

Q.1 Define the following:

- a) Light : Light is a form of energy which gives us the sensation of seeing the objects
- b) Reflection of Light: The bouncing back of light from the surface of an object is called reflection of light.
- c) Beam of Light: A group of light coming from the same source in the same direction is called a beam of light.
- d) Normal: Normal is a line perpendicular to the surface of the Mirror at the point of incidence.
- e) Incident Ray: The ray of light coming from an object that falls on the surface of the Mirror is called Incident ray.
- f) Reflected Ray: The ray of light that gets reflected from the Mirror is called reflected ray.
- g) Angle of incidence: The angle formed by the incident ray with the normal is called the angle of incidence.
- h) Angle of reflection: The angle formed between the reflected ray and the normal is called angle of reflection.
- i) Dispersion: The phenomenon of splitting of white light into its component colours is called dispersion of light.
- j) Spectrum: The band of seven colours formed on splitting of white light is called spectrum of light.
- k) Multiple reflection: Multiple reflection is the phenomenon in which we get multiple images of the object because the image formed by one mirror acts as an object for the second mirror.
- l) Convergent beam of light: Beams of Light which actually meet or appear to meet at a point is known as Convergent beam of light.
- m) Divergent beam of light: Beams of Light which actually spread or appear to spread from a point is known as Divergent beam of light.

n) Parallel beam of Light : Beam of Light that are parallel to each other.

Q.2. What are the Laws of reflection?

A.2. There are two laws of reflection:

Law I : The Incident ray, the reflected ray and the Normal to the reflecting surface lie in the same plane.

Law II : The angle of Incidence is equal to the angle of reflection.

Q.3. What are the characteristics of Image formed by a plane mirror?

A.3. The characteristics of image formed by a plane mirror are as follows:

- i) The image is formed behind the mirror.
- ii) It is a virtual image which cannot be taken on the screen.
- iii) The size of the object and the image is the same.
- iv) The image formed by a plane mirror is erect and not inverted.
- v) The image will be formed as far behind the mirror as the object is in front of it.
- vi) The image formed by a plane mirror is laterally inverted.

Q.4. Explain the two defects of vision and how these can be rectified.

A.4. The two defects of vision are as follows:

a) Short-sightedness or Myopia: People cannot see far off objects clearly but can see nearer objects. This defect is called Short – sightedness or Myopia. This defect can be corrected by wearing spectacles with concave lenses.

b) Long-sightedness or Hypermetropia: People cannot see nearer objects but can see far off objects clearly. This defect is called Long-sightedness or Hypermetropia. This defect can be corrected by wearing spectacles with convex lenses.

Q.5. Who developed Braille System?

A.5. Louis Braille developed Braille System.

Q.6. Give the functions of each of the following:

a) Retina – It acts as a screen for image formation.

b) Sclera – It protects the internal parts of eye

c) Eyelids – It acts as a shutters and protect it from dust and injury.

d) Lens – It focuses light to form an image on the retina.

e) Iris – It increases or decreases the size of the pupil to control the amount of light entering the eye.

f) Ciliary – It is a ring of muscles which holds the lens in position. They also control the focal length of the eyes.

g) Pupil – It allows light to enter the eye.

h) Optic Nerve -- It carries visual messages to the brain from retina.

Q.7. What is accommodation?

A.7. The ability of the eye to alter the focal length of its lens so that it can clearly see all objects with a certain range.

HOMEWORK: C1, C2, C3, C4

