SHIKSHA CLASSES

Subject : Science -I | **Question Paper** | **Total Marks** : 20

Class : X | **6. Refraction of Light** | **Time** : 1 Hour

Q.1: A) Choose the correct alternative : **2**

1) When white sunlight passes through a glass prism ------ ray deviates the most.

a) Red b) Blue c) Violet d) Green

2) When ray of light are incident on glass slab then incident ray and emergent ray are ------ to each other.

a) Perpendicular b) Parallel c) Opposite d) Concurrent

B) Solve the following question. (Any One) **1**

1) Give the corelation.
Refractive index of air : _____ : : Refractive index of glass : 1.52

2) State whether the following statement is true or false.
The wavelength of light depends on velocity of light in that medium.

3) Define - Refraction of light.

Q.2: A) Give scientific reason. (Any Two) **2**

1) Stars twinkle at night.

2) The sun is seen on the horizon a little before sunrise and even after sunset for same time.

B) Solve the following question. (Any One) **4**

1) The absolute refractive index of water is 1.36. What is the velocity of light in water?
(velocity of light in vacuum 3×10^8 m/s)

2) Define : a) Dispersion of light
b) Absolute refractive index.

3) State the laws of refraction.

4) Explain the concept of mirage.

Q.3: Solve the following questions. (Any Two) **6**

1) With neat diagram explain the dispersion of light

2) Explain - A rainbow is the combined effect of refraction, dispersion and total internal reflection of light.

3) Will the light travels through glass slab with same velocity as it travels in air? Why?

4) What is refractive index of second medium wrt first medium, if light moves through first medium with a velocity 2×10^8 m/s which changes to 1.25×10^8 m/s in second medium?

Q. 4: Solve the following question. (Any One) **5**

1) If the angle of incidence and angle of emergence of a light ray falling on a glass slab are i and e respectively prove that i = e.

2) Explain with neat diagram partial and total internal reflection.

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