NAME: …….. INDEX NO:…….

SCHOOL: ...…….

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PHYSICS
PAPER 3
JULY / AUGUST 2008
2 ¼ HOURS

LARGER BUNGOMA DISTRICT MOCK EXAMINATION
Kenya Certificate Of Secondary Education (KCSE) 2008

232 / 3
PHYSICS
PAPER 3

INSTRUCTIONS TO CANDIDATES

- *Answer ALL the questions in the spaces provided in the question paper.*
- *You are supposed to spend the first 15 minutes of the 2¼ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- *Marks are given for clear record of the observations actually made, for their suitability and accuracy and the use made of them.*
- *Candidates are advised to record their observations as soon as they are made.*
- *Mathematical table and electronic calculators **may be** used.*

For Examiners Use Only

Question 1	b	d	e(i)	e(ii)	e(iii)	f	Total
Maximum Score	1	6	5	3	3	2	
Candidate's Score							

Question 2	c	d(i)	d(ii)	d(iii)	e(ii)	e(iii)	e(iv)	e(v)	e(vi)	Total
Maximum Score	2	6	6	3	3					
Candidate's Score										

TOTAL SCORE

This paper consists of 7 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicates and no questions are missing.

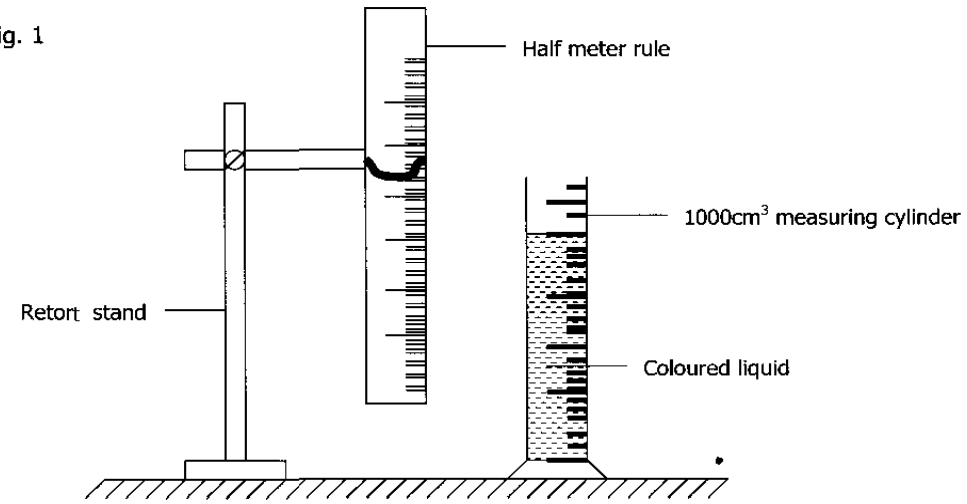
You are provided with the following:

- retort stand, one boss and one clamp
- a half meter rule
- a 100 cm^3 measuring cylinder containing coloured liquid
- a 10 cm^3 measuring cylinder
- about 20cm^3 of water in a beaker
- a test tube

Proceed as follows:

a) Set up the apparatus as shown in figure 1

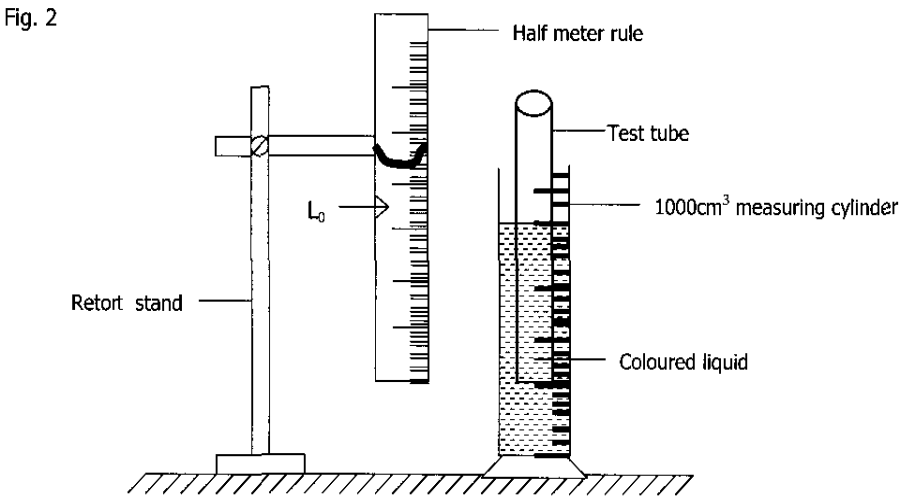
Fig. 1



b) Put the test tube inside the 1000cm^3 measuring cylinder as shown in figure 2. Note the reading L_O of the level of the coloured liquid in the measuring cylinder.

L_o ----------cm (1mk)

Fig. 2



c) Using the $10cm^3$ measuring cylinder, measure $2cm^3$ of water and pour it into the test tube while the test tube is inside the measuring cylinder.Record the new reading, L, of the level of the coloured liquid.

