535/2
PHYSICS
Paper 2
2024

UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

PHYSICS

Paper 2
Practical

New Lower Secondary Curriculum

SCORING GUIDE

 Turn Over

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.

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

$Mx = M_b y$.

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

$M_b = M \times$ slope.

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

M_b can be obtained.

12. Advice given:

($M_b \times 400$ = Amount)

The student will have …..…kg of bottles and will earn …...amount of money.

END