NAME:……..INDEX NO:……

CANDIDATE'S SIGNATURE……

DATE…….

232/3
PHYSICS
PAPER 3
PRACTICAL
JULY/AUGUST 2008
TIME: 2 ½ HOURS

MOLO DISTRICT MOCK EXAMINATION
Kenya Certificate of Secondary Education 2008

232/3
PHYSICS
PAPER 3

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided*
- *Answer ALL the questions in the spaces provided in the question paper*
- *You are supposed to spend the first 15 minutes of the 2 ½ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- *Marks are given for a clear record of the observations actually made.*
- *Their suitability, accuracy, and the use made of them.*
- *Candidates are advised to record their observations as soon as they are made.*
- *Non-programmable silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.*

FOR EXAMINERS USE ONLY

QUESTION 1

TOTAL

	a(i)	a(ii)	b	f	g	h	i
Maximum Score	1	1	2	6	5	3	2
Candidate's Score							

QUESTION 2 **TOTAL**

	2c	2d	2e	2g	2h	2i	2j
Maximum Score	2	5	3	3	3	3	1
Candidate's Score							

GRAND TOTAL

This paper consists of 6 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

PART 1:

1. You are provided with the following
   - A meter rule
   - A vernier calliper
   - 50 g mass and 100g mass
   - Two pieces of thread
   - Paraffin in a beaker
   - A beaker
   - Knife edge
   - Tissue paper at least 30cm long

(a) Using the Vernier callipers measure:-

(i) The diameter of the 100g mass (1mk)

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(ii) The length of the 100g mass cylinder (1mk)

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(b) Determine the volume, V, of the 100g mass in cubic metres. (2mks)

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PART II: Proceed as follows:

(a) Balance the metre rule on knife edge as shown in **fig.1** below.

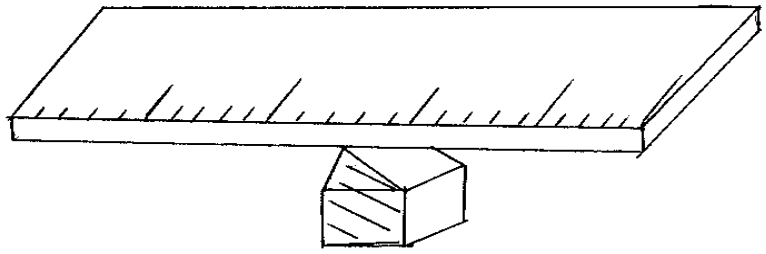


Fig.1

NB: The balance point should be maintained throughout the experiment.

(b) Hang the 100g mass at distance L_1=10cm from the pivot and hang the 50g mass on the other side to balance the 100g mass.

(c) Place a beaker such that the 100g mass hangs inside the beaker in (b) above.

(d) Pour into the beaker paraffin until the 100g mass is fully immersed in the paraffin. NB: Support the rule to avoid toppling. Then move the 50g mass to balance the immersed 100g mass.

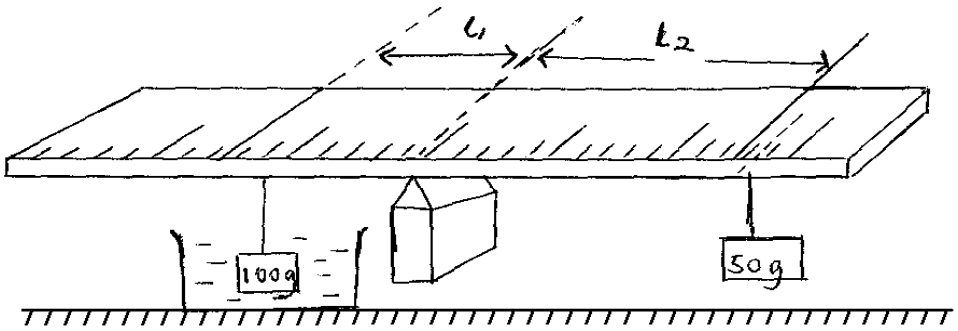


Fig.2

(e) Record the distance L_2 of 50g mass from the pivot in table 1 below.

