



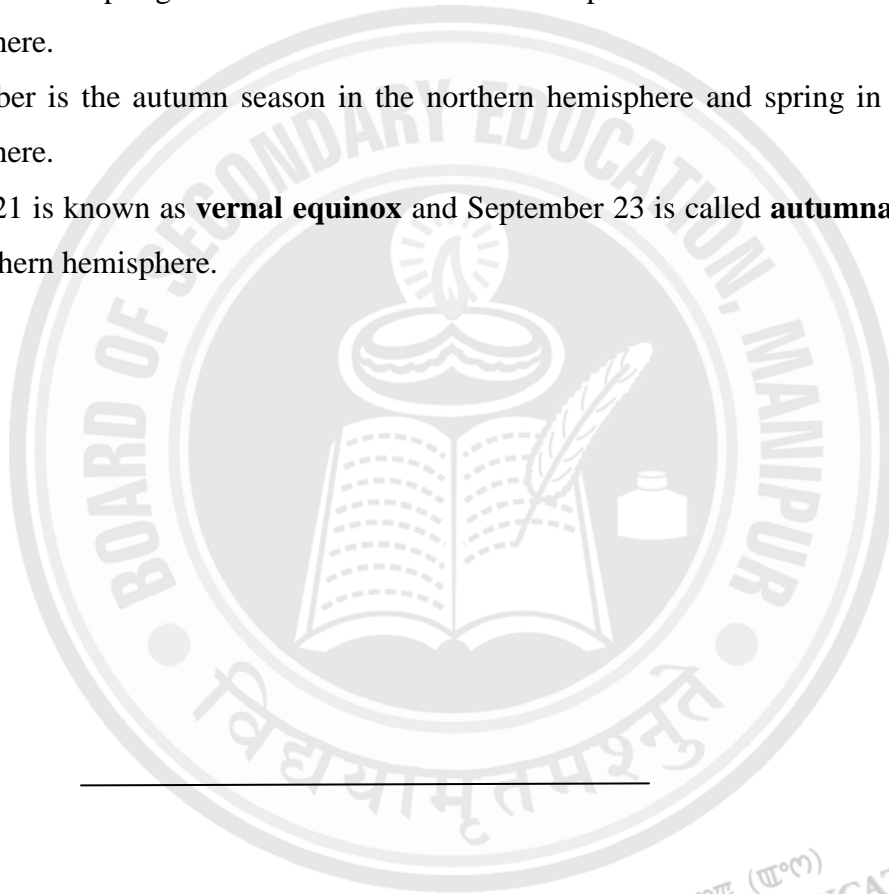
## Lesson- 3

### Motions of the Earth

#### NOTES:

- Our planets earth has two motion namely rotation and revolution. The spinning of the earth on its axis at a speed of 1,666 km/hr. is called **rotation** whereas the motion of the earth around the sun at a speed of 1 lakh km/hr is called **revolution**.
- The earth takes **24hours** to complete one rotation.
- The sun does not move but it seems to move from east to west due to the rotation of earth from west to east.
- The movement of the earth around the sun is not circular it is rather oval in shape and its shape is known as **ellipse**.
- When the month of February has 29 days instead of 28 days once in every 4 years and that particular year has 366 days which is known as **leap year**.
- On June 21 the Northern hemisphere receives more heat as sun is overhead at the **Tropic of Cancer** and it enjoys summer season that has the longest day and the shortest night. This is **Summer Solstice** for the Northern Hemisphere.
- But on the same day (i.e. 21<sup>st</sup> June), the southern hemisphere has the longest night and the shortest day and it has winter season.
- Likewise on December 22, the sun's rays are vertical over the **Tropic of Capricorn** and the southern hemisphere has the longest day and shortest night and it enjoys **summer season** but the northern hemisphere has winter season and it has longest night and the shortest day. This day is **winter solstice** for the northern hemisphere. There is continuous darkness around the north pole and constant daylight around the south pole.

- At the **North Pole** and the **South Pole** the days and night are six months long.
- On March 21 and September 23, the sun's rays fall vertically at the **equator**. As a result, the rays of the sun can reach both the north and the south poles. On these two days, day and night are of equal length all over the world i.e. 12 hours of day and 12 hours of night. These two days are called **equinoxes**.
- March is the spring season in the northern hemisphere and autumn in the southern hemisphere.
- September is the autumn season in the northern hemisphere and spring in the southern hemisphere.
- March 21 is known as **vernal equinox** and September 23 is called **autumnal equinox** in the northern hemisphere.



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