

BHARATH COACHING CENTRE

10th CBSE

Light Reflection & Refraction

Total: 40

Science

Time: 1.30 hrs

Section – A

4 X 1 = 4

1. Light rays always travels in _____.
2. 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?
3. The magnification produced by a plane mirror is +1. What does this mean?
4. _____ is the ability of a lens to converge or diverge light rays.

Section – B

4 X 2 = 8

5. Using ray diagram represent the image formation for the following positions of object in concave mirror.
(i) Between centre of curvature & focus. (ii) At centre of curvature.
6. State the law applicable for reflection of spherical mirrors.
7. Define the phenomenon of enlargement of image by mirrors.
8. An object 5.0cm in length is placed at a distance of 20cm in front of a convex mirror of radius of curvature 30cm. Find the position of the image, its nature and size.

Section – C

4 X 3 = 12

9. How images are formed by a convex mirror? Represent using ray diagram. Mention its uses.
10. How power & focal length is related? Find the focal length of a lens of power -2.0D. What type of lens is that?
11. List the sign conventions for reflection by spherical mirrors. Illustrate it with the help of convex mirror.
12. We wish to obtain an erect image of an object, using a concave mirror of focal length 15cm. What should be the range of distance of the object from the mirror? Is the image larger or smaller than the object? Draw the ray diagram to show the image formation in this case.

Section – D

4 X 4 = 16

13. (i). Name the type of mirror used in the following situations.
(a) Head lights of a car. (b) Side/rear –view mirror of a vehicle. (c) Solar furnace.
(ii). A doctor has prescribed a corrective lens of power +1.5D. Find the focal length of the lens. Is the prescribed lens diverging or converging?
14. (a) Write the mirror formula. (b) Define the term principal focus.
15. Differentiate the nature, properties & uses of concave and convex mirrors.
16. (i) An object size 7.0cm is placed at 27cm in front of a concave mirror of focal length 18cm. At what distance from the mirror should a screen be placed, so that a sharp focused image can be obtained? Find the size and the nature of the image.
(ii) A concave mirror produces three times magnified (enlarged) real image of an object placed at 10cm in front of it. Where is the image located?