 1881-82. (Bhutan).                                                                                  | 27 43 41    | 89 24 40                  | ...                                 | 3                          | ...    | 4.7                                                 |
| <u>Pk.22</u><br><u>78 E</u> ...              | Peak on spur emanating from N.E. of <u>Pk.20</u> (Chumalhari) and trending S.E. Is situated about 6 miles N.E. of Chamfu Monastery: Dotena is about 6 miles E. and Parshong about 7 miles N.N.E. Observed in 1881-82. (Bhutan).                                                               | 27 36 34    | 89 29 2                   | ...                                 | 2                          | ...    | ...                                                 |
| <u>Pk.23</u><br><u>78 E</u> ...              | Is situated on a spur about 6 miles N.W. of Chamfu Monastery: Ghasa is 6 miles W. and Sana 6 miles S.W. Observed in 1881-82. (Bhutan).                                                                                                                                                        | 27 36 9     | 89 21 48                  | ...                                 | 2                          | ...    | ...                                                 |
| <u>Pk.24</u><br><u>78 E</u> ...              | Round snow peak east of great cone on Ammu Chu-Wong Chu watershed, 3½ miles W.N.W. of Fairo. Observed in 1883-84-85. (Bhutan).                                                                                                                                                                | 27 25 32    | 89 22 45                  | 15600                               | ...                        | ...    | ...                                                 |
| <u>Pk.25</u><br><u>78 E</u> ...              | Snow peak on Ammu Chu-Wong Chu watershed, about 1 mile W. of Tegong La (pass). Observed in 1883-84-85. (Bhutan).                                                                                                                                                                              | 27 13 37    | 89 16 49                  | 13250                               | ...                        | ...    | ...                                                 |
| <u>Pk.26</u><br><u>78 E</u> ...              | Snow peak on Ammu Chu-Wong Chu watershed, about 4 miles E.S.E. of the Tegong La (pass). Observed in 1883-84-85. (Bhutan).                                                                                                                                                                     | 27 12 40    | 89 20 42                  | 13600                               | ...                        | ...    | ...                                                 |
| <u>Pk.27</u><br><u>78 E</u> ...              | Prominent peak on Ammu Chu-Wong Chu watershed, 10 miles S.E. of the Tegong La (pass). Observed in 1883-84-85. (Bhutan).                                                                                                                                                                       | 27 9 7      | 89 25 13                  | 12600                               | ...                        | ...    | ...                                                 |
| <u>Pk.28</u><br><u>78 E</u> ...              | Low peak on Ammu Chu-Wong Chu watershed, 15 miles S.E. of the Tegong La (pass). Observed in 1883-84-85. (Bhutan).                                                                                                                                                                             | 27 5 20     | 89 28 58                  | 10990                               | ...                        | ...    | ...                                                 |
| <u>Pk.29</u><br><u>78 E</u> ...              | Centre broad peak on Ammu Chu-Wong Chu watershed, about 5 miles W.N.W. of Chihukha Dzong. Observed in 1883-84-85. (Bhutan).                                                                                                                                                                   | 27 2 50     | 89 29 58                  | 11190                               | ...                        | ...    | ...                                                 |
| <u>Pk.30</u><br><u>78 E</u> ...              | Is a conical peak about 3 miles S. of Baifu La (pass) and about 5 miles N. of Taku La (pass): Darbir Dzong on the Wong Chu (river) is about 10 miles to the W. Observed in 1881-82. (Bhutan).                                                                                                 | 27 16 15    | 89 42 36                  | ...                                 | 2                          | ...    | ...                                                 |
| * <u>Pk.31</u><br><u>78 E</u> ...            | On ridge near head of Takachaka Chu (stream), about 2 miles S. of Baifu La (pass) and 3 miles W. of Usaka village. Observed in 1877-78. (Bhutan).                                                                                                                                             | 27 15 0     | 89 42 23                  | 15530                               | 3                          | 2      | 0.2                                                 |

\* This point appertains to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 E, between Lats. 27° - 28° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                            | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                        |             |                           |                                     | Position                   | Height |                                                     |                              |
| <u>Pk.32</u><br>78 E                    | ... Northerly peak (Takala range) on Wong Chu-Par Chu watershed, about 6 miles E.S.E. of junction between the Ha Chu and Wong Chu (rivers). Observed in 1883-84-85. ( <i>Bhutan</i> ). | 27 8 49     | 89 36 51                  | 13940                               | ...                        | ...    | ...                                                 | ...                          |
| * <u>Pk.33</u><br>78 E                  | ... On spur between the bend of Lobi Lum stream, about 6 miles N. by W. of Thgu La (pass) and about 8 miles N.E. of Chihukha Dzong (fort). Observed in 1877-78. ( <i>Bhutan</i> ).     | 27 4 57     | 89 40 2                   | 14290                               | 3                          | 2      | 2.6                                                 | ...                          |
| * <u>Pk.34</u><br>78 E                  | ... On spur N. of Takachaka Chu (stream) near Doi La (pass), and about 2 miles S. of Kamganka village. Observed in 1877-78. ( <i>Bhutan</i> ).                                         | 27 11 35    | 89 54 51                  | 11500                               | 3                          | 1      | 2.7                                                 | ...                          |

## DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°.

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| *A No. 4 s.                             | About $\frac{1}{2}$ of a mile E. of the Cooch Behar Commissioner's Bungalow, $\frac{1}{4}$ mile S. of Dosáripára and $1\frac{1}{4}$ miles N.W. of Dafadápára; thána Cooch Behar. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 18 53.55 | 89 27 49.02               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Ataro Bánti, XVII                      | Is on the left bank of the Dharlah river, in the midst of paddy fields; thána Dinháta, district Cooch Behar.<br>The pillar is perforated and 19.83 feet in height. It has a mark in the ground floor and another at its top. The station is surrounded by scattered huts or petty hamlets of the same name; and a small mango tope close to the high road between Cooch Behar and Rangpur, under which a hüt (market) is held twice a week, is about 500 yards W. of it. The directions and estimated distances of the circumjacent places are:—the thána of Dinháta N., 4 miles; Gobrachara E., 2 miles; Munshi Hát E., 2 $\frac{1}{2}$ miles. In the visit of 1857, the top of the tower was found dilapidated and had to be renewed; in so doing the height was reduced from 20.00 to 19.83 feet. Observed in 1855-56-57. ( <i>Cooch Behar</i> ). | 26 4 50.62  | 89 28 3.10                | 133                                 | ...                        | ...    | ...                                                 | ...                          |
| *B No. 3 s.                             | About a mile N. of Cooch Behar town, $\frac{1}{4}$ of a mile S.E. of North-Bámanpára which is on the road running north-west from the town and $1\frac{1}{4}$ miles W. of Sanyásipára; thána Cooch Behar. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26 20 10.07 | 89 27 34.18               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Báishpukur                             | s. About $\frac{1}{4}$ mile from E. bank of the Tista river, about a mile N.W. of Gird. Bálapára; táluk Báishpukur, chakla Kájiplát; thána Barni and tahsil Bámandánga. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 7 36.20  | 89 6 41.63                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bálagaoon                              | s. On S. bank of the Buri Tista river; táluk Bálagaoon, chakla Kájiplát; thána Dimla, tahsil Rangpur. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 4 1.58   | 89 0 48.40                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Bara Bhitá, XVI                        | Is in a low marshy tract of country, intersected by small rivers and covered with high grass jungle, abounding in wild beasts; thána and district Cooch Behar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 19 32.02 | 89 21 26.67               | 169                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Latitude N.                                                                                                                                                                                                                                                     | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies Per mille in common sides of triangles | Reference Number of |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|----------------------------|--------|------------------------------------------------------|---------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                 |                           |                                     | Position                   | Height |                                                      |                     |
| *Bara Bhita, XVI<br>(Contd.)            | The pillar is perforated and 18'63 feet in height. It has a mark in the ground floor and another at its top. There are a few huts in the vicinity of the station, bearing the same name with it. The Mánasáí river winds to the W. of the station, and the Torsa, a branch of the Mánasáí, flows about 2 miles E. of it. Observed in 1855 and 1857. (Cooch Behar).                                                                                                                                                                                                                                                                                                                                                                                                        | 26 19 32.02                                                                                                                                                                                                                                                     | 89 21 26.67               | 169                                 | ...                        | ...    | Feet<br>...                                          | ..                  |
| *Bhában Char                            | s. About $\frac{1}{4}$ mile from the W. bank of the Tista river, about $1\frac{1}{4}$ miles N.E. of Golmunta; táluk Bhában Char, chakla Kájirhát, thána Barni, tahsíl Rangpur. Observed in 1855-56. (Rangpur).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 4 27.38                                                                                                                                                                                                                                                      | 89 4 36.60                | ...                                 | ...                        | ...    | ...                                                  | ..                  |
| *Bhitagori, XVIII                       | Stands on a mound in the midst of the ruins of the old city of Cooch Behar, by the side of the high road from the new town of Cooch Behar to Rangpur; thána Dinháta, district Cooch Behar.<br>The pillar is perforated and 15'25 feet in height. It has a mark in the ground floor and another at its top. The river Dharlah flows about 2 miles W. of the station, and the Torsa, a branch of the Mánasáí, about 1 mile to E. The thána of Dinháta is about 5 miles to S., and Dewan Hát about 2 miles to N.E. The tower was revisited in 1857 because the lower mark had been removed by the villagers; the tower itself had fallen down and was rebuilt to a height of 15'25 feet, its former height having been 15'50 feet. Observed in 1855 and 1857. (Cooch Behar). | 26 12 53.59                                                                                                                                                                                                                                                     | 89 28 56.29               | 155                                 | ...                        | ...    | ...                                                  | ..                  |
| *Bhotmáí                                | Tree Flag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | In village. Observed in 1855-56. (Rangpur).                                                                                                                                                                                                                     | 26 0 56.4                 | 89 9 45.2                           | ...                        | ...    | ...                                                  | ..                  |
| *Bisandai                               | s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | About $\frac{1}{4}$ mile S. of Musalmánpara, 2.7 miles N. of the large village of Bhotmáí and 1 mile E. of Hangsar, a village on the road from Háthi Bandar Factory to Káliganj Police Station; thána Káliganj; pargana Kákina. Observed in 1855-56. (Rangpur). | 26 3 14.45                | 89 10 12.62                         | ...                        | ...    | ...                                                  | ..                  |
| *Burir                                  | Hát Flag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | On a <i>bet</i> tree. Observed in 1855-56. (Rangpur).                                                                                                                                                                                                           | 26 7 57.8                 | 89 0 14.0                           | ...                        | ...    | ...                                                  | ..                  |
| *Chandrapur, XV                         | Is on a mound in some very low paddy lands; táluk Chandrapur, thána Phoranbári, pargana Chakli Kákina, district Rangpur.<br>The pillar is perforated and 20'17 feet in height. It has a mark in the ground floor and another at its top. The station is surrounded by small villages belonging to Chandrapur táluk; and a small river called Maldu, flows E. of the station. Observed in 1855. (Rangpur).                                                                                                                                                                                                                                                                                                                                                                 | 26 1 55.77                                                                                                                                                                                                                                                      | 89 18 45.89               | 151                                 | ...                        | ...    | ...                                                  | ..                  |
| *Chapani, X                             | Is in low paddy lands; táluk Jhuna Gábha Chapani, thána Jaldháka, pargana Kájirhát, district Rangpur.<br>The pillar is perforated and 29'75 feet in height. It has a mark in the ground floor. Chapani Hát is 2 miles W. of the station, and the Ghoramára bázár, on the right bank of the Tista river, about 5 miles S.E. Observed in 1854. (Rangpur).                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 6 43.25                                                                                                                                                                                                                                                      | 89 2 14.75                | 187                                 | ...                        | ...    | ...                                                  | ..                  |

