

Memoranda for Observers.

Standard Time of India is adopted in these Memoranda.

For the month of December 1913.

Sidereal time at 8 p.m.

			H.	M.	S.
December 1st	...	...	24	40	16
„ 8th	...	...	1	7	52
„ 15th	...	...	1	35	28
„ 22nd	...	...	2	3	3
„ 29th	...	...	2	30	39

From this table the constellations visible during the evenings in December can be ascertained by a reference to a star chart, as the above hours of sidereal time represent the hours of Right Ascension on the meridian.

Phases of the Moon.

			H.	M.
December 5th	First Quarter	...	8	28 P.M.
„ 13th	Full Moon	...	8	30 P.M.
„ 20th	Last Quarter	...	9	45 P.M.
„ 27th	New Moon	...	8	28 P.M.

Meteors.

Date.	Radiant.		Character.
	R.A.	Dec.	
December 4th	162°	+58°	Swift; streaks.
„ 6th	80°	+23°	Slow; bright.
„ 8th	145°	+7°	Swift; streaks.
„ 8th	208°	+71°	Rather swift.
„ 10th—12th	108°	+33°	Swift; short; brilliant.
„ 12th	119°	+29°	Rather swift.
„ 20th—25th	168°	+33°	Swift; streaks.
„ 21st—22nd	117°	+47°	Swift.
„ 22nd	194°	+67°	Swift; streaks.
„ 31st	92°	+57°	Slow; bright.

Planets.

Mercury—Is a morning star, rising an hour before the Sun at the beginning and end of the month, and nearly an hour and a half before at the middle of the month. At greatest elongation on the 11th $21^{\circ} 1' W$.

Venus—Is also a morning star and keeps close to Mercury throughout the month; the two planets being in conjunction on the morning of the 3rd when Venus will be about $1\frac{1}{2}$ degrees to the south of Mercury. She is approaching superior conjunction which will occur on February 12th. She rises about an hour before the Sun on the 1st and three quarters before on the 31st.

Mars.—Position on the 15th R. A. $7^{\circ} 37'$ Dec. $24^{\circ} 48'$ North in Gemini. He will be in conjunction with the Moon on the night of the 15th when the Moon will pass between him and the Twins.

Jupiter.—Position on the 15th R. A. $19^{\circ} 32'$ Dec. $22^{\circ} 4'$ South, in Sagittarius. He sets about three hours after the Sun on the 1st and a little more than an hour after on the 31st as he approaches conjunction with the Sun which will occur on January 20th.

Saturn.—Will be in opposition to the Sun on the 7th when he will be on the meridian at midnight, in Taurus R. A. $4^{\circ} 54'$ Dec. $20^{\circ} 50'$ North, almost in a straight line between Aldebaran and Nath.

Uranus.—Position on the 15th R. A. $20^{\circ} 30'$ Dec. $19^{\circ} 34'$ South, sets in Capricornus two hours after the Sun.

Neptune.—Position on the 15th R. A. $7^{\circ} 58'$ Dec. $20^{\circ} 12'$ North, in Cancer.

Notices of the Society.

Election of Members.

The attention of members is invited to Bye-Law No. 14, regulating the election of persons who desire to join the Society. It is hoped that those who are already members will induce others to join. Forms of application can be had from the Secretary.