**JINJA JOINT EXAMINATIONS BOARD**

**PHYSICS PRACTICAL 535/3 MOCK EXAMINATIONS**

**MARKING GUIDE 2019**

Question 1

R1 –record initial pointer position P0 with unit 1mark

R2 ­- record new pointer position P1 when mass is in the air 1mark

C1 – determine extension e1 1mark

R3 – Record pointer position P2 when the mass is immersed in water 1mark

C2 – Determine extension e2 1mark

T1- Design a table with 6 columns 1mark

T2 – Label the columns P1 (cm), e1(cm), P2(cm), e2(cm), (e1-e2)(cm). 1mark

T3- Record 5 more values of p1 increasing order 2marks

- Record 5 values of e1 correctly calculated to one dp 2marks

- Record 5 more values of P2 increasing 2marks

- Record 5 more values of e2 2 marks

- Record 6 values of (e1-e2) correctly calculated 1mark

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| M(g) | P1(cm) | e1(cm) | P2(cm) | e2 (cm) | eI-e2(cm) |
| 100 |  | 2.5-5.0 |  | 1.5- 4.5 |  |
| 200 |  | 5.0-10.0 |  | 3.0- 9.0 |  |
| 300 |  | 7.5-15.0 |  | 4.5- 13.5 |  |
| 400 |  | 10.0-20.0 |  | 6.0- 18.0 |  |
| 500 |  | 12.5-25.0 |  | 7.5- 22.5 |  |
| 600 |  | 15.0-30.0 |  | 9.0- 27.0 |  |

G1 – A graph of e1 against (e1-e2) 1mark

G2 – label e1 (cm)

(e1-e2)(cm) 2marks

G3 – Suitable and convenient scales 2marks

G4 – Plot 6 points correctly 3marks

G5 – Draw the best straight line 1mark

G6 – indicate method of finding the slope 1mark

C1 – Calculation of the slope;

* Correct substitution
* Correct arithmetic
* Accuracy (0.7- 0.9) 2marks

**Total**   **30marks**

**Question**  **2**

R1 – Record distance V = (10.0 – 11.8)cm 2marks

T1 – Design a table with 3 columns 1mark

T2 – Labels of columns u (cm), v(cm), 3marks

T3 – Record 4 more values of v 6marks

Record 5 values of to 3dp 2marks

|  |  |  |
| --- | --- | --- |
| **u (cm)** | **v (cm)** |  |
| 80.0 | 10.0 – 11.8 |  |
| 70.0 | 11.0 – 12.5 |  |
| 60.0 | 11.5 – 13.0 |  |
| 40.0 | 12.8 – 13.8 |  |
| 30.0 | 14.5 – 15.5 |  |

G1 – Graph of v against 1mark

G2 – label of the axes v (cm)

2marks

G3 – Suitable and convenient scales 2marks

G4 – Plot 5 points correctly 2 marks

G5 – Draw best straight line 1mark

G6 – Indicate method of finding the slope 1mark

C1 – Calculate slope s,

* Correct substitution
* Correct arithmetic 2marks

I – Find the intercept, t, on v axis and unit 1marks

C1 – calculate focal length, f, from the formula =( )

* Correct substitution
* Correct arithmetic

Accuracy (8 -12)cm 2marks

**Total**  **30marks**

**Question 3**

R1 – Record voltmeter reading V = (1.2 – 1.5), and unit 1mark

R2 – Record ammeter reading I = (0.48 – 0.54), and unit 1mark

T1 – Design a table with 4 columns 1mark

T2 – label columns l**(m), V(v), I(A), )** 2marks

T3 – Record 5 more values of V 5marks

Record 5more values of I 5marks

Record 6 values of  3marks

|  |  |  |  |
| --- | --- | --- | --- |
| **l(cm)** | **V(v)** | **I(A)** | **(Ω)** |
| 0.20 | 1.2- 1.5 | 0.48 - 0.54 |  |
| 0.30 | 1.1 – 1.4 | 0.38 - 0.42 |  |
| 0.40 | 1.0 – 1.4 | 0.32 – 0.36 |  |
| 0.50 | 1.0 – 1.4 | 0.26 – 0.30 |  |
| 0.60 | 1.0 – 1.4 | 0.22 – 0.26 |  |
| 0.70 | 1.0 – 1.4 | 0.20 – 0.24 |  |

G1 – A graph of against l 1mark

G2 – label of axes (Ω

l(m) 2marks

G3 – Find a suitable and convenient scale 2marks

G4 – Plot 6 points correctly 3marks

G5 – Draw best straight line 1mark

G~~6~~ – Indicate method of finding the slope 1mark

C1 – Calculation of the slope, s

Correct substitution

Correct arithmetic 1mark

**Total 30marks**