Chapter: Light- Numerical Practice questions class 10 Paper-2

Q1. An object is placed at a distance of 30 cm from a concave mirror of focal length 20 cm. Where will the image be formed?

Q2. A 2.0-cm-high object is placed perpendicular to the principal axis of a concave mirror. The distance of the object from the mirror is 30 cm, and its image is formed 60 cm from the mirror, on the same side of the mirror as the object. Find the height of the image formed.

Q3. A 1.2-cm-long pin is placed perpendicular to the principal axis of a convex mirror of focal length 12 cm, at a distance of 8 cm from it. (a)Find the location of the image. (b)Find the height of the image. (c)Is the image erect or inverted?

Q4. Sunlight is incident on a concave mirror, parallel to its principal axis. The image is formed at a distance of 12cm from the pole. Find the radius of curvature of the mirror.

Q5.An object is placed at a distance of 20cm from a convex mirror of focal length 25cm.Calculate the position of the image. Discuss its nature.

Q6. Find the position, size and the nature of the image formed by a spherical mirror from the following data. u = -20cm f= -15cm ho= 1.ocm .

Q7. A 2-cm-high object is placed at a distance of 32cm from a concave mirror. The image is real, inverted and 3cm in size. Find the focal length of the mirror and the position of the image.

Q8. A concave mirror forms an inverted image of an object placed at a distance of 12cm from it. If the image is twice as large as the object, where is it formed?

Q9. A concave mirror forms an erect image of an object placed at a distance of 10cm from it. The size of the image is double that of the object. Where is the image formed?

Q10. An object is placed at a distance of 12cm from a concave mirror of radius of curvature 6cm.Find the position of the image.

Q11. An object of height 2cm is placed at a distance of 15 cm from a concave mirror of focal length 10 cm. Draw a scale diagram to locate the image. From the diagram, find the length of the image formed.

Q12. The image of an object placed 16 cm from a concave mirror is formed at a distance of 24 cm from the mirror. Calculate the possible focal lengths of the concave mirror from this information.

Q13. An object is placed 20 cm from a convex mirror. Its image is formed 12 cm from the mirror. Find the focal length of the mirror.

Q14.An object is placed at a distance of 12cm from a concave mirror. The image formed is real and four times larger than the object. Calculate the distance of the image from the mirror.

Q15. An object is placed 24cm from a concave mirror. Its image is inverted and doubles the size of the object. Find the focal length of the mirror and the position where the image is formed.

Q16. Where an object should be placed before a concave mirror of focal length 20cm so that a real image is formed at a distance of 60cm from it?

Q17. An object is placed at a distance of 12cm from a convex mirror of radius of curvature 12cm.Find the position of the image.

Q18. If the height of the object in the previous problem is 1.2cm, what will be the height of the image?

Q19. When a concave mirror is placed facing the sun, the sun's rays converge to a point 10cm from the mirror. Now, an erect, 2-cm-long pin is placed 15cm away on the principal axis of the mirror. If you want to get the image of the pin on a card, where would you place the card? What would be the nature and height of the image?

Q-20. The far point of a person suffering from myopia is 2 meters from the eye. Find the focal length and power of the corrective lens that will correct his vision.