

ASSIGNMENT –I

Subject: Physics

Class: Std 8

Topic : Light

1. What is meant by refraction of light?

When a ray of light travels from one transparent medium to another, it bends from its original direction. This phenomenon is called refraction of light.

2. What is the cause of refraction of light?

When a ray of light travels from one medium to another the optical density of the medium changes due to this there is a change in speed of light. This causes refraction of light.

3. Define refractive index in terms of speed of light.

Refractive index is defined as the ratio of speed of light in air to speed of light in the given medium.

4. Define the following terms

1. Incident ray towards

A ray of light, travelling towards another optical medium, is called incident ray.

2. Emergent ray

The ray of light that leaves the medium after refraction is called emergent ray.

3. Refracted ray

The ray of light which deviates from its path on entering another optical medium is called refracted ray.

4. Angle of incidence

The angle which the incident ray makes with the normal

5. Angle of refraction

The angle which the refracted ray makes with the normal

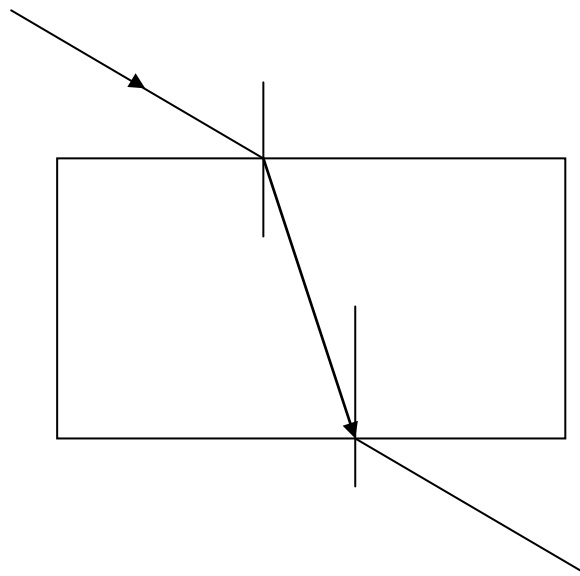
6. Angle of deviation

The angle between the produced incident ray (forward) and produced emergent ray (backward) is called the angle of deviation.

5. For which colour of white light, the refractive index of a transparent medium is the least?

Red

6. A ray is incident on a glass block as shown below. Complete the ray diagram until the ray emerges from the block. Clearly label the diagram



7. What happens (i) when a ray of light travels from a denser medium to a rarer medium

It will bend away from the normal

(ii) When a ray of light travels from a rarer medium to a denser medium

It will bend towards the normal

(iii) When a ray of light is incident normally on the surface separating two media

It passes undeviated

8. State the factors that affect the angle of deviation in a prism.

- The angle of the prism
- The material of the prism
- The angle of the prism
- The wavelength of light used

9. What is a prism?

A prism is a transparent medium bounded by two plane surfaces making an angle with each other.

10. Draw a diagram to show the path of a monochromatic ray of light as it enters a prism and emerges from the refracting surface.

11. Differentiate between monochromatic light and polychromatic light.

Light of only one colour i.e, of one single wavelength is called monochromatic light.

Light with different colours or different wavelength is called polychromatic light.

12. What is meant by dispersion of light?

The process of splitting up of white light into its constituent colours is called dispersion of light.

13. Explain why the incident ray bends towards the base of the prism.

When a ray of light passes from a rarer medium to a denser medium it bends towards the normal and when he moves from denser to rarer medium it bends away from the normal . Hence the ray bends towards the base.

14. Name the colour of white light which is deviated (i) the most - violet

(ii) the least - Red

15. What is a spectrum.

White light after passing through the prism splits into its constituent colours. The band of colours formed is called a spectrum

