

Chapter - 17

Stars and the Solar System

- The phases of the moon occur because we can see only that part of the moon which reflects the light of the Sun towards us.
- Stars are celestial bodies that emit light of their own. Our sun is also a star.
- It is convenient to express distances of stars in light years.
- Stars appear to move from east to west.
- The pole star appears to be stationary from the Earth, because it is situated close to the direction of the axis of rotation of the Earth.
- Constellations are groups of stars that appear to form recognisable shapes.
- The solar system consists of eight planets and host of asteroids, comets and meteors.
- A body revolving around another body is called a satellite.
- Moon is the natural satellite of the Earth. Some planets also have natural satellites.
- Venus is the brightest planet in the night sky.
- Jupiter is the largest planet of the solar system.
- The artificial satellites revolve around the Earth. They are much closer than the moon.
- Artificial satellites are used for weather forecasting, long distance communication and remote sensing.
- **Sun:** It is the source of almost all energy on Earth. It continuously emits huge amounts of heat and light.
- **Planets:** A planet has a definite path in which it revolves around the sun called orbit. Time taken by a planet to complete one revolution increases as the distance from the sun increases.
- There are eight planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
- Other members in our solar system are:
 - (i) **Asteroids:** These are rocky planetary bits orbiting around sun. asteroid belt lies between Mars and Jupiter.
 - (ii) **Comets:** These are heavenly bodies that revolve around the sun. It appears generally as a bright head with a long tail.

(iii) **Meteors and Meteorites:** Meteor is a brief streak of light in the night sky caused by a meteoroid. Smaller meteors melt and burn up creating streaks of light. Few meteoroids which survive as they pass through the Earth's atmosphere and reach the Earth surface are called meteorites.

(iv) **Artificial Satellites:** Man-made objects sent into space to orbit the earth. Example: IRS, EDUSAT, INSAR.

- **Constellations:** A group of stars forming some kind of recognisable figures or patterns are known as constellations.
- Constellations appear to move from east to west as Earth rotates from west to east.
- Orion- the Hunter, Ursa Major- the Great Bear or Saptarishi, Cassiopeia are some constellations.