\* These points appertain to the Assam Longitudinal Series.

DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Cooch Behar, Khagrībāri (Kuch Bihar) Temple | Spire. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 19 37.1  | 89 27 4.5                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Cooch Behar (Kuch Bihar) Palace             | S.E. corner of gate-way. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 26 19 35.2  | 89 26 27.4                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dámodarpur s.                               | On S. bank of a rivulet, about $\frac{1}{2}$ of a mile N.E. of North-Hindupāra and 2 miles N.W. of Cooch Behar town. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 26 19 37.68 | 89 24 39.97               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dhādial, XXI                                | Also known as Jhaljhal. Is on a slight swell of ground about $\frac{1}{4}$ of a mile S. of the tāluk of the village from which it takes its name; thána Tuphānganj, district Cooch Behar. The pillar is perforated and 24.83 feet in height. It has a mark on the ground floor. The directions and distances of the circumjacent villages are:— Naktigāchh S.E., 0.2 mile; Balrāmpur S.E., 5 miles. The pillar as originally built in 1857 was 24.75 feet above the mark at ground level. On the 16th of June of the same year a great portion of the pillar fell, and had to be built up again from about 4 feet above the base. Observed in 1857. ( <i>Cooch Behar</i> ). | 26 15 36.95 | 89 39 58.54               | 140                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dhubri, XXIV                                | Is on the eastern and higher of two hillocks composed entirely of rock, on the right bank of the Brahmaputra river; zamindāri of Pratāp Chandra Barua of Gauripur, thána Dhubri, district Goalpāra. The pillar is solid and isolated, and has two marks, one on its upper surface and another 4.66 feet below. The village of Dhubri is N.W. of the station, and the thána about 60 yards to N. Observed in 1857. ( <i>Goalpāra</i> ).                                                                                                                                                                                                                                      | 26 1 3.82   | 89 59 51.26               | 144                                 | ...                        | ...    | ...                                                 | ...                          |
| *Diwān Hāt Flag                              | On a <i>kadam</i> tree. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 14 5.6   | 89 29 14.2                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Dudhir Kothi s.                             | On right bank of the Torsa river, about $\frac{1}{2}$ mile N. of Bairāgipāra, $1\frac{1}{2}$ miles W. of Kānsāripāra, $1\frac{1}{2}$ miles S. of South-Hindupāra and $3\frac{1}{2}$ miles S.W. of Cooch Behar town. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                            | 26 17 24.45 | 89 23 45.93               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Ghegir Ghāt s.                              | On left bank of the Torsa river, about $\frac{1}{4}$ mile from the place where the road from Cooch Behar to the south crosses the river and $4\frac{1}{2}$ miles S.E. of Cooch Behar town. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26 15 37.38 | 89 28 53.19               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Ghoramāra Hāt Flag                          | On stump of a <i>pipal</i> tree. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 3 36.2   | 89 5 17.0                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Ghughumāri s.                               | On left bank of the Torsa river, 0.2 mile S. of the village of the same name and the same distance S.W. of Kāntālbāri. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26 17 38.23 | 89 26 20.69               | ...                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Goibári, XIX                           | More properly Bhágbandar. Is on low ground, level with the surrounding paddy fields, about 80 yards from Bhágbandar village in the zamindari of the Ráni of Berbampur, taluk Hazuri Bhágbandar, thána Phulkumár, pargana Goibári, district Rangpur.<br>The pillar is perforated and 25.32 feet in height. It has a mark on the ground floor. The azimuths and perambulated distances of the surrounding places are:—Isarbarwa (western) 197° 25', mile 0.68; Isarbarwa (eastern) 233° 46', mile 0.77; Bhágbandar (Harish Chandra Rái's) 23° 59', mile 0.74; Anguria 324° 37', miles 1.06; and Nimkursa 91° 29', mile 0.59. Observed in 1857. ( <i>Rangpur</i> ). | 26 7 5.65   | 89 38 37.34               | 133                                 | ...                        | ...    | ...                                                 | ...                          |
| *Golia Nauháti, XII                     | Is in very low paddy land, about 5 miles from the left bank of the Tista river; thána Mátbhánga, district Cooch Behar.<br>The pillar is perforated and 30.11 feet in height. It has a mark on the ground floor. The village of Háthi Bandar, where there is a bázár, is about 3 miles S.W. of the station. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                          | 26 8 26.52  | 89 10 56.02               | 177                                 | ...                        | ...    | ...                                                 | ...                          |
| *Gosáinganj Hát Flag                    | On a mango tree. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 14 14.9  | 89 30 55.0                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Haldibári s.                           | On left bank of the Tista river, about 1½ miles S. of North Haldibári village, 1½ miles S.W. of Páltia, a village on the road from Háthi Bandar Factory to Káliganj Police Station and 2½ miles N.W. of Hangsar on the same road; thána Káliganj, pargana Kákina. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                       | 26 3 38.78  | 89 7 5.58                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Háthi Bandar Factory                   | Flag on a high mast attached to the boiling room chimney of Mr. Gouldhawke's factory. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 7 11.1   | 89 8 33.6                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Háthi Bandar Hát Flag                  | On a pipal tree. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26 7 8.6    | 89 8 18.7                 | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Jagatber, XI                           | Is on elevated ground; thána, tahsil and pargana Patgrám, district Jalpaiguri.<br>The pillar is perforated and 20.03 feet in height. It has a mark on the ground floor and another at its top. There are several villages in the immediate vicinity of the station constituting the taluk of Jagatber. The large village of Patgaon is about 4 miles W. of the station, and Bairági Hát 1.19 miles E. of it. The tower built in 1854 having fallen another was raised, but of less height by 5.05 feet. Observed in 1854-55. ( <i>Jalpaiguri</i> ).                                                                                                              | 26 23 15.58 | 89 4 28.98                | 209                                 | ...                        | ...    | ...                                                 | ...                          |
| *Jigabári, XIV                          | Stands on the embankment of Kantesargarh, which encircles about 8 miles of the country; taluk Jigabári, thána Diaháta, district Cooch Behar.<br>The pillar is perforated and 14.50 feet in height. It has a mark on the ground floor and another at its top. There is a small hát just below the station, and the Mánási river, which is navigable in the rains, flows about ¼ mile W. of it, cutting through the embankment in two places. Observed in 1855 and 1857. ( <i>Cooch Behar</i> ).                                                                                                                                                                   | 26 10 42.18 | 89 19 37.64               | 173                                 | ...                        | ...    | ...                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

## DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                           |                                     | Position                   | Height |                                                     |                              |
| *Kethkibári                             | s. Near the road from Káliganj Police Station to Háthi Bandar which is about 2 miles N. from the station and $\frac{1}{4}$ mile E. of Dígir; táluk Kethkibári, chukla Kájrhat, thána Phoranbári, tahsil Bakálipára. Observed in 1855-56. ( <i>Rangpur</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 5 25.75  | 89 8 50.69                | ...                                 | ...                        | ...    | Feet                                                | ...                          |
| *Kuchlibári, IX                         | Is in an open plain; táluk Kuchlibári, thána Mekhaliganj, district Cooch Behar. The pillar is perforated and 28.03 feet in height. It has a mark on the ground floor. The large village and hát of Boarah is 1.34 miles E. of the station, and the Tista river 1 mile S. of it. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                            | 26 15 25.77 | 89 3 13.53                | 215                                 | ...                        | ...    | ...                                                 | ...                          |
| *Maynaguri Temple                       | Flag. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 17 28.6  | 89 21 57.6                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Nendarpár, XIII                        | Stands on a small piece of high land about 1 mile N. of the small river called Nendar; thána Mátahlánga, district Cooch Behar. The pillar is perforated and 29.73 feet in height. It has a mark on the ground floor and another at its top. The station is surrounded by small villages of the same name. Observed in 1855. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                     | 26 17 30.75 | 89 12 22.20               | 192                                 | ...                        | ...    | ...                                                 | ...                          |
| *Partábganj, XXIII                      | More properly Dukhi-Sukhi. Is on the S.W. extremity of the elevated table-land called Parbatjwar Forest; zamindári of Bogribári, thána Dhubri, district Goalpara. The pillar is perforated and 30.42 feet in height. It has a mark on the ground floor. The pillar as originally built was 10 feet in height. At the beginning of season 1856-57 it was raised to 20.42 feet and all observations up to the afternoon of the 21st May 1857 were taken to this height. Between the 22nd May and 2nd June a further addition of 10 feet was made, raising it to its present height. The azimuths and distances of the surrounding villages are:—Burandánga 50° 6', mile 0.69; and Pratápganj 131° 30', miles 1.02. Observed in 1857. ( <i>Goalpara</i> ). | 26 9 6.49   | 89 53 0.03                | 162                                 | ...                        | ...    | ...                                                 | ...                          |
| *Pasundánga                             | s. On bank of a small nála, 0.2 mile S.W. of Nargarthomani jot, 0.1 mile N.W. of Golok Sarkar's jot and about 5 miles S. of the new Cooch Behar town. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 26 14 23.15 | 89 27 15.13               | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| *Simluguri                              | s. On W. bank of a small nála, 0.4 mile S.W. of Hao-árgari and about 200 yards N.W. of Simluguri village. Observed in 1854-55. ( <i>Cooch Behar</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26 15 26.73 | 89 26 7.72                | ...                                 | ...                        | ...    | ...                                                 | ...                          |
| Pk. 1<br>78 F                           | ... On the Tulo La range and distant nearly 12 miles from the Tulo La (pass). Observed in 1881-82. ( <i>Bhutan</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 26 59 16    | 89 7 1                    | 8400                                | 2                          | 1      | ...                                                 | ...                          |
| † Pk. 2<br>78 F                         | ... Peak on Ammu Chu-Wong Chu watershed about 6 miles S.W. of Chhukha Dzong. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 26 59 59    | 89 32 8                   | 11210                               | 3                          | 3      | 1.2                                                 | ...                          |
| • Pk. 3<br>78 F                         | ... On ridge near Tagn La (pass), about 3 miles N. of Nemfu La (pass) and about 7 miles E. of Chhukha Dzong. Observed in 1877-78. ( <i>Bhutan</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 26 59 27    | 89 40 26                  | 13340                               | 3                          | 2      | 1.8                                                 | ...                          |

\* These points appertain to the Assam Longitudinal Series.

† This peak was fixed from stations of the Assam Longitudinal Series during the execution of the Darjeeling Revisionary Survey.

## DEGREE SHEET No. 78 F, between Lats. 26° - 27° and Longs. 89° - 90°—(Continued).

| Name or Designation of Station or Point | Description                                                                                                                                                                                                                                          | Latitude N. | Longitude E. of Greenwich | Height in feet above mean sea level | NUMBER OF RAYS DETERMINING |        | Discrepancies per mile in common sides of triangles | Reference Number of Triangle |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|-------------------------------------|----------------------------|--------|-----------------------------------------------------|------------------------------|
|                                         |                                                                                                                                                                                                                                                      |             |                           |                                     | Position                   | Height |                                                     |                              |
| † $\frac{\text{Pk. 4}}{78 \text{ F}}$   | ... Peak. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                                                 | 26 56 19    | 89 44 35                  | 9900                                | 2                          | 2      | ...                                                 | ...                          |
| † $\frac{\text{Pk. 5}}{78 \text{ F}}$   | ... Near range. On Ammu Chu-Wong Chu watershed, about 6 miles N. of Baxa Duár. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                            | 26 50 29    | 89 32 57                  | 7160                                | 3                          | 3      | 4'3                                                 | ...                          |
| † $\frac{\text{Pk. 6}}{78 \text{ F}}$   | ... Same range as $\frac{\text{Pk. 5}}{78 \text{ F}}$ . On Ammu Chu-Wong Chu watershed above (E. of) Sachaphu village, on boundary between Jalpaiguri and Bhutan, 6 miles E.S.E. of Baxa Duár. Observed in 1883-84-85. ( <i>Jalpaiguri-Bhutan</i> ). | 26 44 9     | 89 40 14                  | 5220                                | 2                          | 2      | ...                                                 | ...                          |
| † $\frac{\text{Pk. 7}}{78 \text{ F}}$   | ... Peak on Wong Chu-Par Chu watershed. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                   | 26 59 34    | 89 46 57                  | 10340                               | 3                          | 3      | 0'5                                                 | ...                          |
| † $\frac{\text{Pk. 8}}{78 \text{ F}}$   | ... Peak on Wong Chu-Par Chu watershed. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                   | 26 56 16    | 89 48 43                  | 9100                                | 3                          | 3      | 1'7                                                 | ...                          |
| † $\frac{\text{Pk. 9}}{78 \text{ F}}$   | ... Conical peak on Wong Chu-Par Chu watershed, about 5 miles S.W. of Taka Dzong. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                         | 26 56 6     | 89 54 27                  | 7600                                | 3                          | 2      | 1'8                                                 | ...                          |
| † $\frac{\text{Pk. 10}}{78 \text{ F}}$  | ... Peak on Wong Chu-Par Chu watershed. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                                                                                   | 26 53 52    | 89 49 29                  | 8000                                | 3                          | 3      | 4'2                                                 | ...                          |
| † $\frac{\text{Pk. 11}}{78 \text{ F}}$  | ... Peak on Wong Chu-Par Chu watershed, about 8 miles N.E. of junction of Uma stream and Wong Chu river. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                  | 26 48 31    | 89 48 57                  | 6740                                | 3                          | 3      | 5'3                                                 | ...                          |
| † $\frac{\text{Pk. 12}}{78 \text{ F}}$  | ... Peak on Wong Chu-Par Chu watershed, about 5 miles E.N.E. of junction of Uma stream and Wong Chu river. Observed in 1883-84-85. ( <i>Bhutan</i> ).                                                                                                | 26 46 42    | 89 50 19                  | 6090                                | 3                          | 3      | 1'6                                                 | ...                          |

† These peaks were fixed from stations of the Assam Longitudinal Series during the execution of the Darjeeling Revisionary Survey.

H. H. TURNER, CAPT., R.E.

October, 1909.



