Ky News Astronomical events for Indian observers



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Sun, Planets and Transitions

The Sun will be in Aquarius, the Water Bearer (*Kumbha*) on 1 March. Its angular diameter will be 32'17.1". The Sun moves to Pisces, The Fishes (*Meena*) on 12 March. On 31 March the Sun's angular diameter decreases by about 16 arc-seconds to 32'01.4". The vernal or March equinox of 2024 will be on 20 March at 08:37 hours IST. On this day the Sun's rays will fall perpendicularly over the Earth's equator.

Mercury is in Aquarius, the Water Bearer (*Kumbha*), at the beginning of the month. It moves to Pisces on 7 March.

Venus is in Capricornus, The Sea Goat (*Makara*) on 1 March and moves to Aquarius on 10 March. **Mars** too is in Capricornus on 1 March. It moves to Aquarius on 19 March.

Jupiter and **Saturn** are in Aries, The Ram (*Mesha*) and Aquarius respectively.

(Disclaimer: we categorically mention here that we do not believe in astrology and believe that the only influence a planet has on us is to give us the viewing pleasure of its beauty. The sole purpose of giving the transition of planets and the Sun is to acquaint the reader with the Indian nomenclature of planets and constellations and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.)

March of the Moon

The Moon will be visible in the morning sky in early March. On 1 March, the nearly 75% illuminated Moon can be seen west of Libra, the Scales (*Tula*). On 3 March the nearly 55% illuminated Moon will be west of Antares

List of Events in March 2024									
Dt	Dy	Time	Event						
03	Su	13:46	Moon-Antares: 0.4°S (Occultation)						
03	Su	20:54	Last Quarter						
05	Tu	07:33	Moon south declination: 28.5° S						
08	Fr	10:29	Moon-Mars: 3.5° N						
08	Fr	22:31	Moon-Venus: 3.2° N						
10	Su	12:36	Moon Perigee: 356900 km						
10	Su	14:30	New Moon						
12	Tu	06:48	Moon ascending node (Rahu)						
14	Th	06:31	Moon-Jupiter: 3.6° S						
14	Th	15:04	Uranus 3.2° S of Moon						
15	Fr	08:24	Moon-Pleiades: 0.4° N						
17	Su	09:41	First Quarter						
17	Su	16:01	Neptune conjunction						
17	Su	20:15	Moon north declination: 28.5° N						
19	Tu	12:14	Moon-Pollux: 1.6° N						
20	We	08:37	Vernal (March) equinox						
20	We	13:33	Moon-Beehive: 3.8° S						
22	Fr	03:36	Venus-Saturn: 0.3° N						
22	Fr	13:57	Regulus 3.3° S of Moon						
23	Sa	21:14	Moon apogee: 406300 km						
25	Mo	03:29	Mercury elongation: 18.7° E						
25	Mo	12:30	Full Moon						
25	Mo	12:43	Penumbral lunar eclipse						
26	Tu	09:37	Moon descending node (Ketu)						
27	We	01:10	Moon-Spica: 1.6° S						
30	Sa	19:54	Moon-Antares: 0.3° S						

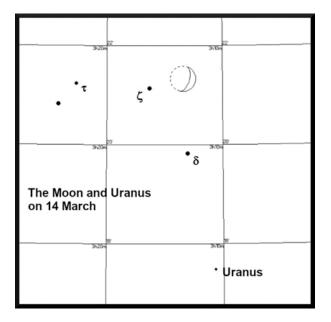
(*Jyeshtha*). Readers will recall that this star was occulted by the Moon in February.

On 5 March, the Moon will be on the spout of the 'teapot' asterism of Sagittarius. On 8 March the lunar crescent can be seen almost due south of Mars, with Venus right below it. The next day, an even thinner lunar crescent will be seen east of Venus. The following day will be New Moon.

At this time of year, the ecliptic is nearly perpendicular to the horizon at sunset, as seen from the mid-northern latitudes. This means that the planets will lie almost on a vertical line.

On 11 March it should be possible to spot the thin, now waxing, lunar crescent right above the western horizon just after the end of civil twilight. Mercury will be right below it. On 13 March the Moon will be below (west) and north of Jupiter.

On 14 March, at about 3 pm, the Moon will pass within less than 3.25° north of Uranus. That evening, it will be very easy to locate Uranus in the sky with the help of the Moon. It should easily be visible as a bluish dot through a pair of 10 X 50 binoculars. Delta Arietes, a 4.3 magnitude star, will be about a degree south of the Moon. Uranus will be further south by about two degrees.



On 15 March the Moon will be seen right above the Pleiades cluster (*Kruttika*) and the Hyades cluster with the beautiful red giant star, Aldebaran (Rohini) to its left.

Between 18 and 19 March, the Moon will pass through the Gateway of Heaven. On 22 March it will be in Leo, the Lion (*Simha*). On 27 March, the almost Full Moon will pass less than a degree away from Spica (*Chitra*). And on the last day of the month it will be east of Antares (*Jyeshtha*).