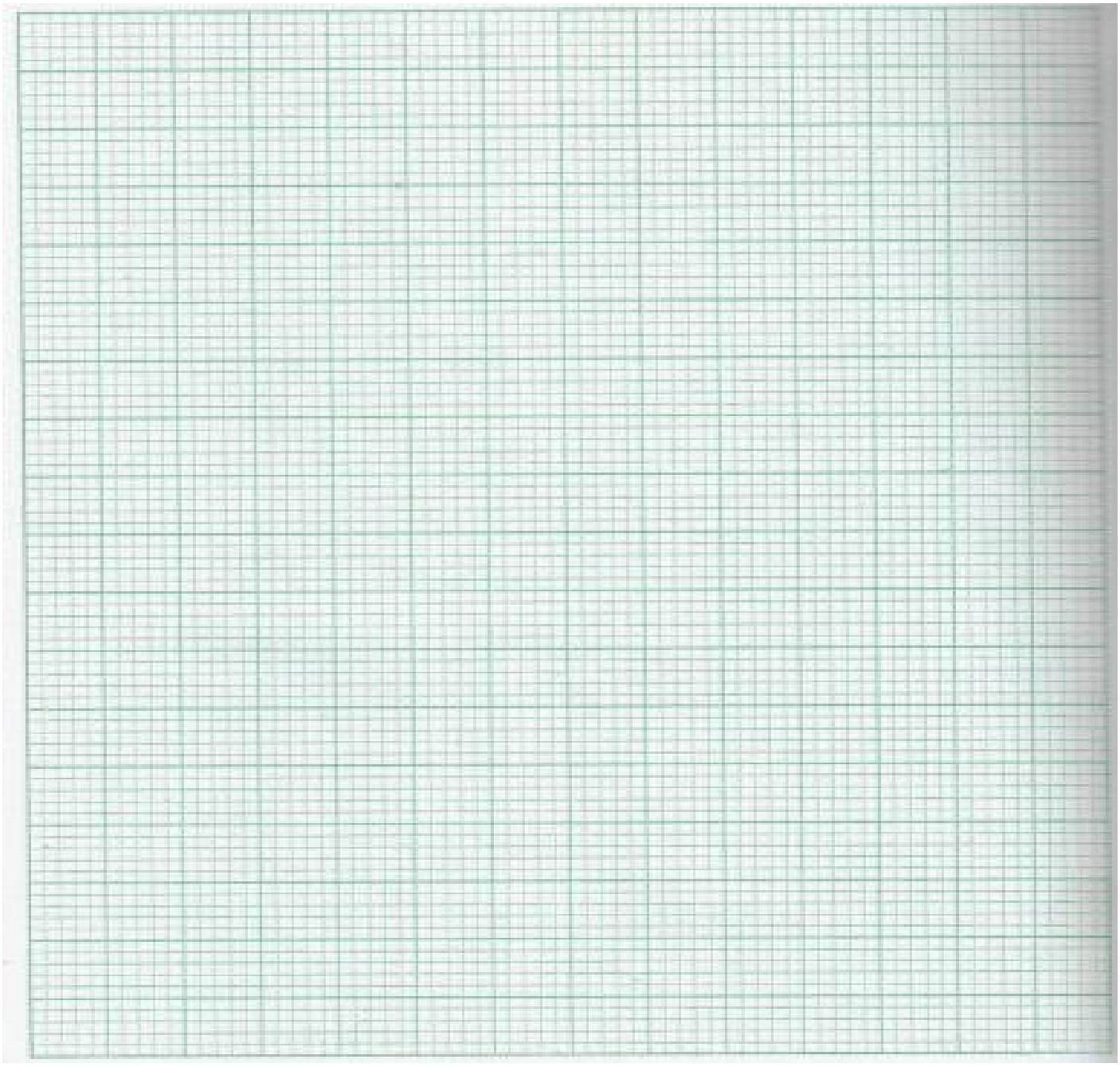
(f) By adjusting L_1 repeat the procedure for values of L_1 = 12cm, 15cm, 20cm, 25cm, 28cm, and complete table 1.

Table 1

L_1(m)	0.10	0.12	0.15	0.20	0.25	0.26
L_2(m)						

(6mks)

(g) On the grid provided plot the graph of L_2 (y – axis) against L_1. (5mks)



(h) Determine the slope S, of the graph (3mks)

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(i) Given that 20 = S + 2000Vρ determine ρ the density of the liquid. (2mks)

