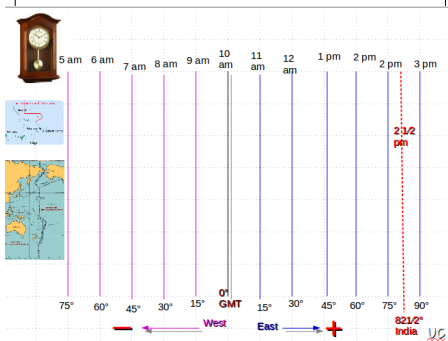


Date	Day	Peculiarity	Position of the sun	Northern hemisphere	Southern hemisphere
March 21	Equinox	Length of day and night will be equal	Above the Equator (0°)	From March 21 to June 21 Spring	Autumn
June 21	Summer Solstice	Northern Hemisphere experiences its longest day and shortest night	Above the Tropic of Cancer (23½°N)	From June 21 to September 23 Summer	Winter
September 23	Equinox	Length of day and night will be equal	Above the Equator (0°)	From September 23 to December 22 Autumn	Spring
December 22	Winter Solstice	Northern Hemisphere experiences its shortest day and longest night.	Above Tropic of Capricorn (23½°S)	From December 22 to March 21 Winter	Summer
Utharayanam			Dakshinayanam		
The Sun sets its northward apparent movement			The Sun sets its southward apparent movement		
from Tropic of Capricorn (23½°S) and it culminates on Tropic of Cancer (23½°N)			from Tropic of Cancer (23½°N) and it culminates on Tropic of Capricorn (23½°S)		
Following the winter solstice to June 21.			Following the summer solstice to December 22		
Causes					
Earth's revolution			It is in an elliptical orbit that the Earth revolves around the Sun		
Tilt of the axis (the inclination of axis)			The axis of the Earth is tilted at an angle of 66½° from the orbital plane. If measured from the vertical plane this would be 23½°		
Parallelism of the Earth's axis.			The Earth maintains this tilt throughout its revolution.		
The apparent movement of the Sun.			Since the parallelism is maintained same throughout the revolution, the position of the Sun in relation to the Earth varies apparently between Tropic of Cancer (23½° North) and Tropic of Capricorn (23½° South).		
The facts associated with rotation.			U C Vahid		

The Earth rotates from west to east	
It takes 24 hours to complete one rotation	
As the Earth rotates from west to east, the Sun rises in the east.	
The time required to complete a 360° rotation is 24 hours.	
On converting 24 hours into minutes $24 \times 60 = 1440$ minutes	
That is, the time required for the completion of one rotation = 1440 minutes	
The time required for the Earth to complete the rotation of 1° longitude is $1440/360 = 4$ minutes.	
The time required for the rotation of 15° longitudinal area is $15 \times 4 = 60$ minutes (1 hour).	
15° longitudinal area of the Earth passes by the Sun within a period of one hour.	
The time required for the rotation of 7 1/2° longitudinal area is $7.5 \times 4 = 30$ minutes (1/2 hour).	
82.5 degree $\times 4 = 330$ minutes (5 1/2 hour)	
Local time	When the Sun is vertically overhead, it is noon. Thus the time estimated at each place, based on the position of the Sun, is termed as the local time.
Greenwich time (GMT)	The zero degree longitude is known as the Greenwich Meridian Time is calculated worldwide based on the Greenwich Line. The local time at the prime meridian is known as the Greenwich Mean Time.
Standard time	Each country in the world considers the longitude that passes almost through its middle as the standard meridian. The countries with large longitudinal extent estimates more than one local time by considering more than one standard meridian. The local time at the standard meridian is the standard time of that country.
International Date Line	180° longitude. 180° longitude to the east and west of Greenwich. To avoid 24 hours difference adjustments have been made avoiding the land areas along the 180° longitude. It passes only through ocean (the Bering Strait in the Pacific Ocean.).The line is fluctuated. Travellers gain or loss a day on crossing this line. There ends a day and begins another day.
Indian Standard Time (IST)	The 82 1/2°E longitude which passes almost through the middle of these longitudes has been fixed as the standard meridian of India. The local time along this longitude is generally considered as the Standard Time of India. This is known as the Indian Standard Time. The difference between the Indian Standard Time and the Greenwich Mean Time is 5 1/2 hours. (5 hours 30 minutes)



U C Vahid

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