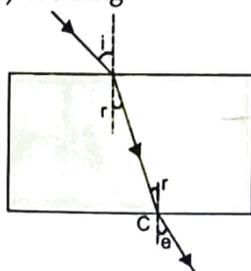


ADDITIONAL OBJECTIVE TYPE QUESTIONS

A. Multiple Choice Questions

- The image formed by a plane mirror is
 - virtual and erect
 - same size as that of object
 - laterally inverted
 - all of the above
- If a laser beam is allowed to fall along the principal axis of a concave mirror, the ray will:
 - Emerge out of principal axis
 - Retrace its path along principal axis
 - Deviate by 10°
 - Deviate by 45°
- If R is the radius of curvature of a mirror and f is its focal length then.
 - $f > R$
 - $f > 2R$
 - $f = R$
 - $f = \frac{R}{2}$
- The image formed by a concave mirror is
 - always virtual
 - always real
 - real or virtual
 - always erect
- A convex lens is distinguished from a concave lens by the property of
 - divergence
 - convergence
 - linear propagation
 - looming



- $\angle r > \angle e$
 - $\angle r = \angle e$
 - $\angle i = \angle r$
 - $\angle i = \angle e$
- A student obtains a blurred image of a distant object on a screen using a convex lens. To obtain a distinct image on the screen he should move the lens
 - away from the screen
 - towards the screen
 - to a position very far away from the screen
 - either towards or away from the screen depending upon the position of the object.
 - A concave mirror forms an erect image of twice the object size, the object distance from the mirror is
 - $\frac{f}{2}$
 - $\frac{3f}{2}$
 - $2f$
 - $5f$
 - Power (in dioptre) and focal length (in meter) are related as
 - $P \times f = 1$
 - $P + f = 1$
 - $P - f = 1$
 - $\frac{P}{f} = 1$
 - An object is placed at a depth 'd' in a denser medium of refractive index n . It is viewed from air. The apparent depth is
 - $= d$
 - $> d$
 - $< d$
 - depends on the value of ' n '.
 - Match the position of object given in Column A with position of image given in Column B.

For a convex lens

Column A

Column B

- | | |
|------------------------------------|------------------------------|
| (i) Between F_1 and $2F_1$ | (A) At F_2 |
| (ii) At $2F_1$ | (B) At $2F_2$ |
| (iii) Beyond $2F_1$ | (C) Between F_2 and $2F_2$ |
| (iv) At infinity | (D) Beyond $2F_2$ |
| (a) (i)-D; (ii)-C; (iii)-A; (iv)-B | |
| (b) (i)-D; (ii)-A; (iii)-B; (iv)-C | |
| (c) (i)-D; (ii)-B; (iii)-A; (iv)-C | |
| (d) (i)-D; (ii)-B; (iii)-C; (iv)-A | |

12. For a convex mirror

Column A

Column B

- | | |
|---|---|
| (i) Object at infinity | (A) Image formed between pole and focus |
| (ii) Object between pole and infinity | (B) Image moves away from mirror |
| (iii) Object moved from focus to infinity | (C) Image formed at focus |
| (a) (i)-A; (ii)-B; (iii)-C | (b) (i)-B; (ii)-A; (iii)-C |
| (c) (i)-C; (ii)-B; (iii)-A | (d) (i)-C; (ii)-A; (iii)-B |

B. Assertion-Reason Type Questions

In each of the following questions two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- Both A and R are true and R is the correct explanation of the assertion.
 - Both A and B are true and R is the not the correct explanation of assertion.
 - A is true but R is false. (d) A is false but R is true.
- Assertion:** A dentist uses a concave mirror to examine a cavity.
Reason: A concave mirror forms magnified, virtual image of an object placed between the pole and focus
 - Assertion:** A ray of light incident normally on a refracting surface does not suffer any refraction.
Reason: The angle of refraction is zero when the angle of incidence is zero.
 - Assertion:** When a convex mirror is placed in water, its focal length remain the same as in air.
Reason: Focal length of a spherical mirror depends on the refractive index of the surrounding medium.
 - Assertion:** Apparent depth of a swimming pool is less than the actual depth.
Reason: This is due to the phenomenon of reflection of light.
 - Assertion:** The flash of lightning is seen before the sound of thunder is heard.
Reason: Speed of sound is greater than the speed of light.

A. Multiple Choice

1. (d); 2. (b); 3. (d); 4. (c); 5. (b);
6. (d); 7. (d); 8. (a); 9. (a); 10. (c);
11. (d); 12. (d).

B. Assertion-Reason Type

1. (a); 2. (a); 3. (c); 4. (a); 5. (c).