## NORTH-EAST LONGITUDINAL SERIES.

## INDEX.

The following is an index to the names of stations and points, of which the co-ordinates and descriptions are given in the Co-ordinate List. The references are to pages and Degree Sheets of this volume. As the designations of peaks will show the Degree Sheets in which they are to be looked for, only those with well-known names have been included in the index. A list of Degree Sheets will be found at the end of this Index with their page references.

|                     | Page        | Degree Sheet |      | Page                       | Degree Sheet |     | Page | Degree Sheet   |            |     |      |
|---------------------|-------------|--------------|------|----------------------------|--------------|-----|------|----------------|------------|-----|------|
| <b>A</b>            |             |              |      |                            |              |     |      |                |            |     |      |
| A                   | No. 1 s.    | 481          | 78 B | Angaila                    | No. 1 h.s.   | 282 | 53 J | Bághdogra      | s.         | 481 | 78 B |
| A                   | No. 2 s.    | 481          | 78 B | Angaila                    | No. 2 h.s.   | 282 | 53 J | Baghora        | Hill Staff | 235 | 53 F |
| A                   | No. 3 s.    | 481          | 78 B | Annfield                   | Church       | 235 | 53 F | Bagnala        | h.s.       | 308 | 53 K |
| A                   | No. 4 s.    | 503          | 78 F | Arcadia House              | s.           | 235 | 53 F | Bágwála        | s.         | 235 | 53 F |
| Abdullápur          | s.          | 234          | 53 F | Argam                      | h.s.         | 323 | 53 N | Bagwára, VII   |            | 374 | 53 P |
| Achalpur, XVI       |             | 450          | 72 J | Arkholi                    | No. 1 h.s.   | 349 | 53 O | Bahádura       | s.         | 481 | 78 B |
| Adála               | h.s.        | 282          | 53 J | Arkholi                    | No. 2 h.s.   | 349 | 53 O | Bahak          | h.s.       | 283 | 53 J |
| Adálákánta          | h.s.        | 282          | 53 J | Arnakal                    | h.s.         | 282 | 53 J | Bahensia       | Hill Mark  | 235 | 53 F |
| Adgaon              | h.s.        | 348          | 53 O | Ashrafpur, XXXVIII         |              | 420 | 63 E | Bahera         | h.s.       | 283 | 53 J |
| Aiartoli            | No. 1 h.s.  | 348          | 53 O | Asogapur, XXIX             |              | 418 | 63 A | Baheri, IX     |            | 374 | 53 P |
| Aiartoli            | No. 2 h.s.  | 348          | 53 O | Asu, XXIV                  |              | 418 | 63 A | Baibwála Khera | s.         | 236 | 53 F |
| Aiartoli            | Tea Factory | 348          | 53 O | Asurchula                  | Temple       | 399 | 62 C | Baidhár        | h.s.       | 377 | 62 B |
| Airah               | h.s.        | 323          | 53 N | Atária, XI                 |              | 374 | 53 P | Baigani        | Building   | 236 | 53 F |
| Airideo             | h.s.        | 348          | 53 O | Ataro Báuki, XVII          |              | 503 | 78 F | Bajnáth        | h.s.       | 350 | 53 O |
| Akali               | h.s.        | 308          | 53 K | Athánsi                    | h.s.         | 377 | 62 B | Baingwári      | h.s.       | 283 | 53 J |
| Akbarpur, XLIV      |             | 308          | 53 K | Atkonawa, XXXVI            |              | 420 | 63 E | Bairát Fort    | h.s.       | 236 | 53 F |
| Akwa                | h.s.        | 348          | 53 O | <b>B</b>                   |              |     |      | Báishpukur     | s.         | 503 | 78 F |
| Alhánpur            | s.          | 234          | 53 F | B                          | No. 1 s.     | 483 | 78 B | Baisi, CIV     |            | 450 | 72 J |
| Aliganj             | Building    | 374          | 53 P | B                          | No. 2 s.     | 483 | 78 B | Baitárt        | h.s.       | 267 | 53 I |
| Alimajari           | h.s.        | 323          | 53 N | B                          | No. 3 s.     | 503 | 78 F | Baitlani Peak  | No. 1      | 399 | 62 C |
| Almora, Beckett's   |             |              |      | Badanbhura                 | h.s.         | 349 | 53 O | Baitlani Peak  | No. 2      | 399 | 62 C |
| Almora              | Staff h.s.  | 348          | 53 O | Badantoli                  | h.s.         | 349 | 53 O | Bajamara       | h.s.       | 236 | 53 F |
| Almora              | Church      | 348          | 53 O | Bádarjimi                  | Imámbára     | 437 | 72 B | Bájámára       | h.s.       | 236 | 53 F |
| Almora, Gorkhigarhi | h.s.        | 348          | 53 O | Badhangarhi                | h.s.         | 323 | 53 N | Bajoli         | s.         | 236 | 53 F |
| Almora              | h.s.        | 349          | 53 O | Badhra                     | h.s.         | 323 | 53 N | Bájra, LXVIII  |            | 433 | 72 A |
| Almora, Monument    |             |              |      | Badráj Devi                | h.s.         | 235 | 53 F | Bákáli         | Hát Flag   | 481 | 78 B |
| Almora              | Staff h.s.  | 349          | 53 O | Badráj Devi Hill Temple    |              | 235 | 53 F | Bakwa, LXIX    |            | 433 | 72 A |
| Almora              | Prison      | 349          | 53 O | Badráj Hill Mark           |              | 235 | 53 F | Bálágaon       | s.         | 503 | 78 F |
| Alna                | h.s.        | 349          | 53 O | Badráj Masras              | h.s.         | 283 | 53 J | Baláu          | h.s.       | 324 | 53 N |
| Amarkhána           | s.          | 480          | 78 B | Badráj Masras Temple       | s.           | 283 | 53 J | Bálapára, VII  |            | 482 | 78 B |
| Ambári              | Bungalow    | 234          | 53 F | Badram                     | House        | 437 | 72 B | Balchandánda   | h.s.       | 399 | 62 C |
| Ambári              | h.s.        | 234          | 53 F | Badrinath (Pl. 27<br>53 N) |              | 342 | 53 N | Balkot         | h.s.       | 350 | 53 O |
| Ambwála             | h.s.        | 308          | 53 K | Badrináth                  | Temple       | 323 | 53 N | Balsi          | No. 1 h.s. | 377 | 62 B |
| Ameli               | No. 1 h.s.  | 282          | 53 J | Badrol Pagoda              | s.           | 225 | 53 E | Balsi          | No. 2 h.s. | 378 | 62 B |
| Ameli               | No. 2 h.s.  | 282          | 53 J | Bágápár, LXI               |              | 425 | 63 M | Balua, LXVI    |            | 433 | 72 A |
| Amoli, XXXIII       |             | 419          | 63 E | Bagarwála                  | Hill Fort    | 235 | 53 F | Balua          | h.s.       | 433 | 72 A |
| Amsot (XI)          |             | 235          | 53 F | Bagdogra                   | s.           | 481 | 78 B | Bámania        | s.         | 482 | 78 B |
| Amwa, LXXXIII       |             | 443          | 72 F | Bágesar                    | h.s.         | 349 | 53 O | Bámáni Bágh    | Mark       | 412 | 62 D |
| Ánádab              | h.s.        | 323          | 53 N | Baghai                     | s.           | 437 | 72 B | Bambhil        | h.s.       | 399 | 62 C |
| Anárkali, XXXVII    |             | 420          | 63 E | Bághdogra                  | Hát Flag     | 481 | 78 B | Bambura        | Hill       | 225 | 53 E |
|                     |             |              |      |                            |              |     |      | Bamlás         | No. 1 h.s. | 324 | 53 N |
|                     |             |              |      |                            |              |     |      | Bamlás         | No. 2 h.s. | 378 | 62 B |

