**MASAKA DIOSESAN MOCK 2019**

**535/3: PHYSICS PRACTICAL MARKING GUIDE.**

**QUESTION 1**

|  |  |  |
| --- | --- | --- |
| T1 | Designing table of values of at least 3 columns with the m – column labelled with unit and all m – values entered in stated order in the question paper.  (Design ½, m – labelled with unit – ½, all m values – ½) | 01½ |
| T2 | Labelling the rest of the columns with units i.e. h(cm), h(m). | 01 |
| T3 | Recording 6 – values of h in cm and increasing trend to 1 d.p in cm   * Recording 6 – values of h in m to 3 d.p | 09  03 |
|  | **Sub Total** | **14½** |
| G1 | Title of the graph: “A graph of m against h” | 01 |
| G2 | Drawing axes (with arrows at the tips), labelling axes with units  m(g)  h(m) | 02 |
| G3 | - Suitable and convenient scales used on both axes. (Marking axes with values, suitable and convenient scales) | 02 |
| G4 | Correctly plotting 6 points. **@ point correctly plotted -** ½ **mk** | 03 |
| G5 | Drawing best straight line to fit the plotted points. | 01 |
| G6 | Method of determining the slope | 01 |
| Sub - total | | 10 |
| IV | Reading the intercept on the vertical axis and unit | 02 |
| C1 | Calculating the constant, Mc (**to 3 s.f** ) of the dry cell from  I = Mc + 20   * Correct substitution ½ * Accuracy ½ * Unit, g ½ | 01½ |
| C2 | Calculation of the slope, S.   * Correct substitution ½ * Correct arithmetic ½ * **Unit gm–1** ½ | 01½ |
| C3 | Calculation of K   * Correct substitution and arithmetic ½ * Accuracy ½ * **Unit** ½ | 01½ |
| **Sub-total** | | 05½ |
| **TOTAL MARKS** | | **30** |

|  |  |  |
| --- | --- | --- |
| m(g) | h(cm) | h(m) |
| 90 | 0.8 |  |
| 85 | 1.0 |  |
| 80 | 1.2 |  |
| 75 | 1.4 |  |
| 70 | 1.6 |  |
| 65 | 1.8 |  |

**QUESTION 2**

|  |  |  |
| --- | --- | --- |
| R1 | Recording distance, N, between the screen and mirror and unit,  N = (13.0 – 17.0) | 02½ |
| T1 | Designing table of values of at least 2 columns with V – column labelled with unit and all U – values entered in stated order in the question paper. | 01½ |
| T2 | Labelling the rest of the column with unit | 0½ |
| T3 | Recording 6 values of V increasing to 1 d.p | **12** |
| **Sub-total** | | **16½** |
| G1 | Title of the graph: “**A graph of U against** V” | 01 |
| G2 | Drawing axes (with arrows at the tips), labelling axes **without** units  U(cm)  V(cm) | 02 |
| G3 | Suitable and convenient scales used on both axes.  (Marking the axes with values, suitable and convenient scale) | 02 |
| G4 | Correctly plotting 6 points. | 03 |
| G5 | Drawing a smooth curve | 01 |
| G6 | Drawing the line U = V | 01 |
| Sub - total | | 10 |
| I | Recording the values of Vo, of V at point of intersection of the two graphs | 01½ |
| C1 | Calculation of the slope, ***q***   * Correct substitution ½ * Correct arithmetic ½ * Accuracy (13.0 – 17.0) ½ * Unit, cm ½ | **02** |
| Sub-total | | 03½ |
| **TOTAL MARKS** | | 30 |

|  |  |
| --- | --- |
| U(cm) | V(cm) |
| 50.0 | 17.5 – 25.8 |
| 45.0 | 18.2 – 27.4 |
| 40.0 | 19.2 – 29.6 |
| 35.0 | 20.6 – 33.1 |
| 30.0 | 22.9 – 39.2 |
| 25.0 | 27.0 – 53.1 |

QUESTION 3

|  |  |  |
| --- | --- | --- |
| R1 | Reading and recording the voltmeter reading, E, and unit  E = (1.3 – 1.7)V | 01½ |
| T1 | Design of table of values of at least 5 columns with the l - column labelled with unit and all l – values entered in the given order. | 01½ |
| T2 | **Labelling the rest of the columns with units (any 2 correct** ½, all 4 correct, 1) | 01 |
| T3 | * Recording 6 – values of I correctly from the ammeter to 2 d.p, decreasing | 06 |
| * Recording 6 – values of V1 correctly calculated to 2 d.p, (any 3 correct - ½); all 6 – 1 mark | 01 |
| V1  I   * Recording 6 – values of correctly calculated to 2 s.f,   (any 3 correct - ½); all 6 – 1 mark | 01 |
| **Sub - Total** | | 18 |
| G1 | V1  I  Title of the graph: “A graph of against l” | 01 |
| G2 | Drawing axes (with arrows at the tips), labelling axes with units  V1  I  (Ω)  l(cm) | 02 |
| G3 | Suitable and convenient scales used on both axes. (Marking axes with values, suitable and convenient scales) | 02 |
| G4 | Correctly plotting 6 points. **@ point correctly plotted -** ½ **mk** | 03 |
| G5 | Drawing best straight line to fit the plotted points. | 01 |
| G6 | * Method of determining the slope | 01 |
| **Sub - Total** | | 10 |
| C1 | Calculation of the slope, β   * Correct substitution ½ * Correct arithmetic ½ * Accuracy β = (8.0 – 14.0) ½ * Unit Ωm–1 ½ | 02 |
| **Sub - Total** | | 02 |
| **TOTAL MARKS** | | 30 |

V1

I

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***l* (m)** | V(V) | **I(A)** | V1(V) | (Ω) |
| 0.100 | 0.60 – 1.25 | **0.30 – 0.62** |  |  |
| 0.200 | 0.50 – 1.10 | **0.24 – 0.54** |  |  |
| 0.300 | 0.40 – 0.95 | **0.20 – 0.48** |  |  |
| 0.400 | 0.35 – 0.85 | **0.16 – 0.42** |  |  |
| 0.500 | 0.30 – 0.75 | **0.14 – 0.38** |  |  |
| 0.600 | 0.25 – 0.70 | **0.12 – 0.36** |  |  |

**END**