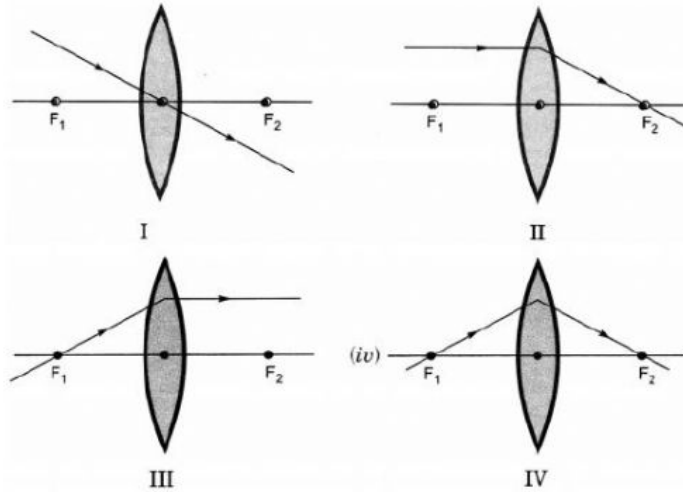


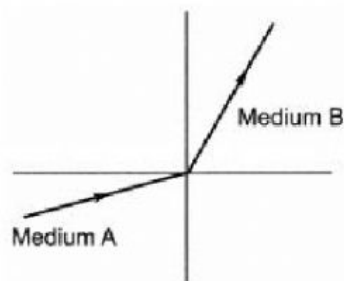
## Physics

### Ch – 10. Light Reflection and Refraction

1. The diagrams showing the correct path of the ray after passing through the

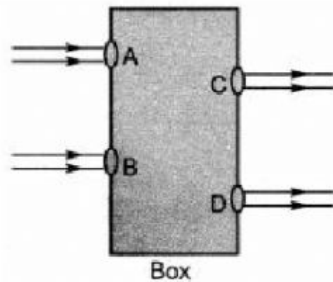


- (a) II and III only  
 (b) I and II only  
 (c) I, II and III  
 (d) I, II and IV
2. A light ray enters from medium A to medium B as shown in figure. The refractive index of medium B relative to A will be

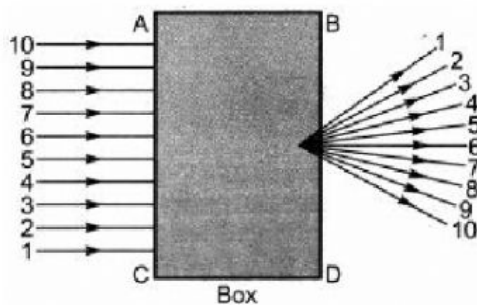


- (a) greater than unity  
 (b) less than unity  
 (c) equal to unity  
 (d) zero

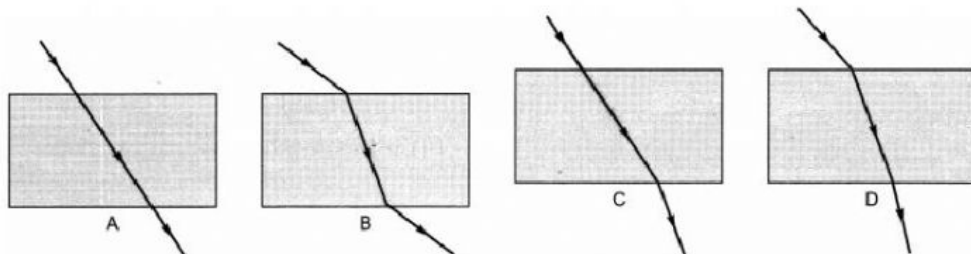
3. Beams of light are incident through the holes A and B and emerge out of box through the holes C and D respectively as shown in the figure. Which of the following could be inside the box?



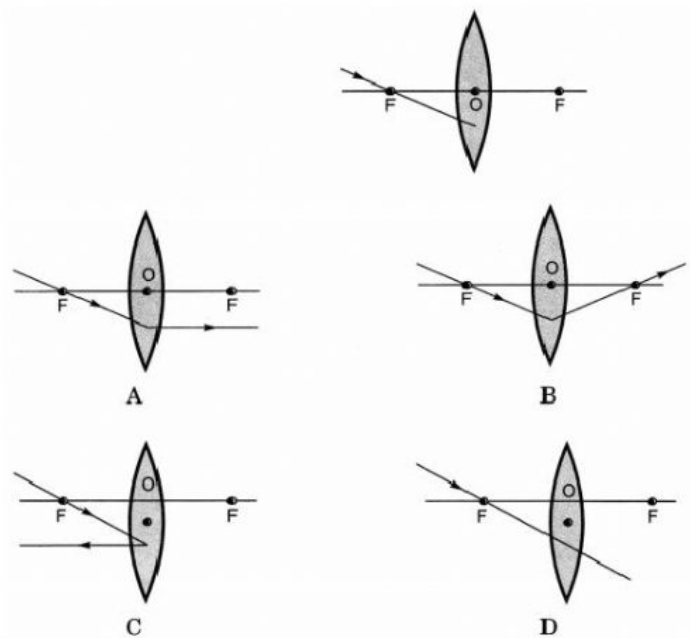
- (a) A rectangular glass slab  
(b) A convex lens  
(c) A concave lens  
(d) A prism
4. A beam of light is incident through the holes on side A and emerges out of the holes on the other face of the box as show in the figure. Which of the following could be inside the box?