Events involving the moons of Jupiter

In the table below, we have listed events that can be seen from India. The table gives the timings of eclipses, occultations, transits and shadow transits of the moons of Jupiter, suitable for Indian observers. The timings are given in Indian Standard Time (IST).

The output is given as per the following abbreviations and notations:

Columns: 1 = date (given only for the first event listed for that day); 2 = time; 3 = satellite number; 4 = event type; and 5 = phase.

Satellite numbers: 1 = Io; 2 = Callisto; 3 = Europa; and 4 = Ganymede.

Event type: Ec = eclipse; Oc = occultation; Tr = transit; and Sh = shadow transit.

Phase: D = disappear; R = reappear; I = ingress; and E = egress.

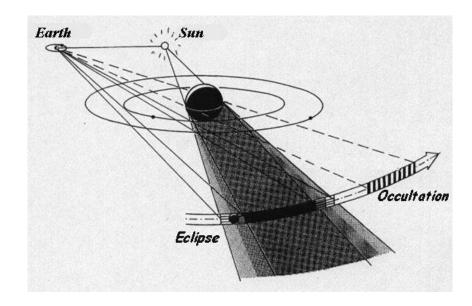
Example:

2	22:37:12	1	Tr	Ι
3	19:46:54	1	Oc	D
	23:06:30	1	Ec	R

Means that

At 22:37:12 pm on 2 March, Io (1) will transit across Jupiter. The next day on 3 March, it will be occulted by the giant planet at 19:46:54 hours. While still occulted, it enters the shadow of the planet and is therefore eclipsed. It reappears after the eclipse at 23:06:30 hours.

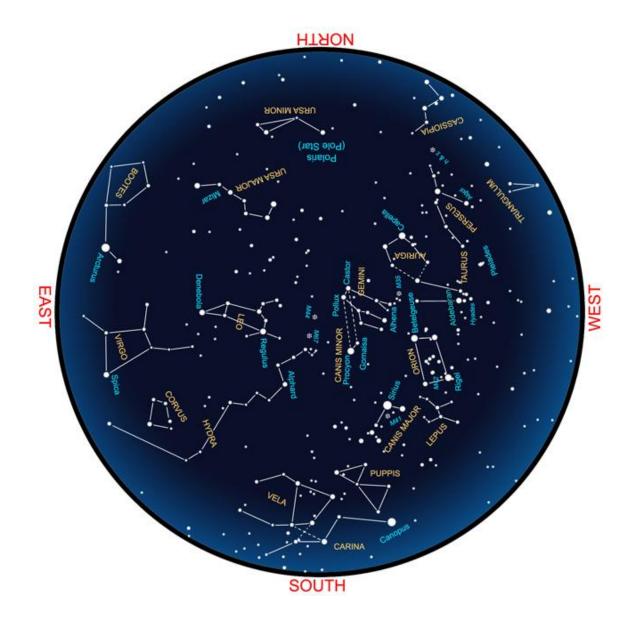
Satellites of Jupiter in March 2024											
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
2	22:37:12	1	Tr	Ι	14	19:09:48	2	Tr	Е		
3	19:46:54	1	Oc	D		21:10:06	2	Sh	Е		
	23:06:30	1	Ec	R	18	20:01:18	3	Tr	Ι		
4	19:18:18	1	Tr	Е		21:08:18	1	Tr	Ι		
	20:25:36	1	Sh	Е		22:06:00	3	Tr	E		
5	19:37:36	2	Oc	D		22:07:00	1	Sh	Ι		
10	21:46:42	1	Oc	D	19	21:26:00	1	Ec	R		
11	19:07:30	1	Tr	Ι	21	19:31:54	2	Tr	Ι		
	20:09:06	3	Sh	Ι		21:24:48	2	Sh	Ι		
	20:11:24	1	Sh	I		21:57:06	2	Tr	E		
					26	20:18:12	1	Oc	D		
	21:18:48	1	Tr	E	27	19:51:24	1	Tr	Е		
	21:49:36	3	Sh	E		20:41:42	1	Sh	Е		
	22:21:24	1	Sh	Е	28	22:19:42	2	Tr	Ι		
12	19:30:42	1	Ec	R	29	19:39:24	3	Ec	R		
	22:25:30	2	Oc	D	30	21:32:18	2	Ec	R		



Eclipses occur when the satellites pass in the shadow of Jupiter. Occultations occur when the satellites pass behind Jupiter for a terrestrial observer

(Picture courtesy: <u>https://promenade.imcce.fr/en/pages3/365.html#eclip</u>)

This sky map for March is drawn for mid-northern latitudes, to be used around 9:30 p.m. local time



For notes on stargazing <u>click here</u>.

Or visit https://skytonight.wordpress.com/monthly-sky-notes-and-links/

Acknowledgements:

http://www.lunar-occultations.com/iota/occult4.htm

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Graphics using GNU Image Manipulation Program (GIMP) a cross-platform image editor. <u>https://www.gimp.org/</u>

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