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| Bamlás No. 3 h.s.          | 378  | 62 B         | Baurkháta s.             | 351  | 53 O         | Biloti h.s.                | 352  | 53 O         |
| Bamlás No. 4 h.s.          | 378  | 62 B         | Bawangarhi s.            | 425  | 63 M         | Binak h.s.                 | 309  | 53 K         |
| Bamlás No. 5 h.s.          | 378  | 62 B         | Bázkúli h.s.             | 325  | 53 N         | Binek h.s.                 | 352  | 53 O         |
| Bámpa h.s.                 | 324  | 53 N         | Behat Building           | 237  | 53 F         | Binharwa, XXIX             | 438  | 72 B         |
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| Banali h.s.                | 283  | 53 J         | Belakuba, III            | 482  | 78 B         | Binsar h.s.                | 352  | 53 O         |
| Banarsia, LX               | 425  | 63 M         | Belkadáuda h.s.          | 284  | 53 J         | Birási House               | 284  | 53 J         |
| Banása Tower               | 236  | 53 F         | Belpáni h.s.             | 351  | 53 O         | Bírbhaddar s.              | 284  | 53 J         |
| Banawa h.s.                | 237  | 53 F         | Beughári No. 1 s.        | 483  | 78 B         | Birchua h.s.               | 352  | 53 O         |
| Banbasa Ghat Mark          | 412  | 62 D         | Benghári No. 2 s.        | 483  | 78 B         | Birga h.s.                 | 238  | 53 F         |
| Bandauí h.s.               | 350  | 53 O         | Bettiah s.               | 437  | 72 B         | Birgátibba Temple          | 238  | 53 F         |
| Bandarjula, CXVIII         | 454  | 72 N         | Bettiah Chapel           | 437  | 72 B         | Birhoni Hill Staff         | 284  | 53 J         |
| Bandarjuri No. 1 h.s.      | 350  | 53 O         | Bettiah Palace           | 437  | 72 B         | Birjenganj h.s.            | 379  | 62 B         |
| Bandarjuri No. 2 h.s.      | 350  | 53 O         | Bettiah Rája's House     | 437  | 72 B         | Birond, VIII               | 353  | 53 O         |
| Baudarpunch (Pk.69 / 53 I) | 280  | 53 I         | Bettiah Temple No. 1     | 437  | 72 B         | Birond h.s.                | 353  | 53 O         |
| Bandartak h.s.             | 482  | 78 B         | Bettiah Temple No. 2     | 437  | 72 B         | Birpur Temple              | 284  | 53 J         |
| Banera s.                  | 399  | 62 C         | Bettiah Temple No. 3     | 437  | 72 B         | Birsini h.s.               | 238  | 53 F         |
| Bangarni h.s.              | 283  | 53 J         | Bettiah Temple No. 4     | 437  | 72 B         | Bisandai s.                | 504  | 78 F         |
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| Bangra, LIII               | 425  | 63 M         | Bhabalta h.s.            | 399  | 62 C         | Biskohar Temple            | 422  | 63 I         |
| Bánga House                | 437  | 72 B         | Bhábau Char s.           | 504  | 78 F         | Bisone h.s.                | 284  | 53 J         |
| Banidhura h.s.             | 324  | 53 N         | Bhadargarhi h.s.         | 351  | 53 O         | Bisonta s.                 | 353  | 53 O         |
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| Banjkot h.s.               | 324  | 53 N         | Bhag Punas Mosque No. 1  | 454  | 72 N         | Bitáha s.                  | 438  | 72 B         |
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| Barahi Boundary Pillar     | 443  | 72 F         | Bhandrauli h.s.          | 237  | 53 F         | Bonetidevi h.s.            | 239  | 53 F         |
| Barahi Temple              | 443  | 72 F         | Bhania h.s.              | 379  | 62 B         | Borágári Hát Flag          | 484  | 78 B         |
| Barar h.s.                 | 433  | 72 A         | Bhaon Temple             | 351  | 53 O         | Brahmpura Bastion          | 239  | 53 F         |
| Bara Reotha Temple         | 482  | 78 B         | Bhapila Temple           | 400  | 62 C         | Bujantoni h.s.             | 325  | 53 N         |
| Barauli (Baraoli), XXV     | 418  | 63 A         | Bhariáni s.              | 425  | 63 M         | Bujgala h.s.               | 325  | 53 N         |
| Barbalek h.s.              | 379  | 62 B         | Bharmi, LVII             | 425  | 63 M         | Bukréáh h.s.               | 285  | 53 J         |
| Barailly House             | 374  | 53 P         | Bharsand Boundary Pillar | 443  | 72 F         | Bulákipur, LXXXIV          | 444  | 72 F         |
| Bareilly Kachahri          | 374  | 53 P         | Bharti h.s.              | 267  | 53 I         | Bulandpur, XXXI            | 418  | 63 A         |
| Barhámтал s.               | 482  | 78 B         | Bhárárbári s.            | 483  | 78 B         | Buláwála h.s.              | 239  | 53 F         |
| Barharwa Temple            | 437  | 72 B         | Bhela, XCVII             | 450  | 72 J         | Buldanga h.s.              | 379  | 62 B         |
| Barhata, CI                | 450  | 72 J         | Bhelái s.                | 483  | 78 B         | Bulek h.s.                 | 353  | 53 O         |
| Barjar h.s.                | 350  | 53 O         | Bhia Boundary Pillar     | 443  | 72 F         | Bunga h.s.                 | 325  | 53 N         |
| Baríkanda h.s.             | 225  | 53 E         | Bhikanpur Sugar Factory  | 443  | 72 F         | Búria, Goláb Singh's House | 239  | 53 F         |
| Barikothirau h.s.          | 308  | 53 K         | Bhíngora h.s.            | 308  | 53 K         | Búria, Megh Singh's House  | 239  | 53 F         |
| Barkala h.s.               | 237  | 53 F         | Bhíngora s.              | 309  | 53 K         | Burir Hát Flag             | 504  | 78 F         |
| Barmdeo s.                 | 399  | 62 C         | Bhím Tál h.s.            | 352  | 53 O         | Búse h.s.                  | 285  | 53 J         |
| Báro h.s.                  | 237  | 53 F         | Bhinga Fort              | 420  | 63 E         |                            |      |              |
| Barpatta h.s.              | 324  | 53 N         | Bhinga House             | 420  | 63 E         |                            |      |              |
| Barsam, XCV                | 450  | 72 J         | Bhír h.s.                | 483  | 78 B         |                            |      |              |
| Barsingdevi h.s.           | 237  | 53 F         | Bhítagori, XVIII         | 504  | 78 F         | Chachaila h.s.             | 379  | 62 B         |
| Barsoti h.s.               | 308  | 53 K         | Bhogpur s.               | 237  | 53 F         | Chachkanda Temple          | 285  | 53 J         |
| Baruamathi Hill Tree       | 425  | 63 M         | Bhogpur Mark             | 284  | 53 J         | Chaglot h.s.               | 225  | 53 E         |
| Barwadhang h.s.            | 351  | 53 O         | Bhosle h.s.              | 225  | 53 E         | Chaisele h.s.              | 225  | 53 E         |
| Barwi Boundary Pillar      | 443  | 72 F         | Bhotmári Tree Flag       | 504  | 78 F         | Chakráta Military Hospital | 239  | 53 F         |
| Baryárpur Gola             | 437  | 72 B         | Bhowara h.s.             | 379  | 62 B         | Chakráta Post Office       | 239  | 53 F         |
| Básadela (Bánsidila), XLV  | 422  | 63 I         | Bhungani s.              | 238  | 53 F         | Chakung h.s.               | 457  | 78 A         |
| Basantpur, XV              | 443  | 72 F         | Bialakhan h.s.           | 352  | 53 O         | Chaldu No. 1 h.s.          | 379  | 62 B         |
| Bashikanág h.s.            | 351  | 53 O         | Biarwa, LXXV             | 437  | 72 B         | Chaldu No. 2 h.s.          | 380  | 62 B         |
| Batasi Hát s.              | 482  | 78 B         | Bigoia, LXXXVII          | 437  | 72 B         | Chalmalia Temple           | 400  | 62 C         |
| Bathuaha Boundary Pillar   | 443  | 72 F         | Bijánagar h.s.           | 309  | 53 K         | Chalua, XXXII              | 420  | 63 E         |
| Baturbári Mosque           | 454  | 72 N         | Bijaon h.s.              | 352  | 53 O         | Chamaigaon No. 1 h.s.      | 458  | 78 A         |
| Batwaia, LXXVIII           | 437  | 72 B         | Bijli h.s.               | 225  | 53 E         | Chamaigaon No. 2 h.s.      | 484  | 78 B         |
| Baugítách h.s.             | 225  | 53 E         | Bijnor s.                | 309  | 53 K         | Chamlang (Pk.42 / 72 I)    | 449  | 72 I         |
| Baura Hill Staff           | 284  | 53 J         | Bikna Thori s.           | 433  | 72 A         | Chanambaniáli No. 1 h.s.   | 380  | 62 B         |
|                            |      |              | Biláspur s.              | 238  | 53 F         | Chanambaniáli No. 2 h.s.   | 380  | 62 B         |



