Chapter Test – Light CBSE10P01.1

☐ **I have read all the Instruction Carefully and I am ready to Write the Test.**

All the Best

Section A: (5 x 1 = 5 Marks)

1. Define reflection of light.
2. What is the focal length of a concave mirror whose radius of curvature is 10 cm?
3. Name the type of mirror used as a rearview mirror in vehicles.
4. State the laws of refraction of light.
5. What is the power of a convex lens of focal length 20 cm?

Section B: (5 x 2 = 10 Marks)

6. A student focuses the image of a distant tree on a screen using a concave mirror. Draw a ray diagram to show the image formation and label the positions of the object, mirror, and image. Also, calculate the magnification produced.
7. A concave mirror of focal length 15 cm forms an image of an object on its own axis at a distance of 20 cm from the mirror. Calculate the magnification produced.
8. Explain the working of a compound microscope with the help of a diagram.
9. A convex lens of focal length 20 cm is placed in contact with a concave lens of focal length 10 cm. Calculate the focal length of the combination.
10. A concave lens of focal length 20 cm is placed at a distance of 15 cm from a convex lens of focal length 10 cm. Calculate the position and nature of the image formed.

Section C: (3 x 5 = 15 Marks)

11. (a) Draw a ray diagram to show the image formation by a convex lens when an object is placed at infinity. Mark the positions of the object, lens, and image.

    (b) Calculate the magnification produced.

12. (a) A concave mirror of focal length 20 cm is used to form an image of an object. The size of the object is 2 cm and its distance from the mirror is 30 cm. Draw a ray diagram to show the image formation and mark the positions of the object, mirror, and image.

    (b) Calculate the magnification produced.

13. (a) State the laws of refraction of light and explain them with the help of a diagram.

    (b) A ray of light is incident on a glass slab at an angle of incidence of 60°. The angle of refraction is found to be 45°. Calculate the refractive index of the glass.