

Class: 10
Subject: Physics
Topic: Light
No. of Questions: 26

- Q1. For the same angle of incidence 45 degree, the angle of refraction in two transparent media 1 and 2 is 20 degree and 30 degree respectively. out of 1 and 2 which is optically denser medium and why ?
- Q2. For the same angle of incidence in media p , q , r the angles of refraction are 45 , 35 and 15 degrees respectively. In which medium will the velocity of light be minimum?
- Q3. For what angle of incidence, the lateral shift produced by parallel sided glass plate is zero?
- Q4. What are the factors on which the lateral shift depends?
- Q5. A coin in a glass beaker appears to rise as the beaker is slowly filled with water. Why?
- Q6. An object under water appears to be at lesser depth than in reality. Explain why?
- Q7. Why does bending of light takesplace?
- Q8. Does the refractive index of substance change with the colour of light ?
- Q9. What is the advantage of "total internal reflection" over reflection ?
- Q10. In refraction of light through a rectangular glass slab, the emergent ray is parallel to the direction of the incident ray. Why
- Q11. Under what condition in an arrangement of two plane mirrors, incident ray and reflected ray will always be parallel to each other, whatever may be angle of incidence.
- Q12. Define the principal focus of a concave mirror.
- Q13. The radius of curvature of a spherical mirror is 20 cm. What is its focal length?
- Q14. Why do we prefer a convex mirror as a rear-view mirror in vehicles?
- Q15. A concave mirror produces three times magnified (enlarged) real image of object placed at 10 cm in front of it. Where is the image located?
- Q16. A ray of light travelling in air enters obliquely into water. Does the light ray bend towards the normal or away from the normal? Why?
- Q17. Light enters from air to glass having refractive index 1.50. What is the speed of light in the glass? The speed of light in vacuum is 3×10^8 m/s.

- Q18. Find out, from Table (see NCERT Book), the medium having highest optical density. Also find the medium with lowest optical density.
- Q19. You are given kerosene, turpentine and water. In which of these does the light travel fastest? Use the information given in Table (see NCERT Book)
- Q20. The refractive index of diamond is 2.42. What is the meaning of this statement?
- Q21. Define 1 dioptre of power of a lens.
- Q22. A convex lens forms a real and inverted image of a needle at a distance of 50 cm from it. Where is the needle placed in front of the convex lens if the image is equal to the size of the object? Also, find the power of the lens.
- Q23. Find the power of a concave lens of focal length 2 m.
- Q24. 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?
- Q25. Where an object should be placed in front of a convex lens to get a real image of the size of the object?
- Q26. A spherical mirror and a thin spherical lens have each a focal length of -15 cm. The mirror and the lens are likely to be-----