Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 3

SUBJECT: PHYSICS **CLASS-X** **JULY,2025**

CH:9 LIGHT: REFLECTION AND REFRACTION

1. The image formed by a concave lens is always ……..
   (a) virtual and erect (b) real and erect
   (c) virtual and inverted (d) real and inverted.
2. An object is kept at 60 cm in front of a convex lens. Its real image is formed at 20 cm from the lens. Find the focal length and power of the lens.

   ANS:15cm,6.66D
3. The focal length of a convex lens is 20 cm. If an object of height 4 cm is placed at 30 cm from the lens, find the position, nature and size of the image.

   ANS:60cm,8cm
4. The focal length of a convex lens is 20 cm. If an object of height 2 cm is placed at 30 cm from the lens, Find the magnification produced and height of the image.

   ANS: -2, -4cm
5. When a pin of height 4 cm is fixed at 10 cm from a convex lens, the height of the virtual image formed is 16 cm. Find the focal length of the lens.

   ANS: 13.33 cm
6. A spherical lens is used to obtain an image on a screen. The size of the image is four times and size of the object. What is the type of lens and at what distance is the screen placed from the lens?

   ANS: 5f
7. An object of height 5 cm is held 20 cm away from a converging lens of focal length 10 cm. Find the position, nature and size of the image formed.

   ANS: 20cm, -5cm
8. An object kept 60 cm from a lens gives a virtual image 20 cm in front of the lens. What is the focal length and power of the lens? Is it is converging lens or diverging lens?

   ANS: -30cm
9. The power of a concave lens is -2.5 dioptres. Find it focal length.
10. Three lenses of focal length 20 cm each are kept in contact with each other . Find the power of their combination.