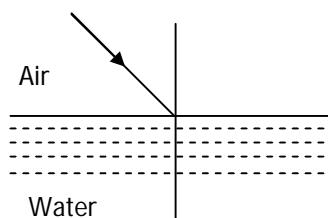
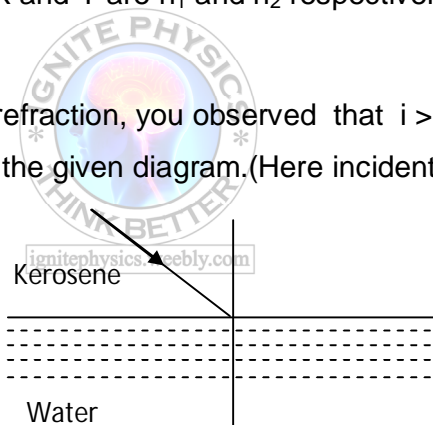


O5. REFRACTION AT PLANE SURFACES

1. What are the affecting factors of refractive index?
2. The size of a lemon which was kept in water glass seemed to be increased. Why?
3. Give two daily life examples for the effects of refraction of light?
4. A lemon in water glass appears in big size. Draw a ray diagram to explain it.
5. Complete the path of the light ray in the given diagram.

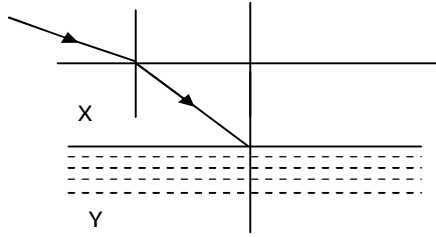


6. The refractive indices of Carbon disulphide and Benzene are 1.63 and 1.50 respectively. In which medium the light travels fast?
7. The refractive indices of two media X and Y are n_1 and n_2 respectively. Then What does the ratio $\frac{n_2}{n_1}$ indicate?
8. While you are doing experiment for refraction, you observed that $i > r$. What does it mean?
9. Complete the path of the light ray in the given diagram. (Here incident angle = Critical angle)



10. Different coloured letters are written on a paper. If a glass slab kept on the letters, are they appear in the same plane or surface?.
11. A light ray with wave length 500nm passes from air to glass having refractive index 1.5. Then find the wave length of light ray in glass?
12. Answer the following.
 - (i) Which property of light does not change when it travel through different media?
 - (i) Which property of light changes when it travel from one medium to another medium?
13. Explain how light travels through Optical fiber?
14. Distinguish between Optical density and density as per mass.

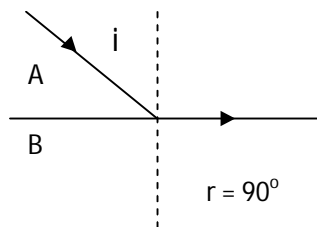
15. Medium-X and Medium-Y have same refractive index values. Then complete the path of light ray in the following diagram.



16. Is there any situation in which the light ray does not get refraction at the interface of two media? Explain.
17. Explain the refraction process through glass slab with a neat diagram.
18. Write a formula that shows the relation between incident angle and angle of refraction?
19. What do you understand about refraction?
20. The refractive index of glass with respect to water is 1.125. The speed of light in water is 2.25×10^8 m/s. Find the speed of light in glass.
21. Can we take the photograph of a mirage?
22. The refractive index of crown glass is 1.52. Find the speed of light through it.
(Speed of light in vacuum is 3×10^8 m/s.)
23. The speed of light in different media A and B are c_1 and c_2 . But $c_1 > c_2$. Draw a diagram that shows the refraction of light ray when it passes from one medium to another. Indicate angle of incidence and angle of refraction.
24. How can you identify whether a medium is denser or rarer? Mention the criteria.
25. Your friend said, 'Refraction only takes place when a light ray travels from air to glass'.
What is your opinion?
26. A pencil is dipped in a water glass with an inclination to the surface of water. Draw a diagram for the refraction in this situation.
27. Refractive index of glass with respect to water is $\frac{9}{8}$. Then
(i) What is the refractive index of water with respect to glass.
28. How can you Explain that mirage is the result of total internal reflection?
29. Look at the object on a table through a glass slab. Draw a ray diagram that explains how the object appears to you.
30. How can you prove that the angle of refraction in rarer medium is greater than the angle of incidence in denser medium with an activity? Explain with a neat diagram.

31. Write Snell's law. Explain the terms in it.

32. Interpret about the following diagram.



33. What is the refractive index of Diamond ? What is the speed of light in air ? By using these two values, find the speed of light in Diamond.

34. The coin in water pool seemed to be appear at 1m depth. If we use a magnet tied to the rope with 1 m length, can we bring out the coin or not ? Why ? Support your answer.



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