

535/2
PHYSICS
Paper 2
Jul/Aug.2024
2 hours



UGANDA TEACHERS' EDUCATION CONSULT (UTEC)

Uganda Certificate of Education

Physics Paper 2

535/2

(Practical)

Time: 2 hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of two examination items

Answer one item in all.

Any addition items will not be scored

Candidates are not allowed to start working with the apparatus for the first quarter of an hour. This time is to enable candidates read the items thoroughly and as well check the apparatus you they need and plan appropriately.

A graph paper will be provided.

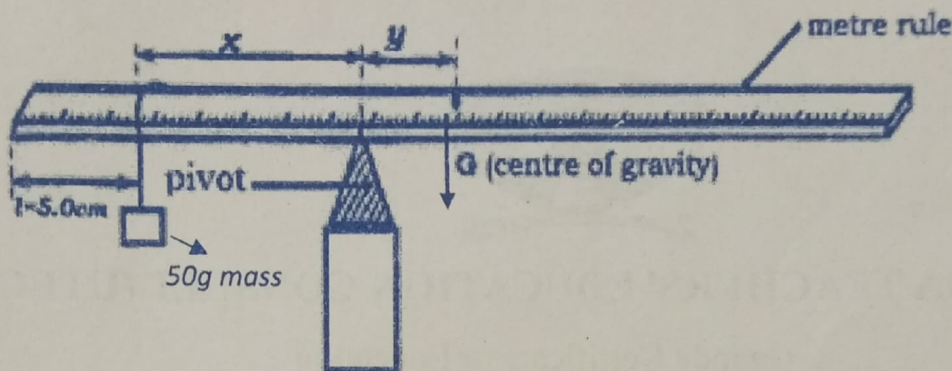
Mathematics tables

Item 1

The exam item requires that a uniform metre rule having a mass within the range of $66g - 158g$ should be used. The laboratory technician finds out that the metre rules provided have no labelled mass and apparently has no any machine for measuring mass of the metre rule. You are provided with a similar metre rule like those the laboratory technician has.

Task: Using the knowledge of physics, prepare a scientific investigation to help the technician know whether such metre rules can be used in the experiment.

Hint: Proposed set up of apparatus



- Any other set up may be used
- The principle of moments states that for a body to be in equilibrium, the sum of clock wise moment is equal to the sum of antic lock wise moment.

Item 2

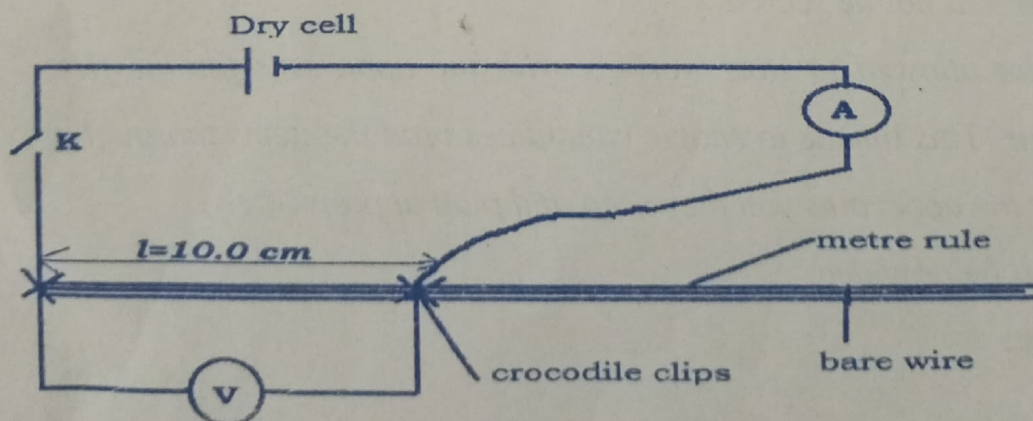
A shop keeper received complaints that the dry cells sold were faulty. The shopkeeper wondered as the dry cells were brand new. On consultation, the shopkeeper found out that good dry cells should have **internal resistance** within the range of $0.5\Omega - 1.3\Omega$. The shopkeeper has bought a new consignment but is challenged with knowing whether the dry cells comfort to the set standard.

You are provided with a dry cell from the consignment above.

Task:

As a physics student, using a scientific investigation advise on the fate of the consignment.

Hint: Set up of apparatus



- Any other experimental set up may be used
- From Ohms law $V = -rI + E$