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| <b>Dehra Dún, Standard</b>  |            |              | <b>Dilúng</b>        | Hill Staff                     | 223         | 52 P         | <b>Gadura</b>      | h.s.                      | 357          | 53 O |      |
| Bench-mark No. 2            | 287        | 53 J         | <b>Dilwári</b>       | Mound                          | 374         | 53 P         | <b>Gadwalbonga</b> | h.s.                      | 357          | 53 O |      |
| <b>Delhra Dúu, Surveyor</b> |            |              | <b>Dimla Factory</b> | No. 1                          | 485         | 78 B         | <b>Gagar</b>       | h.s.                      | 357          | 53 O |      |
| General's old Office        | 287        | 53 J         | <b>Dimla Factory</b> | No. 2                          | 485         | 78 B         | <b>Gagla</b>       | Hill Staff                | 382          | 62 B |      |
| <b>Dehra Dún</b>            | Temple     | 287          | 53 J                 | <b>Dimla</b>                   | House       | 485          | 78 B               | <b>Gaia</b>               | h.s.         | 357  | 53 O |
| <b>Dekáha</b>               | Temple     | 438          | 72 B                 | <b>Dimla</b>                   | s.          | 485          | 78 B               | <b>Gaibantni</b>          | h.s.         | 357  | 53 O |
| <b>Deoban</b>               | h.s.       | 245          | 53 F                 | <b>Dimla</b>                   | Thána Flag  | 485          | 78 B               | <b>Gaibua-ka-tait</b>     | h.s.         | 357  | 53 O |
| <b>Deobarna</b>             | h.s.       | 327          | 53 N                 | <b>Dipáhi, LXXX</b>            |             | 444          | 72 F               | <b>Gajbára</b>            | No. 1 h.s.   | 311  | 53 K |
| <b>Deochili</b>             | Peak       | 433          | 72 A                 | <b>Dipnagar, CXIV</b>          |             | 455          | 72 N               | <b>Gajbára</b>            | No. 2 h.s.   | 311  | 53 K |
| <b>Deodekni</b>             | h.s.       | 327          | 53 N                 | <b>Diúr</b>                    | Tomb        | 438          | 72 B               | <b>Gajnera, XXX</b>       |              | 374  | 53 P |
| <b>Deokánk</b>              | s.         | 355          | 53 O                 | <b>Diwanganj, CII</b>          |             | 451          | 72 J               | <b>Ganair</b>             | h.s.         | 312  | 53 K |
| <b>Deolakot</b>             | h.s.       | 381          | 62 B                 | <b>Díwán Hát</b>               | Flag        | 595          | 78 F               | <b>Gandkhola</b>          | h.s.         | 289  | 53 J |
| <b>Deolo</b>                | h.s.       | 460          | 78 A                 | <b>Dobadhár</b>                | h.s.        | 382          | 62 B               | <b>Ganeshganga</b>        | h.s.         | 328  | 53 N |
| <b>Deopathar</b>            | h.s.       | 355          | 53 O                 | <b>Dobri</b>                   | House       | 246          | 53 F               | <b>Ganeshi Jot</b>        | Temple       | 420  | 63 E |
| <b>Deoprayág</b>            | h.s.       | 288          | 53 J                 | <b>Dogari</b>                  | s.          | 356          | 53 O               | <b>Ganeshpur</b>          | s.           | 420  | 63 E |
| <b>Deothal</b>              | h.s.       | 355          | 53 O                 | <b>Doiwála, LV</b>             |             | 288          | 53 J               | <b>Ganespur, XLVIII</b>   |              | 423  | 63 I |
| <b>Deotharim</b>            | h.s.       | 460          | 78 A                 | <b>Dolu</b>                    | h.s.        | 328          | 53 N               | <b>Gangolihát Dák</b>     |              |      |      |
| <b>Desu</b>                 | h.s.       | 226          | 53 E                 | <b>Domath</b>                  | Imámbara    | 438          | 72 B               | Bungalow                  | 401          | 62 C |      |
| <b>Deuli</b>                | h.s.       | 400          | 62 C                 | <b>Domban</b>                  | h.s.        | 328          | 53 N               | <b>Gangotri (Pk.11)</b>   |              | 306  | 53 J |
| <b>Devidat</b>              | h.s.       | 288          | 53 J                 | <b>Domer</b>                   | Hát Flag    | 485          | 78 B               |                           |              |      |      |
| <b>Devidhurra</b>           | Temple     | 355          | 53 O                 | <b>Donao, XII</b>              |             | 374          | 53 P               | <b>Garanáth</b>           | h.s.         | 357  | 53 O |
| <b>Devi-ka-bhawan</b>       | h.s.       | 356          | 53 O                 | <b>Dougu</b>                   | No. 1 h.s.  | 376          | 62 A               | <b>Garaon</b>             | h.s.         | 401  | 62 C |
| <b>Devi Patan</b>           | Temple     | 422          | 63 I                 | <b>Dougu</b>                   | No. 2 h.s.  | 376          | 62 A               | <b>Garaphor</b>           | h.s.         | 401  | 62 C |
| <b>Devitank</b>             | h.s.       | 310          | 53 K                 | <b>Dorbun</b>                  | h.s.        | 311          | 53 K               | <b>Garapu</b>             | s.           | 357  | 53 O |
| <b>Dhadial, XXI</b>         |            | 505          | 78 F                 | <b>Doti</b>                    | h.s.        | 382          | 62 B               | <b>Garaulia</b>           | Temple       | 439  | 72 B |
| <b>Dhaj</b>                 | h.s.       | 401          | 62 C                 | <b>Dow Hill</b>                | h.s.        | 485          | 78 B               | <b>Gargajni</b>           | h.s.         | 216  | 53 E |
| <b>Dhakráni</b>             | s.         | 245          | 53 F                 | <b>Dudatoli</b>                | h.s.        | 328          | 53 N               | <b>Garh</b>               | h.s.         | 289  | 53 J |
| <b>Dhálipur</b>             | s.         | 245          | 53 F                 | <b>Dúdgarh</b>                 | Mosque      | 246          | 53 F               | <b>Garh</b>               | Hill Staff   | 226  | 53 E |
| <b>Dhámán Nág</b>           | h.s.       | 226          | 53 E                 | <b>Dudhir Kothi</b>            | s.          | 505          | 78 F               | <b>Garhi</b>              | Temple       | 289  | 53 J |
| <b>Dhamigaon</b>            | h.s.       | 401          | 62 C                 | <b>Dumarhar</b>                | s.          | 438          | 72 B               | <b>Garidhura</b>          | h.s.         | 486  | 78 B |
| <b>Dhangmalkund</b>         | h.s.       | 327          | 53 N                 | <b>Dumaria</b>                 | Temple      | 438          | 72 B               | <b>Garril</b>             | h.s.         | 358  | 53 O |
| <b>Dhanik</b>               | h.s.       | 356          | 53 O                 | <b>Dumchákar</b>               | h.s.        | 208          | 53 I               | <b>Gatgar</b>             | h.s.         | 358  | 53 O |
| <b>Dhano</b>                | h.s.       | 288          | 53 J                 | <b>Dumdangi, CXXIII</b>        |             | 485          | 78 B               | <b>Gatiár</b>             | h.s.         | 226  | 53 E |
| <b>Dhánsi</b>               | h.s.       | 381          | 62 B                 | <b>Dúmjhara</b>                | s.          | 246          | 53 F               | <b>Gaura</b>              | s.           | 216  | 53 E |
| <b>Dhapiadhura</b>          | h.s.       | 401          | 62 C                 | <b>Dunagiri (Pk.108)</b>       |             | 346          | 53 N               | <b>Gaurikund</b>          | Hill Staff   | 328  | 53 N |
| <b>Dhárakot</b>             | s.         | 245          | 53 F                 |                                |             |              |                    | <b>Gaurisankar (Pk.6)</b> |              | 447  | 72 I |
| <b>Dharampál</b>            | s.         | 485          | 78 B                 | <b>Dungri</b>                  | h.s.        | 246          | 53 F               |                           |              |      |      |
| <b>Dharampur, V</b>         |            | 485          | 78 B                 | <b>Durbinjhora</b>             | h.s.        | 486          | 78 B               | <b>Gázdipur</b>           | s.           | 247  | 53 F |
| <b>Dharamsingua, LVI</b>    |            | 425          | 63 M                 | <b>Durga</b>                   | Temple      | 356          | 53 O               | <b>Genbdat</b>            | h.s.         | 486  | 78 B |
| <b>Dharau</b>               | No. 1 h.s. | 310          | 53 K                 | <b>Duría</b>                   | h.s.        | 246          | 53 F               | <b>Ghajar</b>             | s.           | 358  | 53 O |
| <b>Dharau</b>               | No. 2 h.s. | 311          | 53 K                 | <b>Duteria</b>                 | No. 1 h.s.  | 486          | 78 B               | <b>Ghamain</b>            | h.s.         | 227  | 53 E |
| <b>Dhargaoon</b>            | h.s.       | 311          | 53 K                 | <b>Duteria</b>                 | No. 2 h.s.  | 486          | 78 B               | <b>Ghanádhura</b>         | h.s.         | 402  | 62 C |
| <b>Dhari</b>                | h.s.       | 288          | 53 J                 | <b>Dwara</b>                   | h.s.        | 289          | 53 J               | <b>Ghandál</b>            | Tea Factory  | 318  | 53 N |
| <b>Dharij</b>               | h.s.       | 401          | 62 C                 |                                |             |              |                    | <b>Ghandiál, LVI</b>      |              | 289  | 53 J |
| <b>Dhaulagiri (Pk.0)</b>    |            | 417          | 62 P                 | <b>E</b>                       |             |              |                    | <b>Ghandiál</b>           | h.s.         | 289  | 53 J |
| <b>Dhaur</b>                | h.s.       | 226          | 53 E                 | <b>Egusárang</b>               | h.s.        | 268          | 53 I               | <b>Gharbaria, LVIII</b>   |              | 425  | 63 M |
| <b>Dhaurahra, XXX</b>       |            | 420          | 63 E                 | <b>Elpadhura</b>               | h.s.        | 382          | 62 B               | <b>Ghátámémín</b>         | h.s.         | 382  | 62 B |
| <b>Dhela, V</b>             |            | 311          | 53 K                 | <b>Endong</b>                  | h.s.        | 461          | 78 A               | <b>Ghaus, LIV</b>         |              | 425  | 63 M |
| <b>Dhan</b>                 | h.s.       | 401          | 62 C                 |                                |             |              |                    | <b>Ghegir Ghát</b>        | s.           | 505  | 78 F |
| <b>Dhiola</b>               | h.s.       | 327          | 53 N                 | <b>Fadung</b>                  | h.s.        | 461          | 78 A               | <b>Ghíba, CLX</b>         |              | 455  | 72 N |
| <b>Dhobijhora</b>           | h.s.       | 485          | 78 B                 | <b>Farádpur</b>                | Thána       | 374          | 53 P               | <b>Ghormara</b>           | h.s.         | 486  | 78 B |
| <b>Dhobúwála</b>            | h.s.       | 245          | 53 F                 | <b>Fatchganj, XXXI</b>         |             | 374          | 53 P               | <b>Ghoramára Hát</b>      | Flag         | 505  | 78 F |
| <b>Dhoría</b>               | h.s.       | 246          | 53 F                 | <b>Fatehnagar (Fatenagar),</b> |             |              |                    | <b>Ghoramara Nadi</b>     | s.           | 487  | 78 B |
| <b>Dhuan</b>                | h.s.       | 327          | 53 N                 | <b>XXVII</b>                   |             | 418          | 63 A               | <b>Ghoren</b>             | h.s.         | 290  | 53 J |
| <b>Dhubri, XXIV</b>         |            | 505          | 78 F                 | <b>Fathigarh</b>               | Bastion     | 246          | 53 F               | <b>Ghosnuth, XXIV</b>     |              | 444  | 72 F |
| <b>Dhulia</b>               | s.         | 356          | 53 O                 | <b>Fieungong</b>               | h.s.        | 461          | 78 A               | <b>Ghuddhar</b>           | h.s.         | 328  | 53 N |
| <b>Dhulwa</b>               | h.s.       | 356          | 53 O                 |                                |             |              |                    | <b>Ghughumári</b>         | s.           | 505  | 78 F |
