

P510/2  
PHYSICS  
Paper 2  
Sample Paper 2026  
2 Hours



**UGANDA NATIONAL EXAMINATIONS BOARD**

**SAMPLE END OF CYCLE ADVANCED LEVEL**

**Paper 2**

**PHYSICS PRACTICAL EXAMINATION ITEMS**

**Time Allowed: 2 hours**

**INSTRUCTIONS TO CANDIDATES:**

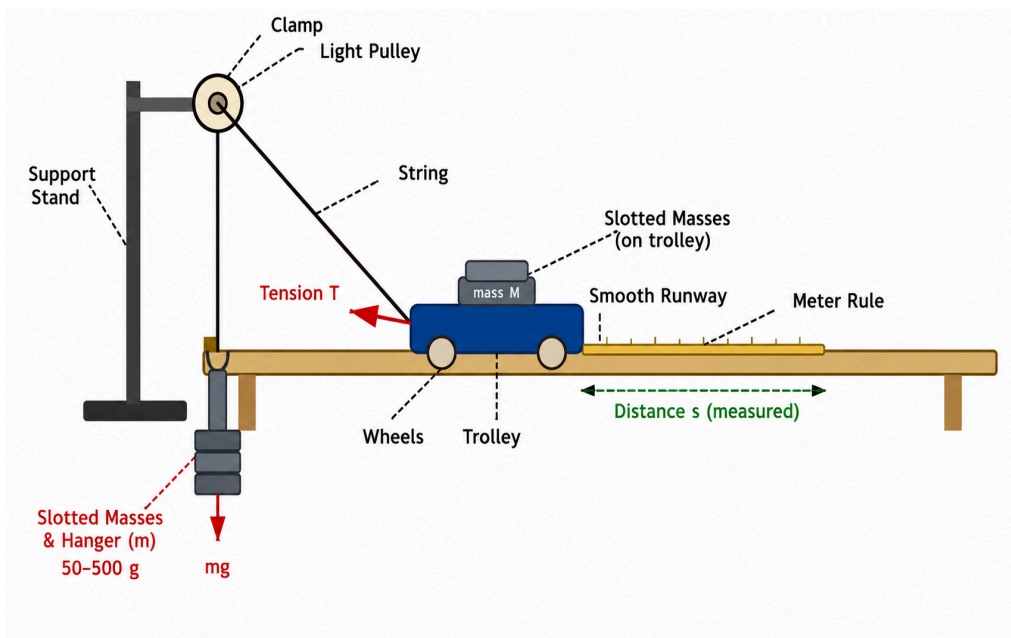
1. Attempt only one item
2. For each task:
  - i. Identify the problem or relationship and hypothesis to investigate.
  - ii. Design and carry out a valid experiment.
  - iii. Record and present your data clearly.
  - iv. Analyze your results and draw reasoned conclusions.
  - v. Reflect on accuracy of the results and suggest improvements.

**Turn Over**

## Item 1

A local boda-boda (motorcycle) garage is interested in improving the fuel efficiency and safety of motorcycles by reducing unnecessary load and friction. Mechanics often claim that heavier loads make motorcycles harder to accelerate, but they cannot quantify this effect. The garage consults physics students to investigate the above phenomenon using a trolley model.

### EXPERIMENTAL SETUP



### Task:

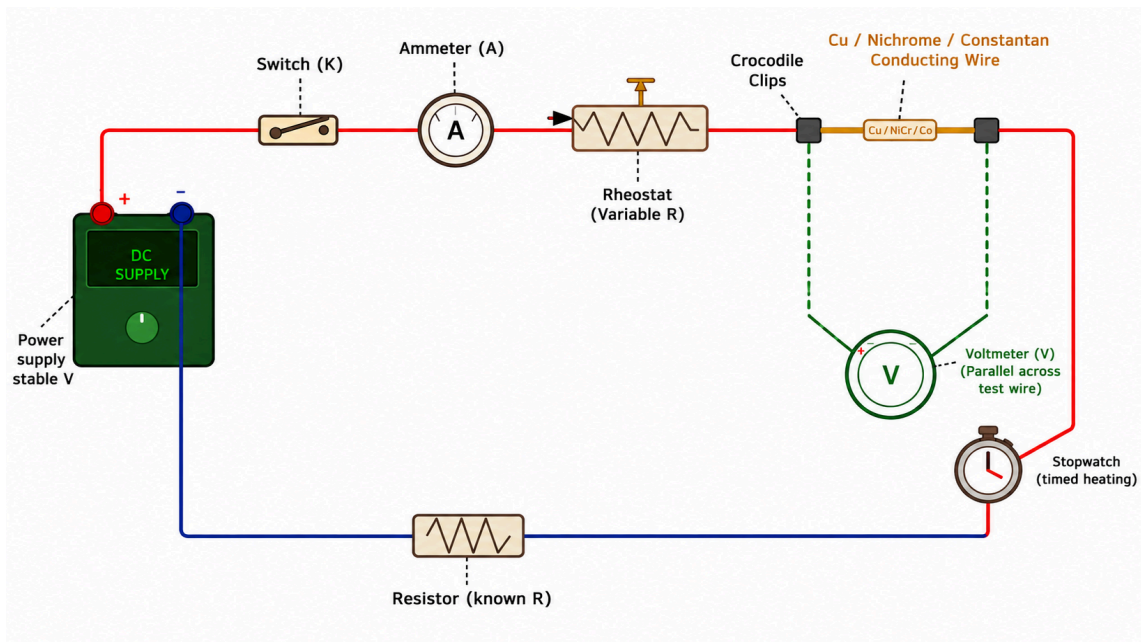
As a Physics student, you are required to conduct an experiment to reassure the mechanics about their claim.

*(A Trolley, A smooth runway, Light pulley, Slotted masses and a hanger, A string, A meter rule, A retort stand and a clamp, A stop clock/watch)*

## Item 2

An electrician observes that a wire in a household circuit heats up significantly when current flows through it. He suspects that this wire may have an unusual electric behaviour and fears that it might cause fire and burn the house. He therefore wishes to replace the wire with another one, but has two alternatives to choose from.

### EXPERIMENTAL SETUP



### Task

- As a physics student, carry out an investigation to help the electrician to select the right wire for replacing the wire that heats up.
- At a chosen value of  $V$ , compare the power generated from each conductor and advise the electrician accordingly.

*(DC power supply (adjustable voltage) ,Ammeter and voltmeter (digital or analogue) ,Conducting wires of different materials (e.g. copper, nichrome, constantan) ,Connecting wires ,Resistors of known values , Switch , Rheostat (variable resistor) , Micrometer screw gauge or vernier caliper (to measure wire thickness) ,Stopwatch (for timed heating trials))*

End