



## CHAPTER – 15

### LIGHT

#### NOTES :

Light is what enables us to see objects. Those objects which emits their own lights such as Sun, Star, artificial torch light, candle flame etc. are called luminous object and those objects which do not emits their own light are called non-luminous objects.

- Light travels along a straight line. This is property of light and also known as rectilinear propagation of light.
- The changes in the direction of light that falls on a smooth shiny surface like mirror is known as reflection of light.
- In plane mirror the image is formed behind the mirror at the same distance from the mirror as the object is in front of it. It cannot be obtain on screen.
- Image formed by a plane mirror is erect, same size of the object and laterally inverted image i.e. right hand side of the object seems to be the left hand side and vice versa.
- The inner surface of the cut ball or sphere is called concave and the outer surface is called convex.
- If the reflecting surface is the inner side of the spherical mirror, it is called concave mirror.
- If the reflecting surface is the outer side of the spherical mirror, it is called convex.
- An image which can be obtained on screen is called real image. Example, Image on a cinema screen.
- An image which cannot be obtained on screen is called Virtual image. Example, Image formed by plane mirror.
- Concave mirror can form both erect(upright) and inverted image, smaller or larger or same size of the object. The image also may be virtual or real image.
- Virtual image is formed by a concave mirror when the object is kept very near to it.
- Concave mirror are used as head light of automobiles, reflectors of torches, reflecting telescope, mirror used by dentists for examining etc.
- Convex mirror always form a virtual and erect image, smaller in size as compared to that of the object.
- Convex mirror are used as side mirrors in automobiles, optical instrument calling bells etc.
- Lenses are transparent i.e. through which light can pass.
- Those lenses which are thicker in the middle than at the edges are called Convex lenses.

- Those lenses which are thinner in the middle than at the edges are called Concave lenses.
- A Convex lens converges (bends inward) the light falling on it. Therefore, it is called Converging lens.
- A Concave lens diverges (bends outward) the light falling on it. Therefore, it is called diverging lens.
- Convex lens can form both real and virtual image and magnified image.
- Concave lens always form virtual, erect and smaller in size image than the object.
- Sunlight or white light consists of seven colours.
- Newton's disc is a disc containing seven segments of colours. When the disc is rotated fast, the colours are mixed together and appears as white.

