

# SLIP TEST

10<sup>th</sup> CLASS

PHYSICAL SCIENCE

CHAPTER: Refraction of Light at Plane Surfaces

NAME OF THE STUDENT: \_\_\_\_\_ Roll No: \_\_\_\_\_ MAX.MARKS:25

Time:45min

## I) Answer the following questions

4x1=4M

1. On what factors does the refractive index of medium depend?
2. What is critical angle?
3. Why is it difficult to shoot a fish swimming in water?
4. Write the relation between critical angle and refractive index of the medium

## II) Answer the following questions

5x2=10M

5. What are the applications of Optical Fibres in daily life?
6. Why do stars appear twinkling?
7. Write laws of refraction
8. Write Snell's law equation. Explain the letters in it
9. Rahul observed that a light ray not deviated at the interface of two media. In what cases this happens

## III) Answer the following questions

2x4=8M

10. Explain the formation of mirage

(OR)

How do you verify experimentally that the angle of refraction is more than angle of incidence when light rays travel from denser to rarer medium

11. Observe the following table and answer the following questions

Material medium	Air	Ice	Water	Kerosene	Benzene	Rock salt	Diamond
Refractive index	1.0003	1.31	1.33	1.44	1.50	1.54	2.42

- a) In which substance, the speed of light is more?
- b) Write the relation between refractive index of the medium and speed of light
- c) Why kerosene has more refractive index than water?
- d) From the above table which material medium is treated as rarer medium.

(OR)

Explain the refraction of light through a glass slab with a neat ray diagram

## IV) Fill the following blanks

6x1/2=3M

12. Critical angle of incidence, the angle of refraction is \_\_\_\_\_
13. The refractive index of transparent material is  $\frac{3}{2}$ . The speed of light in that medium is \_\_\_\_\_
14. The critical angle of diamond is \_\_\_\_\_
15. The refractive index of glass slab is calculated by using the formula \_\_\_\_\_
16. When the light ray travels from denser to rarer it bends \_\_\_\_\_ from the normal
17. A bunch of thin fibres forms a \_\_\_\_\_