

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

### What is Total Internal Reflection:-

The phenomenon which occurs when the light rays travel from a more optically denser medium to a less optically denser medium.

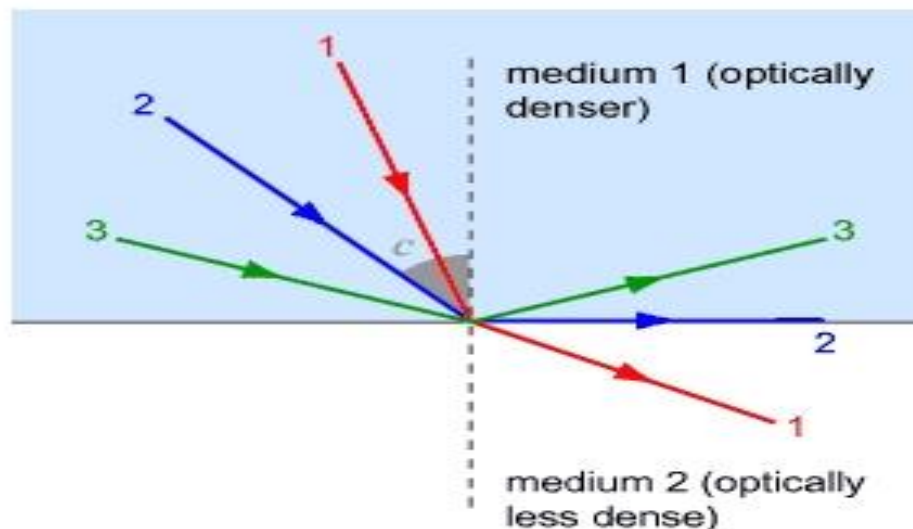
**Critical angle:-** That angle of incidence at which angle of refraction becomes  $90^\circ$ .

### What are two Conditions of Total Internal Reflection:-

Following are the two conditions of total internal reflection:

- The light ray moves from a more dense medium to less dense medium.
- The angle of incidence must be greater than the critical angle.

### Diagram:-



- **In case 1**:- For a small angle of incidence, the angle of refraction is small.
- when we increases angle of incidence then angle of refraction also increases.
- **In case 2**:- If we further increases the angle of incidence then the angle of refraction becomes  $90^\circ$ . This angle of incidence is known as **critical angle**.
- **In case 3**:- If we further increase the angle of incidence then the light rays reflects back in the same medium. This is known as **Total internal Reflection**.

### Examples of Total Internal Reflection:-

- Diamond
- Mirage
- Rainbow