- (a) Concave lens  
(b) Rectangular glass slab  
(c) Prism  
(d) Convex lens
5. The path of a ray of light coming from air passing through a rectangular glass slab traced by four students are shown as A, B, C and D in figure. Which one of them is correct?

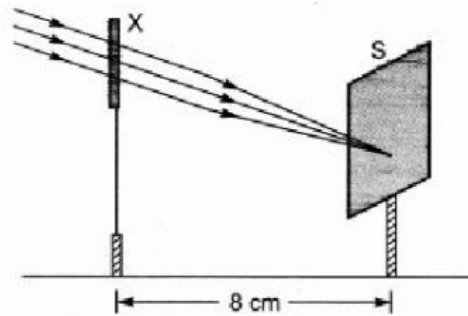


- (a) A  
(b) B  
(c) C  
(d) D
6. You are given water, mustard oil, glycerine and kerosene. In which of these media a ray of light incident obliquely at same angle would bend the most?
- (a) Kerosene  
(b) Water  
(c) Mustard oil  
(d) Glycerine
7. Which of the following ray diagrams is correct for the ray of light incident on a lens shown in figure?



- (a) Fig. A  
(b) Fig. B  
(c) Fig. C  
(d) Fig. D

8. A student used a device (X) to obtain/focus the image of a well illuminated distant building on a screen (S) as shown alongside in the diagram. Select the correct statement about the device (X).



- (a) This device is a concave lens of focal length 8 cm.
  - (b) This device is a convex mirror of focal length 8 cm.
  - (c) This device is a convex lens of focal length 4 cm.
  - (d) This device is a convex lens of focal length 8 cm.
9. The deviation of light ray from its path when it travels from one transparent medium to another transparent medium is called
- (a) reflection
  - (b) refraction
  - (c) dispersion
  - (d) scattering
10. If an incident ray passes through the focus, the reflected ray will
- (a) pass through the pole
  - (b) be parallel to the principal axis
  - (c) retrace its path
  - (d) pass through the centre of curvature
11. Magnifying power of a concave lens is
- (a) always  $> 1$
  - (b) always  $< 1$
  - (c) always  $= 1$
  - (d) can have any value
12. The image formed by a convex lens can be
- (a) virtual and magnified
  - (b) virtual and diminished
  - (c) virtual and of same size
  - (d) virtual image is not formed

13. If the power of a lens is  $-2\text{ D}$ , what is its focal length?
- (a)  $+50\text{ cm}$
  - (b)  $-100\text{ cm}$
  - (c)  $-50\text{ cm}$
  - (d)  $+100\text{ cm}$
14. If the magnification produced by a lens has a negative value, the image will be
- (a) virtual and inverted
  - (b) virtual and erect
  - (c) real and erect
  - (d) real and inverted
15. A ray of light is travelling from a rarer medium to a denser medium. While entering the denser medium at the point of incidence, it
- (a) goes straight into the second medium
  - (b) bends towards the normal
  - (c) bends away from the normal
  - (d) does not enter at all
16. Lateral displacement is directly proportional to
- (a) thickness of glass slab
  - (b) length of glass slab
  - (c) Height of glass slab
  - (d) None of these
17. A convex lens ( $n_g = 3/2$ ) when placed in water ( $n_w = 4/3$ ) has increase in
- (a) Focal length
  - (b) Optical centre
  - (c) Magnification
  - (d) None of these
18. A convex and a concave lens of equal focal length, will behave as a regular glass slab receiving light normally?
- (a) yes
  - (b) no
  - (c) maybe
  - (d) none of these

19. As light travels from a rarer to a denser medium it will have
- (a) increased velocity
  - (b) decreased velocity
  - (c) decreased wavelength
  - (d) both (b) and (c)
20. The angle of incidence  $i$  and refraction  $r$  are equal in a transparent slab when the value of  $i$  is
- (a)  $0^\circ$
  - (b)  $45^\circ$
  - (c)  $90^\circ$
  - (d) depend on the material of the slab