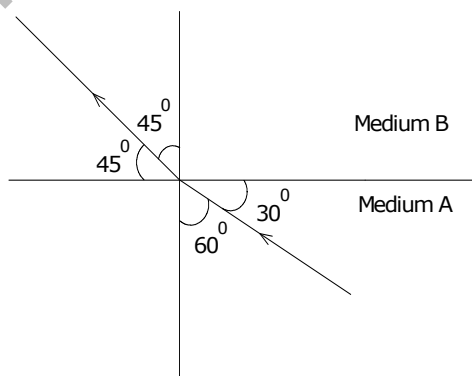


CLASS - X (Reflection and Refraction)

- The power of a lens is -4.0 D. what is the nature of the lens? (1)
 - Plane
 - Concave
 - Convex
 - Plano convex
- Where should an object be placed in front of a convex lens to get real image of the size of the object? (1)
 - At focus
 - At 2F
 - At Infinity
 - Between optical centre and focus.
- In torches, search lights and head lights of vehicles the bulb is placed (1)
 - Between pole and focus
 - Very near to the focus
 - Between focus and centre of curvature
 - At centre of curvature
- Figure shows a ray of light as it travels from medium A to B. Refractive index of medium B with respect to A is (1)
 - $\frac{\sqrt{3}}{\sqrt{2}}$
 - $\frac{1}{\sqrt{2}}$
 - $\frac{\sqrt{2}}{\sqrt{3}}$
 - $\frac{\sqrt{2}}{\sqrt{2}}$
- When a ray of light goes from one medium to another, these is (1)
 - Always a change in its speed as well as direction
 - No change in speed and direction
 - A change in speed but no change in direction
 - A change in direction but constant speed.



6. A concave mirror produces three times magnified (enlarged) real image of an object 10 cm in front of it. Where is the image located (2)
7. Three mirrors, one plane, one concave and one convex are lying on the table. How can a person identify them without touching them or using any other apparatus or device? (2)
8. Obtain the formula for the focal length of a lens in terms of object distance (u) and magnification (m) (2)
9. In what S.I unit is the power of lenses stated? A convex lens has a focal length of 50 cm. calculate its power? (2)
10. A concave lens has focal length of 20 cm. At what distance from the lens a 5cm tall object be placed so that it forms an image at 15 cm from the lens? Also calculate the size of the image formed? (3)
11. An object is kept at a distance of 15cm from a (3)
- (1) convex mirror
 - (2) concave lens
 - (3) Plane mirror.
- The focal length of the convex mirror and the concave lens are 10 cm each. Draw the appropriate ray diagrams, showing the formation of image, in each of the three cases.
12. State the mirror formula for determining the focal length of spherical mirrors write the meanings of the symbols used An object is placed at a distance of 25 cm. from a concave mirror of focal length 15 cm. calculate the distance of the image from the mirror. (3)
13. Draw a ray diagram to show the use of a convex lens for the formation of images having the following characteristics. (5)
- (a) Real & inverted and diminished
 - (b) Virtual, erect & magnified.
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