| <b>Dhúmnagar</b>            | Karbala    | 438          | 72 B                 | <b>G</b>                       |             |              |                    | <b>Ghugtigarh</b>         | h.s.         | 312  | 53 K |
| <b>Dhundhár</b>             | h.s.       | 382          | 62 B                 | <b>Gadára</b>                  | Temple      | 246          | 53 F               | <b>Ghungti, IV</b>        |              | 312  | 53 K |
| <b>Dhunga</b>               | h.s.       | 311          | 53 K                 | <b>Gadauli</b>                 | s.          | 246          | 53 F               | <b>Ghuksa</b>             | h.s.         | 358  | 53 O |
| <b>Dhungalgarh</b>          | h.s.       | 356          | 53 O                 | <b>Gadauri</b>                 | s.          | 247          | 53 F               | <b>Ghuusi</b>             | Masjid       | 418  | 63 A |
| <b>Dhuru</b>                | h.s.       | 288          | 53 J                 | <b>Gadoli</b>                  | No. 1 h.s.  | 289          | 53 J               | <b>Giaogong</b>           | Pass         | 457  | 77 D |
| <b>Diba-ka-chir</b>         | h.s.       | 356          | 53 O                 | <b>Gadoli</b>                  | No. 2 h.s.  | 289          | 53 J               | <b>Gidaha, XXV</b>        |              | 439  | 72 B |
| <b>Dikhet</b>               | h.s.       | 311          | 53 K                 | <b>Gadoli</b>                  | Tea Factory | 289          | 53 J               | <b>Gíohútibba</b>         | h.s.         | 290  | 53 J |
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| Girgaon                       | h.s.       | 382          | 62 B | Hánchati              | h.s.               | 402 | 62 C | Illam                     | House       | 455 | 72 N |
| Girijwála, III                |            | 312          | 53 K | Hángo                 | Hill Staff         | 268 | 53 I | Imlia, XXXVI              |             | 421 | 63 E |
| Gobrapáta, I                  |            | 487          | 78 B | Hángurang             | s.                 | 268 | 53 I | Iriarikot                 | h.s.        | 402 | 62 C |
| Godáhwáli                     | h.s.       | 312          | 53 K | Hania-ka-dhura        | h.s.               | 402 | 62 C | Iriria                    | Hill Staff  | 223 | 52 P |
| Godal                         | h.s.       | 247          | 53 F | Hánle                 | s.                 | 223 | 52 P | Islámpur                  | s.          | 249 | 53 F |
| Godi                          | h.s.       | 358          | 53 O | Harap                 | h.s.               | 329 | 53 N | Islámpur House (lamp)     |             | 374 | 53 P |
| Goibári, XIX                  |            | 506          | 78 F | Harchan               | h.s.               | 360 | 53 O | Isrápur, XLI              |             | 421 | 63 E |
| Goiti                         | House      | 439          | 72 B | Harchanddeo           | h.s.               | 402 | 62 C | <b>J</b>                  |             |     |      |
| Golia Naubáti, XII            |            | 506          | 78 F | Hardwár               | House              | 313 | 53 K | Jadhang                   | h.s.        | 320 | 53 M |
| Golna                         | s.         | 487          | 78 B | Hardwár Peak          | h.s.               | 313 | 53 K | Jagatber, XI              |             | 506 | 78 F |
| Golpha                        | h.s.       | 383          | 62 B | Harha East            | h.s.               | 433 | 72 A | Jagatpur                  | Hill Staff  | 227 | 53 E |
| Golpha                        | s.         | 383          | 62 B | Harha West            | h.s.               | 434 | 72 A | Jagera                    | h.s.        | 360 | 53 O |
| Gompachin No. 1               | h.s.       | 383          | 62 B | Haripur               | Hill Fort          | 248 | 53 F | Jagesar                   | h.s.        | 360 | 53 O |
| Gompachin No. 2               | h.s.       | 383          | 62 B | Harnáhi, LXXXVI       |                    | 439 | 72 B | Jagesar Temple (old)      |             | 360 | 53 O |
| Gongra                        | h.s.       | 268          | 53 I | Harpálsid, XLVIII     |                    | 313 | 53 K | Jahandi Mosque            |             | 423 | 63 I |
| Gongra                        | Hill Staff | 268          | 53 I | Harpur, XVIII         |                    | 451 | 72 J | Jahandau                  | h.s.        | 249 | 53 F |
| Gopáلكot                      | h.s.       | 358          | 53 O | Harpur, XXII          |                    | 445 | 72 F | Jaitok                    | h.s.        | 249 | 53 F |
| Gopáلكur Boundary Pillar      |            | 444          | 72 F | Harpur, C             |                    | 451 | 72 J | Jakari                    | h.s.        | 360 | 53 O |
| Goraklnáth                    | h.s.       | 402          | 62 C | Hartar                | Hill Temple        | 248 | 53 F | Jako                      | h.s.        | 227 | 53 E |
| Gorakhpur N. Dome             | Spire      | 290          | 53 J | Haruwála              | s.                 | 313 | 53 K | Jaláلكur, XX              |             | 439 | 72 B |
| Gorkhagarhi                   | h.s.       | 358          | 53 O | Hasanpura             | Temple             | 439 | 72 B | Jalbalí                   | h.s.        | 290 | 53 J |
| Gorubáthán                    | h.s.       | 487          | 78 B | Háthi Bandar          | Factory            | 506 | 78 F | Jalkakot                  | h.s.        | 361 | 53 O |
| Gosáinganj Hát                | Flag       | 506          | 78 F | Háthi Bandar Hát      | Flag               | 506 | 78 F | Jalpaiguri Masjid         |             | 488 | 78 B |
| Gosainthan (Pk. 46 / 71 H)    |            | 431          | 71 H | Hathuwa               | Masjid             | 439 | 72 B | Jalpaiguri Palace         |             | 488 | 78 B |
| Goting                        | h.s.       | 328          | 53 N | Hathuwa, Rája's Mahal |                    | 439 | 72 B | Jalpaiguri                | s.          | 488 | 78 B |
| Gujarkot-ki-garh              | h.s.       | 359          | 53 O | Hátipáon              | Hill Mark          | 290 | 53 J | Jalpaiguri Telegraph Post |             | 488 | 78 B |
| Gujarsot                      | h.s.       | 312          | 53 K | Hátúpur               | Hill Staff         | 227 | 53 E | Jalth                     | h.s.        | 383 | 62 B |
| Gujaragarh                    | h.s.       | 359          | 53 O | Hatni                 | h.s.               | 248 | 53 F | Jám                       | h.s.        | 249 | 53 F |
| Gúlarghat                     | s.         | 247          | 53 F | Hátta                 | Temple             | 439 | 72 B | Jamangarh                 | h.s.        | 313 | 53 K |
| Gúma                          | h.s.       | 247          | 53 F | Hatúgarh              | h.s.               | 227 | 53 E | Jámankháta                | h.s.        | 291 | 53 J |
| Gunadánda                     | h.s.       | 290          | 53 J | Hawalbágh             | Visitor's Bungalow | 360 | 53 O | Jámankháta (new)          | h.s.        | 291 | 53 J |
| Gund                          | Pagoda     | 227          | 53 E | Hazára                | h.s.               | 313 | 53 K | Jámanpura                 | Temple      | 439 | 72 B |
| Guugináth                     | h.s.       | 359          | 53 O | Hazrat Sálár's        | Dargah             | 420 | 63 E | Jamargadi                 | h.s.        | 313 | 53 K |
| Gurana                        | h.s.       | 359          | 53 O | Hendong               | h.s.               | 268 | 53 I | Jamere                    | h.s.        | 227 | 53 E |
| Gurdhári                      | h.s.       | 290          | 53 J | Herne Hill            | h.s.               | 290 | 53 J | Jamina                    | Hill Temple | 250 | 53 F |
| Gurla Mandhata (Pk. 7 / 62 F) |            | 414          | 62 F | Hilgi, XXVI           |                    | 412 | 62 D | Jampha                    | Temple      | 425 | 63 M |
| Gurudeodhura                  | h.s.       | 359          | 53 O | Hill                  | A                  | 248 | 53 F | Jamu                      | Hill Staff  | 250 | 53 F |
| Gurúnagar, XXX                |            | 423          | 63 I | Hill                  | a                  | 248 | 53 F | Jandorhi                  | h.s.        | 461 | 78 A |
| Gurwáni                       | h.s.       | 247          | 53 F | Hill                  | a                  | 290 | 53 J | Jangi                     | No. 1 h.s.  | 329 | 53 N |
| Gusana                        | h.s.       | 247          | 53 F | Hill                  | b                  | 249 | 53 F | Jangi                     | No. 2 h.s.  | 329 | 53 N |
| Gwáldam No. 1                 | h.s.       | 329          | 53 N | Hill                  | β                  | 290 | 53 J | Janjipati, XCVI           |             | 451 | 72 J |
| Gwáldam No. 2                 | h.s.       | 329          | 53 N | Hill                  | γ                  | 290 | 53 J | Janjiri, XXIX             |             | 374 | 53 P |
| Gwáldam No. 3                 | h.s.       | 329          | 53 N | Hill                  | D                  | 248 | 53 F | Jano (Pk. 13 / 78 A)      |             | 473 | 78 A |
| Gwaldekot                     | h.s.       | 359          | 53 O | Hill                  | δ                  | 313 | 53 K | Jaonli (Pk. 17 / 53 J)    |             | 306 | 53 J |
| Gwanagarh                     | h.s.       | 329          | 53 N | Hill                  | ε                  | 248 | 53 F | Jaorasi No. 1             | h.s.        | 361 | 53 O |
| Gyi-mo-chi                    | h.s.       | 461          | 78 A | Hill                  | E                  | 290 | 53 J | Jaorasi No. 2             | h.s.        | 361 | 53 O |
| Gyi-mo-chi (Pk. 85 / 78 A)    |            | 480          | 78 A | Hill                  | F                  | 248 | 53 F | Jarol, XC                 |             | 445 | 72 F |
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| H 13                          | Peak       | 425          | 63 M | Hill                  | H                  | 248 | 53 F | Jar Pathar                | h.s.        | 361 | 53 O |
| Hagdannu                      | h.s.       | 359          | 53 O | Hill                  | K                  | 248 | 53 F | Jarúra, XXXII             |             | 419 | 63 A |
| Hain                          | h.s.       | 247          | 53 F | Hill                  | M                  | 248 | 53 F | Jaspalgarh                | h.s.        | 314 | 53 K |
| Hain                          | Temple     | 248          | 53 F | Hill                  | N                  | 248 | 53 F | Jastáingrang              | h.s.        | 269 | 53 I |
| Halapakori                    | s.         | 487          | 78 B | Hill                  | λ                  | 249 | 53 F | Jatláua                   | Bastion     | 250 | 53 F |
| Halár                         | Building   | 248          | 53 F | Hill                  | θ                  | 313 | 53 K | Játowála                  | s.          | 250 | 53 F |
| Halda-ki-devi                 | Temple     | 312          | 53 K | Hill                  | π                  | 249 | 53 F | Jatropáni                 | h.s.        | 330 | 53 N |
| Haldaur, XLVI                 |            | 312          | 53 K | Hill                  | φ                  | 249 | 53 F | Jau                       | h.s.        | 227 | 53 E |
| Haldibári                     | s.         | 506          | 78 F | Hope Town No. 1       | h.s.               | 487 | 78 B | Jauna                     | h.s.        | 361 | 53 O |
| Haldukháta                    | s.         | 313          | 53 K | Hope Town No. 2       | h.s.               | 488 | 78 B | Jautgarh Fort             | s.          | 291 | 53 J |
| Haldwáni                      | s.         | 359          | 53 O | Hope Town No. 3       | h.s.               | 488 | 78 B | Jaur                      | Hill Fort   | 227 | 53 E |
| Haldwáni                      | t.s.       | 360          | 53 O | Húm                   | h.s.               | 383 | 62 B | Jawálapur House           | s.          | 314 | 53 K |
| Halukwari                     | Factory    | 444          | 72 F | Humaunpur, LXXXVII    |                    | 445 | 72 F | Jawálapur                 | s.          | 314 | 53 K |
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|                               |            |              |      | Ikauna                | Temple             | 420 | 63 E |                           |             |     |      |

