

535/2
PHYSICS
Paper 2
2024



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

PHYSICS

Paper 2
Practical

New Lower Secondary Curriculum

SCORING GUIDE

535/2 - PHYSICS SAMPLE PAPER SCORING GUIDE

EXPECTED RESPONSES:

- 1. Aim:** To determine the mass of the empty bottle provided in order to ascertain how much the student will earn.
- 2. Variable:**
 - Distances from the pivot to the masses.
 - (Independent Vs dependent).
 - Controlled variables(**depends on the type of the Expt**).
- 3. Hypothesis:**

The mass of the bottle provided is not between (10 – 20) g or is between (10 – 20) g.
- 4. List of Apparatus:**
 - Expected list.
 - Wooden block / Retort stand.
 - Knife Edge / Clamp.
 - Metre rule.
 - 2 pieces of thread /3 pieces of thread.
 - Known mass.
 - Empty bottle
- 5.** The metre rule is balanced on a knife edge and the point of balance noted and recorded, G .

A known mass is hung/suspended from one end of the metre rule at a known distance x from the G .

The bottle whose mass is required is suspended from the other end of the metre rule and its position from G is adjusted until the metre rule balances again at x .

The distance y of the bottle from G is recorded.

The experiment is repeated for atleast 2 more values of x to obtain corresponding values of y .
- 6. Possible sources of errors:**
 - Parallax errors.
 - Working surface not smooth/flat /rough enough.
 - Air resistance / wind.

7. Precautionary measures:

Correct use of instrument to avoid parallax errors.
Ensuring that working surface is flat enough.
Ensuring that the experiment is done in a conducive environment/
controlled to minimise air resistance/ wind interference.

8. Presentation of Data:

Table

Line graph/bar graph

- axes labelled with quantities and units,
- suitable scales,
- plots occupying at least half the graph paper
- correct plots
- well-judged line of best fit.

Or Pie chart(*depending on the experiment*)

9. Accuracy of data:

Appropriate number of decimal places/Standard form.

10. Data Analysis and Interpretation:

- (i) Plotting graph of x versus y .

$$\text{Slope, } S = \frac{M_b}{M}, M_b = SM,$$

$$Mx = M_b y.$$

$$x \text{ versus } y, \text{ Slope} = \frac{M_b}{M} .$$

$$M_b = M \times \text{slope}.$$

- (ii) Using Averages; (Average of x) $M =$ (Average of y) M_b

M_b can be obtained.

12. Advice given:

$$(M_b \times 400 = \text{Amount})$$

The student will havekg of bottles and will earnamount of money.