Excellence has no Limits

SACHDEVA GLOBAL SCHOOL

CLASS - X	Physics	Worksheet -1	Light

Reasoning and Logical Questions

1. What is the magnification of a plane mirror?
2. **What is the radius of curvature of a plain mirror? Or what is the focal length of the plain mirror?**
3. Why paper catches fire when a convex lens is used to focus sunlight?
4. What is silvering of mirror?
5. What is refractive mirror?
6. The refractive index of water is 1.33 and kerosene is 1.44. Calculate refractive index of the kerosene with respect to water.
7. What type of mirrors are used for:
   a. In big shopping stores to watch activities of customers.
   b. By the dentist to see the teeth of a patient clearly.
8. Give mirror image of word "AMBULANCE"**.**
9. The magnification produced by a plane mirror is +1. What does it mean?
10. What is lateral inversion?
11. Where is the image formed in a convex mirror when the object is placed anywhere in front of it?
12. **Which of the following has more power- a lens of shorter wavelength or a lens of larger wavelength?**
13. What will happen to the ray of light when it travels from denser to a rarer medium?
14. **An image formed in a spherical mirror has magnification -2. Is the image real or virtual?**
15. Focal length of a convex mirror is 10cm. Find its focal length.

Section B

1. Draw and explain the ray diagram formed by a convex mirror when (5)
   a. Object is at infinity
   b. Object is at finite distance from the mirror
2. How should a ray of light be incident on a glass slab, so that it emerges out from the other end without being displaced?
3. A concave lens of focal length is 20 cm. at what distance from the lens 5 cm tall object be placed so that it forms an image at 15cm from the lens? Also calculate the size of the image formed.

4. An object 50cm tall is placed on the principal axis of a convex lens. Its 20 cm tall image is formed on the screen placed 10 cm from the lens. Calculate the focal length of the lens.
5. Identify the correct emergent ray in the given diagram.