

Memoranda for Observers.

Standard Time of India is adopted in these Memoranda.

For the Month of December 1910.

Sidereal time at 8 p.m.

| | H. | M. | S. |
|-------------------------------|----|----|----|
| <i>December 1st</i> | 0 | 38 | 16 |
| <i>8th</i> | 1 | 5 | 52 |
| <i>15th</i> | 1 | 33 | 28 |
| <i>22nd</i> | 2 | 1 | 4 |
| <i>29th</i> | 2 | 28 | 40 |

From this table the constellations visible during the evenings of December can be ascertained by a reference to their position as given in a Star Atlas.

Phases of the Moon.

| | H. | M. |
|--|----|---------|
| <i>December 2nd</i> New Moon | 2 | 41 a.m. |
| <i>10th</i> First Quarter | 0 | 35 a.m. |
| <i>16th</i> Full Moon | 4 | 35 p.m. |
| <i>23rd</i> Last Quarter | 4 | 6 p.m. |
| <i>31st</i> New Moon | 9 | 51 p.m. |

Meteors.

There is one important shower in December—the Geminids from the 10th to 12th.

| Radiant point. | | Character. |
|----------------|------|---------------|
| R. A. | Dec. | |
| 7h. 12m. | +33° | Swift, short. |

Other showers occur on 4th, 6th, 8th, 12th, 22nd, 25th and 31st December.

Planets.

Venus—Is an evening star still very close to the horizon at sunset.

Saturn—Is high in the sky at sunset and is now in the constellation of Cetus. On December 15th at 8 p.m. its

position will be R. A. 1 hr. 55 mts. 17 sec. and Dec. $9^{\circ} 1' 15''$ N. Time of its setting 2 hrs. 14 mts. a.m. on the 16th December.

Mars—The position of this planet on December 15th at 8 p.m. will be R. A. 15 hrs. 37 mts. 20 sec. and Dec. $19^{\circ} 14' 0''$ S. Time of its rising will be 4 hrs. 10 mts. a.m. on the 16th December.

Jupiter—On December 15th at 8 p.m. the position of Jupiter will be R. A. 14 hrs. 19 mts. 9 sec. and Dec. $12^{\circ} 44' 6''$. The planet will rise at 2 hrs. 40 mts. a.m. on the 16th December and will therefore be an early morning object.

For the month of January 1911.

Sidereal time at 8 p.m.

| | H. | M. | S. |
|------------------------------|----|----|----|
| <i>January 1st</i> | 2 | 40 | 29 |
| <i>8th</i> | 3 | 8 | 5 |
| <i>15th</i> | 3 | 35 | 41 |
| <i>22nd</i> | 4 | 3 | 17 |
| <i>29th</i> | 4 | 30 | 53 |

From this table the constellations visible during the evenings of January can be ascertained by a reference to their position as given in a Star Atlas.

Phases of the Moon.

| | H. | M. |
|--|----|---------|
| <i>January 3th</i> First Quarter . . . | 11 | 50 a.m. |
| <i>15th</i> Full Moon. | 3 | 56 a.m. |
| <i>22nd</i> Last Quarter | 11 | 51 a.m. |
| <i>30th</i> New Moon | 3 | 15 p.m. |

Meteors.

There is one important shower in January—the Bötids of 2nd and 3rd.

| Radiant point. | Character. |
|--------------------------|--------------------|
| R. A. Dec. | |
| 15h. 20m. + 53° | Swift, long paths. |

Other showers occur on 3rd, 11th, 17th, 17th-23rd, 25th and 29th January.

Planets.

Venus—Is an evening star still close to the horizon at sunset.

Saturn—Is high in the sky at sunset and will be still in the constellation of Cetus. On January 15th at 8 p.m. its position will be R. A. 1 hr. 54 mts. 37 sec. and Dec. $9^{\circ} 7' 8''$ N. Time of its setting 0 hr. 12 mts. a.m. on the 16th January.

Mars—The position of this planet on January 15th at 8 p.m. will be R. A. 17 hrs. 9 mts. 15 sec. and Dec. $23^{\circ} 6' 11''$ S. Time of its rising will be 3 hrs. 48 mts. a.m. on the 16th January.

Jupiter—On January 15th at 8 p.m. the position of Jupiter will be R. A. 14 hrs. 38 mts. 4 sec. and Dec. $14^{\circ} 12' 19''$ S. The planet will rise at 0 hr. 59 mts. a.m. on the 16th January.

Variable Stars.

The following variable stars may be observed :—

| | R. A. | Dec. |
|------------------------------|-------------|------|
| | H. | M. |
| μ Cephei . . . | 21 40 + 58° | 16' |
| δ Cephei . . . | 22 25 + 57° | 51' |
| \circ Ceti (Mira) . . . | 2 14 — 3° | 9' |
| β Persei (Algol) . . . | 3 1 + 40° | 32' |