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| Jharipáni      | h.s.                                    | 291          | 53 J | Kálsi                   | Temple                                  | 251 | 53 F | Khairagarh                | No. 1 h.s.                                          | 315  | 53 K |
| Jhársu         | h.s.                                    | 227          | 53 E | Kaltháni                | h.s.                                    | 384 | 62 B | Khairagarh                | No. 2 h.s.                                          | 315  | 53 K |
| Jhum           | h.s.                                    | 402          | 62 C | Kalusayid               | h.s.                                    | 315 | 53 K | Khairagarh                | No. 3 h.s.                                          | 315  | 53 K |
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| Jiblikhál      | h.s.                                    | 361          | 53 O | Kambachen               | ( $\frac{\text{Pk.9}}{78 \text{ A}}$ )  | 472 | 78 A | Khálmpur                  | Mosque                                              | 445  | 72 F |
| Jigabári, XIV  |                                         | 506          | 78 F | Kamet                   | ( $\frac{\text{Pk.49}}{53 \text{ N}}$ ) | 343 | 53 N | Khal-ka-dánda             | h.s.                                                | 331  | 53 N |
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| Jojilling      | No. 2 h.s.                              | 489          | 78 B | Kanda                   | h.s.                                    | 292 | 53 J | Khandi                    | h.s.                                                | 252  | 53 F |
| Jongmai        | h.s.                                    | 461          | 78 A | Kandára                 | h.s.                                    | 330 | 53 N | Khangla                   | h.s.                                                | 384  | 62 B |
| Joshimath      | h.s.                                    | 330          | 53 N | Kandegaon               | h.s.                                    | 403 | 62 C | Khánpur, XXXIV            |                                                     | 421  | 63 E |
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| Masi, XXXV                      | 421  | 63 E         | Steeple                                      | 296  | 53 J         | Nanda Devi (Pk.115)<br>53 N | 347  | 53 N         |
| Masurbio h.s.                   | 405  | 62 C         | Mussooree, Clover Lodge                      | 296  | 53 J         | Nandakna (Pk.76)<br>53 N    | 345  | 53 N         |
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| Mathura Fort                    | 424  | 63 I         | Mussooree, Himalaya Club                     | 297  | 53 J         | Naouangarhi, LXXI           | 440  | 72 B         |
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| Maungarh Hill Fort              | 229  | 53 E         | Mussooree, Manor House<br>h.s.               | 297  | 53 J         | Narsing (Pk.44)<br>78 A     | 475  | 78 A         |
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