

PHYSICS PRACTICAL PRELIMINARY EXAMINATION

2024-25

STD. 10

TIME: 1 HR.

DATE 19/12/2024

MARKS: 20

NOTE:

The first 10 minutes have to be spent in reading this paper, planning your work and checking the quality of your apparatus. The one hour at the head of these 10 minutes has to be spent to perform your practical.

Writing work has to be done in the following order- Aim, Observation, Calculations if any and Conclusion. Do not copy the apparatus and procedure.

EXPERIMENT

[15]

Aim: To determine the impact of angle of incidence on lateral displacement.

Apparatus: Wooden board, white sheets, board pins, headed pins, glass slab, scale, protractor etc.

Procedure:

- 1] Take a white sheet of paper and fix it on a wooden board using board pins.
- 2] Place a glass slab on the paper and mark its outline. Remove the glass slab. Label the outline as ABCD starting from the left-hand top corner and going clockwise.
- 3] Mark a point O on side AB and draw a normal MON through this point.
- 4] Draw an incident ray making an angle of 20° with the normal.
- 5] Mark two points P and Q on the incident ray anywhere. Let the distance between two points be 1.5 to 2 cm. Fix two headed pins one on each points P and Q.

P.T.O.

- 6] Place the glass slab exactly on the outline drawn.
- 7] Look at the pins P and Q through the glass slab from side CD.
- 8] From side CD, fix two pins R and S such that P, Q, R and S seem to be in a straight line.
- 9] Mark the positions of pins P, Q, R and S by encircling before removing them. Now remove the glass slab.
- 10] Draw a ray (emergent ray) passing through R and S which meets side CD of the glass slab at point O'. Draw a normal N'O'M' through point O'.
- 11] Join point O (refracted ray)
- 12] Extend the incident ray in forward direction till it emerges out from the glass slab into the air medium. Label it as OT.
- 13] Take a point E anywhere on the emergent ray RS and draw a perpendicular from it on OT. Let this perpendicular meet OT at F.
- 14] Measure EF. It gives the lateral displacement for an angle of incidence 20°
- 15] Repeat the above procedure for angle of incidence 30° , 40° , 55° and 60° In each case measure the lateral displacement.
- 16] Fill the values of angle of incidence and its respective lateral displacement in the observation table given below and study the relation between them.

Sr. No.	Angle of incidence(i)	Lateral displacement
1.		
2. so on		

- 17] Write your conclusion.
- 18] What do you mean by lateral displacement?

Experiment 15 Marks + Practical Journal 5 Marks = 20 Marks