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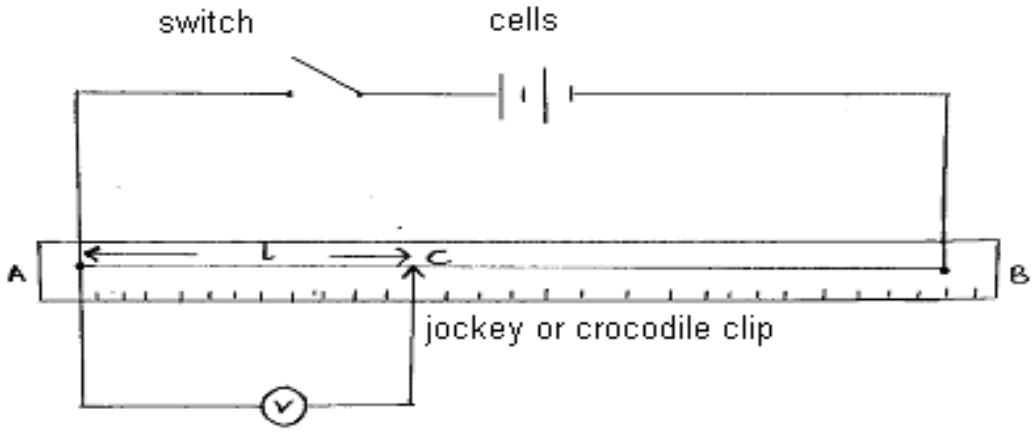
Q2. You are provided with the following; an ammeter, a voltmeter, two dry cells, a mounted resistance wire, connecting wires, a torch bulb in a bulb holder, a cell holder, a switch and a jockey or crocodile clip.

(a) Connect the apparatus provided as shown in the circuit diagram below.



(b) With the jockey or crocodile clip at C, 10cm from A, record the voltmeter reading V, in the table below.

(c) Repeat the experiment in (b) above for the following lengths, L = 20, 30, 40, 50, 60, 70, 80, 90cm respectively. (2mks)

Length(l cm)	10	20	30	40	50	60	70	80	90
p.d (v)									

(d) Plot a graph of potential difference V against length, L (cm) (5mks)

(e) Determine the slope, s, of the graph. (3mks)

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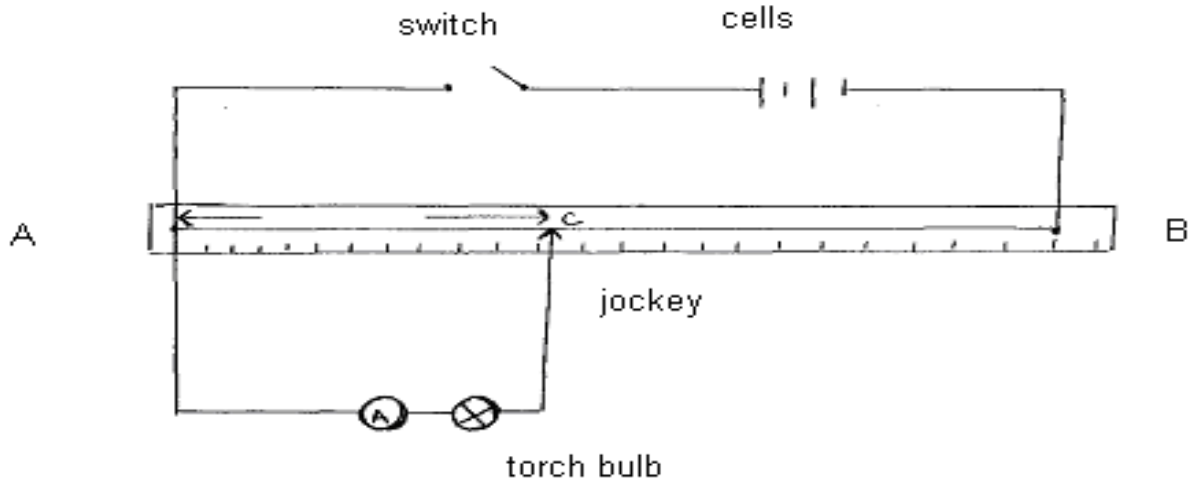
(f) Replace the voltmeter with a torch bulb and an ammeter, connect in series as shown in the circuit diagram below.



(g) Read and record the ammeter reading i, i_2 and i_3 for the corresponding values of lengths: (3mks)

L_1 = 30cm l_1 =.....

L_2 = 50cm l_2 =.....

L_3 = 70cm l_3 =.....

(h) Given that V = ls where V is the P.d across the length AC of the wire, S is the slope of the graph in (d) above and ℓ the length of resistance wire. Determine the potential differences V_1, V_2 and V_3, across the length Ac of the wire for the lengths l_1, l_2 and l_3 in (g) above. (3mks)

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(i) Using the values of V_1, V_2 and V_3, and the corresponding currents l_1, l_2 and l_3 calculate the corresponding resistance R_1, R_2 and R_3 of the bulb. (3mks)

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(ii) Compute the average of the resistance of the bulb. (1mk)

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