**535/3**

**PHYSICS**

**Paper 3**

**2¼ hours**

DEPARTMENT OF PHYSICS

RESOURCE MOCK EXAMINATIONS, 2016

S.4 PHYSICS PRACTICAL

**Paper 3**

2 HOURS 15 MINUTES

**Instructions to candidates**

1. Answer Questions 1 and one other question. You will not be required to start working with the apparatus for the first 15 minutes.
2. Marks are given mainly for a clear record of the observations made for their suitability and accuracy made for use made of them.
3. Candidates are required to record their observations as soon as they are made. Whenever possible, candidates should put their observations and calculations in the suitable table drawn in advance.
4. Squared papers are provided.

**Qn. 1.**  **In this experiment you will determine the mass of the metre rule provided.**

1. Place the block of wood on the bench so that its longest edge is vertical.
2. Place a knife edge on top of the block of wood.
3. Place the metre rule provided on the knife edge at the mark
4. Suspend the mass at a point , a distance of from the end of the metre rule.
5. Suspend a mass of at a point such that the metre rule balances as shown in figure below:

mark

1. Measure and record distance .
2. Repeat procedures (d) to (f) for values of
3. Record your results in a suitable table including values of and .
4. Plot a graph of (along the vertical axis) against (along the horizontal axis).
5. Read and record the intercept, on theaxis.
6. Calculate the mass of the metre rule from .

Qn. 2. In this experiment, you will determine the refractive index, of the material of the glass block provided.

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1. Fix the plane sheet of paper on a soft board using drawing pins.
2. Place the glass block on the sheet of paper so that it rests on its broader face and trace its outline .
3. Remove the glass block.
4. At point, about from draw a line at an angle
5. Fix pins and along and the replace the glass block onto its outline.
6. Looking through side , fix and such that they appear to be in a straight line with the images of and as shown in the figure above.
7. Remove the pins and the glass block and draw a line through and to meet
8. Join .
9. Measure angle .
10. Repeat procedures (d) to (i) for .
11. Record your results in a suitable table including values of .
12. Plot a graph of (vertical axis) against (horizontal axis).
13. Find the slope, of the graph.

Qn: 3. In this experiment you will determine the resistance per metre of the wire provided.

1. Connect the dry cells provided in series with a resistor, ammeter and voltmeter as shown in the figure below.
2. Connect the end Q of the wire mounted on a metre rule to the circuit as shown.
3. Connect a length of the wire across the voltmeter.
4. Close switch .
5. Record the voltmeter reading and the ammeter reading .
6. Open switch .
7. Repeat procedures (c) to (f) for values of
8. Record your results in a suitable table including values of
9. Plot a graph of (along the vertical axis) against(along the horizontal axis).
10. Find the slope, , of the graph.

**END**