Ch-10 Light - Reflection and Refraction

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Exercise

Q1. Which one of the following materials cannot be used to make a lens?

(a) Water

(b) Glass

(c) Plastic

(d) Clay

ans (d) Clay = A lens allows light to pass through it. Since clay does not show such property, it cannot be used to make a lens.

Q2. The image formed by a concave mirror is observed to be virtual, erect and larger than the object. Where should be the position of the object?

(a) Between the principal focus and the centre of curvature

(b) At the centre of curvature.

(c) Beyond the centre of curvature

(d) Between the pole of the mirror and its principal focus.

ans (d) Between the pole of the mirror and it's principal focus = When an object is placed between the pole and principal focus of a concave mirror, the image formed is virtual, erect and larger than the object.

q8) Where should an object be placed in front of a convex lens to get a real image of the size of the object?

(a) At the principal focus of the lens

(b) At twice the focal length

(c) At infinity

(d) Between the optical centre of the lens and it's principal focus.

ans (b) When an object is placed at the centre of curvature in front of a convex lens, its image is formed at the centre of curvature on the other side of the lens. The image formed is real, inverted, and of the same size as the object.

Q47 A spherical mirror and a thin spherical lens have each a focal length of -15cm. The mirror and the lens are likely to be.

(a) both concave

(b) both convex

(c) the mirror is concave and the lens is convex

(d) the mirror is convex, but the lens is concave.

ans (a) both concave = by convection, the focal length of a concave mirror and a concave lens are taken as negative. Hence, both the spherical ~~mirror~~ mirror and the thin spherical lens are concave in nature.

Q51 No matter how far you stand from a ~~o~~ mirror, your image appears erect. This mirror is likely to be

(a) Plane

(b) Concave

(c) Convex

(d) either plane or convex.

ans (d) either plane or convex. = A convex mirror always gives a virtual and erect image of smaller size of the object placed in front of it. Therefore, the given mirror could be either plane or convex.