

Exercise

1. What is meant by refraction of light?
2. What is the cause of refraction of light?
3. Explain the refractive index of a medium.
4. On what factors does the refractive index of a medium depend?
5. What is the principle of reversibility of light?
6. Define the following terms
 1. Incident ray
 2. Emergent ray
 3. Refracted ray
 4. Angle of incidence
 5. Angle of refraction
 6. Angle of deviation
7. State the laws of refraction.
8. How will you prove experimentally, the laws of refraction?
9. What is lateral displacement? State any three factors on which it depends.
10. What is the unit of refractive index?
11. What is the refractive index of vacuum?
12. State the Snell's law of refraction of light.
13. How is the refractive index of a medium related to the speed of light in it?
14. For which colour of white light, the refractive index of a transparent medium is the least?
15. What happens to the wavelength of light when it passes from a rarer medium to a denser medium?
16. Explain the statement "the refractive index of water is 1.33".
17. State the principle of reversibility of light.
18. Use a diagram to explain the formation of multiple images of an object seen in a glass block with a silvered surface. Of all the images, which is the brightest? Why?
19. State the equation for the relation between the frequency and wavelength of light in vacuum.
20. A ray of light strikes the surface of a rectangular glass block such that the angle of incidence in air is (i) 0° (ii) 45° . In each case, draw diagram to show the path taken by the ray as it passes through the glass block and emerges from it.