*Trial 2 2019*

*Kenya Certificate of Secondary Education*

**PHYSICS**

**Paper - 232/3**

**MARKING SCHEME**

**1.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Mass (g) | 100 | 200 | 300 | 400 | 500 | 600 |  |
| Position of point (cm) | 40 | 41.5 | 43.0 | 44.5 | 46.0 | 47.5 | ***2 marks*** |
| Extension, e, cm | 0.0 | 1.5 | 3.0 | 4.5 | 6.0 | 7.5 | ***± 0.2 2 marks*** |
| Time of t, (s) |  | 7.31 | 8.84 | 10.40 | 11.31 | 12.48 | ***±0.5s 1 mark*** |
| 20 oscillations t2(S) |  | 7.34 | 9.97 | 10.08 | 11.33 | 12.34 | ***1 mark*** |
| Average time, t(s) |  | 7.33 | 9.41 | 10.24 | 11.32 | 12.41 | ***1 mark*** |
| Periodic time, T(s) |  | 0.3670 | 0.4700 | 0.5120 | 0.5660 | 0.6205 | ***2 marks*** |
| T²(S²) |  | 0.1347 | 0.2209 | 0.2621 | 0.3204 | 0.3850 | ***2 marks*** |

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b = represents the acceleration due to gravity. ½

**Que 2 - PART A**

b) Current I = 0.12 ± 0.01 ***½ mark***

Pd (V) = 2.6 ± 0.2 ***½ mark***

c) E = 3.0 ± 0.1 ***½ mark***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Length L(cm) | 100 | 70 | 60 | 50 | 40 | 20 |
| Current I (A) | 0.12 | 0.19 | 0.2 | 0.23 | 0.28 | 0.4 |
| P.d. (V) | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.0 |
| E - V (v) |  |  |  |  |  |  |

d)

e) Graph

Labelled axis (both - A1

Simple uniform scale - S1

Plotting - ½ × 4 = P2

Straight line with positive gradient

Passing through at least 3 correctly plotted points = L1

f) Slope (No line no gradient)

Correct intervals - ***1***

Correct evaluation - ***1***

g) r = slope ***1 mark***

Answer and correct unit ***½ mark***

**PART B**

OM = 11.7 ± 0.2cm ***1 mark***

M1 = 7.8 ± 0.2cm  ***1 mark***

index = Real depth = OM ***1 mark***

apparent depth Im

= OR 11.7

7.8

= 1.50 ± 0.2 ***1 mark***

Construction ***1 mark TOTAL = 5 marks***