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SUBJECT:- PHYSICS CLASS:- XTH DATE:07/07/XX

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 5. (LIGHT- REFRACTION) (BASED ON NCERT PATTERN)

What is Refractive Index?

- **Refractive index** also called the index of refraction describes how fast light travels through the material.
- Refractive Index is **dimensionless**.
- For a given material, the refractive index is the **ratio between the speed of light in a vacuum (C) and the speed of light in the medium (V)**.
- If the refractive index for a medium is represented by n, then it is given by the following formula:.

$$n=C/V$$

- Based on the refractive index of the medium, the light ray changes its direction, or it bends at the junction separating the two media.
- If the light ray travels from a medium to another of a higher refractive index, it bends towards the normal, else it bends away from the normal.

Applications of Refraction of Light

- A lens uses refraction to form an image of an object for various purposes, such as **magnification**.
- Passing white light through a **glass prism** can split the white light into the spectrum of colour (**VIBGYOR**).
- In nature, it is refraction that causes us to see a different phenomenon like **mirages** and also the **twinkling of stars**… which is caused due to the **atmospheric refraction of light**.