



St. Lawrence High School
A Jesuit Christian Minority Institution



Term : 2nd

Work Sheet – 9

Class – X

Subject – Physical Science

Date – 01.05.20

Chapter – Light

Topic – Refraction of light
through parallel glass slab

Choose the correct option for the following questions.

1 × 15 = 15

- Refractive index of any medium depends on –
 - Velocity of light in that medium
 - Colour of light
 - Temperature of the medium
 - All of the above.
- The absolute refractive index of any medium can never be less than 1. But the refractive index of any medium with respect to any other medium (except air or vacuum) –
 - Can be less than 1
 - Can never be less than 1
 - Equal to 1 always
 - Can't be determined.
- The parameter that remains unchanged during refraction of light is –
 - The velocity
 - The wave length
 - The frequency
 - The angle of incidence
- The velocity of light for all colours are –
 - Same in all medium
 - Same only in air medium but different in any other medium.
 - Same in any medium except air.
 - None of these.
- When light is incident on the surface of separation perpendicularly, then the angle of incidence is –
 - 90°
 - 45°
 - 0°
 - 180°
- When light is incident on the surface of separation perpendicularly, then the angle of refraction is –
 - 90°
 - 45°
 - 0°
 - 60°
- For normal incidence of incident ray on the interface, the angle of deviation is –
 - 0°
 - 45°
 - 90°
 - None of these
- The refractive index of a particular medium (except air or vacuum) is –
 - Same for all colours of light
 - Maximum for red light and minimum for violet light
 - Maximum for violet light and minimum for red light
 - Depends on the angle of incidence

9. The absolute refractive index of water and glass are 1.33 and 1.5 respectively. What is the refractive index of glass with respect to water?
- a. $\frac{133}{150}$ b. $\frac{150}{133}$ c. $\frac{155 \times 133}{155 + 133}$ d. $\frac{155 + 133}{155 \times 133}$
10. When light is incident on the water surface at angle 30° with the surface, then the angle of refraction is measured as 45° . The refractive index of water is then –
- a. $\frac{\sqrt{2}}{2}$ b. it is not possible c. $\sqrt{\frac{2}{3}}$ d. $\sqrt{\frac{3}{2}}$
11. The absolute refractive index of a medium is $\sqrt{3}$. If incident angle is 60° in air, then the angle of refraction is –
- a. 30°
 b. 45°
 c. 60°
 d. 90°
12. The angular deviation of light rays in case of a parallel glass slab is –
- a. 0°
 b. 90°
 c. 180°
 d. Depends on the width of the slab
13. The lateral displacement of a light ray in case of a parallel glass slab is –
- a. The distance travelled by the ray through the slab
 b. Zero for normal incidence
 c. The perpendicular distance between the incident direction and emergent ray.
 d. Both b. and c.
14. The lateral displacement of light rays in case of a parallel glass slab depends on –
- a. Angle of incidence
 b. Refractive index of glass slab
 c. Width of the glass slab
 d. All of the above
15. For parallel glass slab, angle of incidence (i) and angle of emergence (i') are –
- a. Always equal
 b. Equal only for a particular angle of incidence
 c. Equal only for normal incidence
 d. Never equal

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