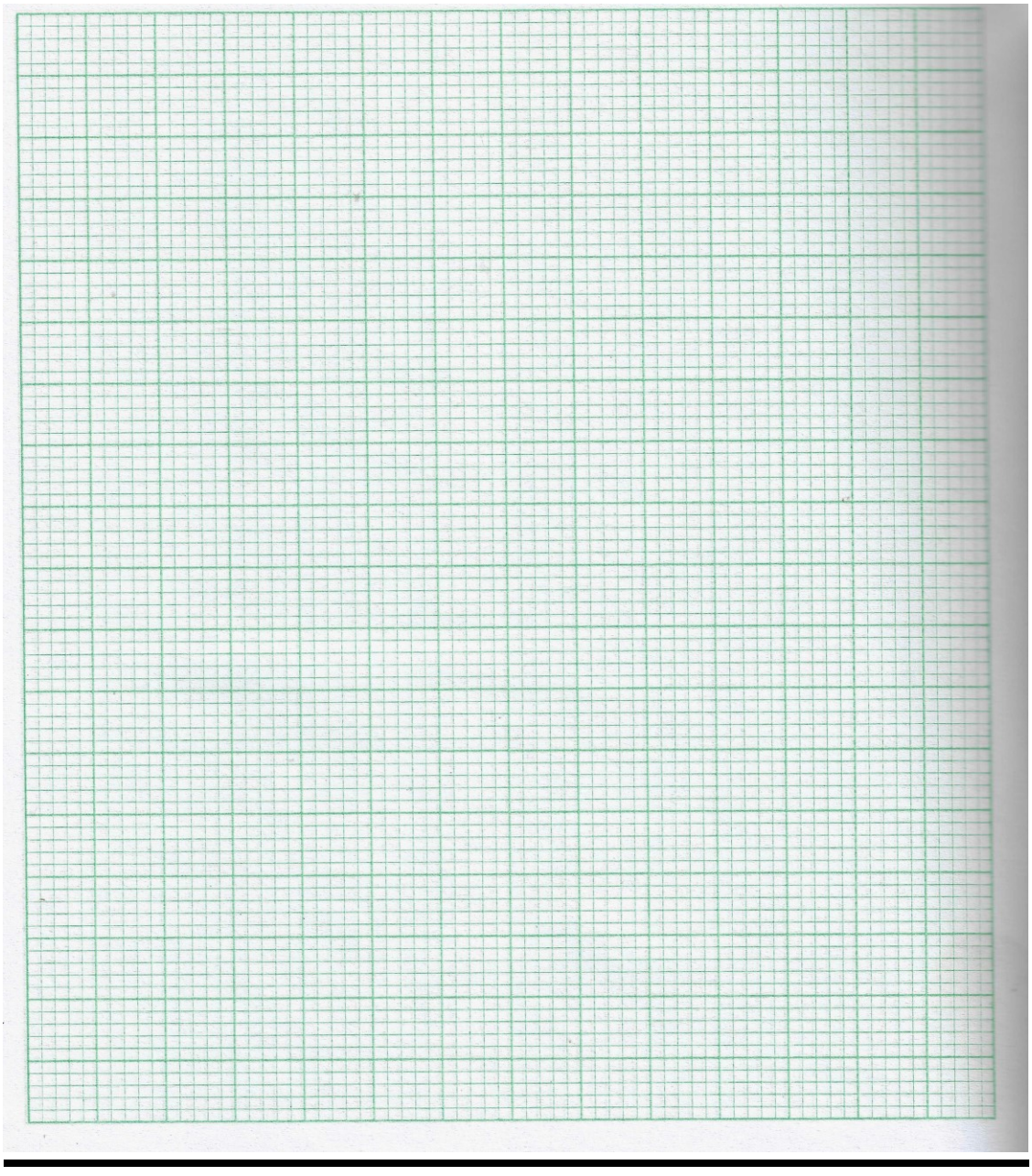
d) Repeat the procedure in (c) above for values of volume V = $2cm^3$, $4cm^3$, $6cm^3$, $8cm^3$ and $10cm^3$. Record your values for L in table *I* and complete the table.

Table 1

Volume. V (cm3)	**2**	**4**	**6**	**8**	**10**
L(cm)					
h = L - LO (cm)					

(6mks)

e) i) On the grid provided plot a graph of h(cm) against V(cm^3) (5mks)



ii) **Calculate** the slope S_1 of the graph.

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iii) Given that $s = \frac{1}{3.142R^2}$ where S is the slope, **calculate** the value of R. (3mks)

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f) From the graph, **determine** the reading of the level of the coloured liquid in the measuring cylinder when 7 cm^3 of water is put in the test tube. (2mks)

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2. This question consists of two parts A and B.

PART A

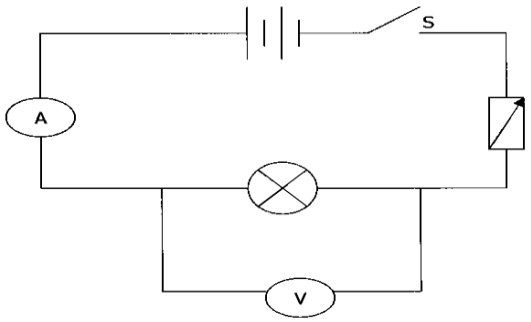
You are provided with the following:

- 2 Dry cells and a cell holder
- Voltmeter (0-2.5V)
- Ammeter (0 - 1A)
- Potentiometer, P, 50 ohms
- 2.5V bulb abd a bulb holder
- 7 connecting wires, 2 with crocodile clips at one end.
- Switch
-

Proceed as follows:

a) Set up the circuit as shown in figure 3

Fig. 3



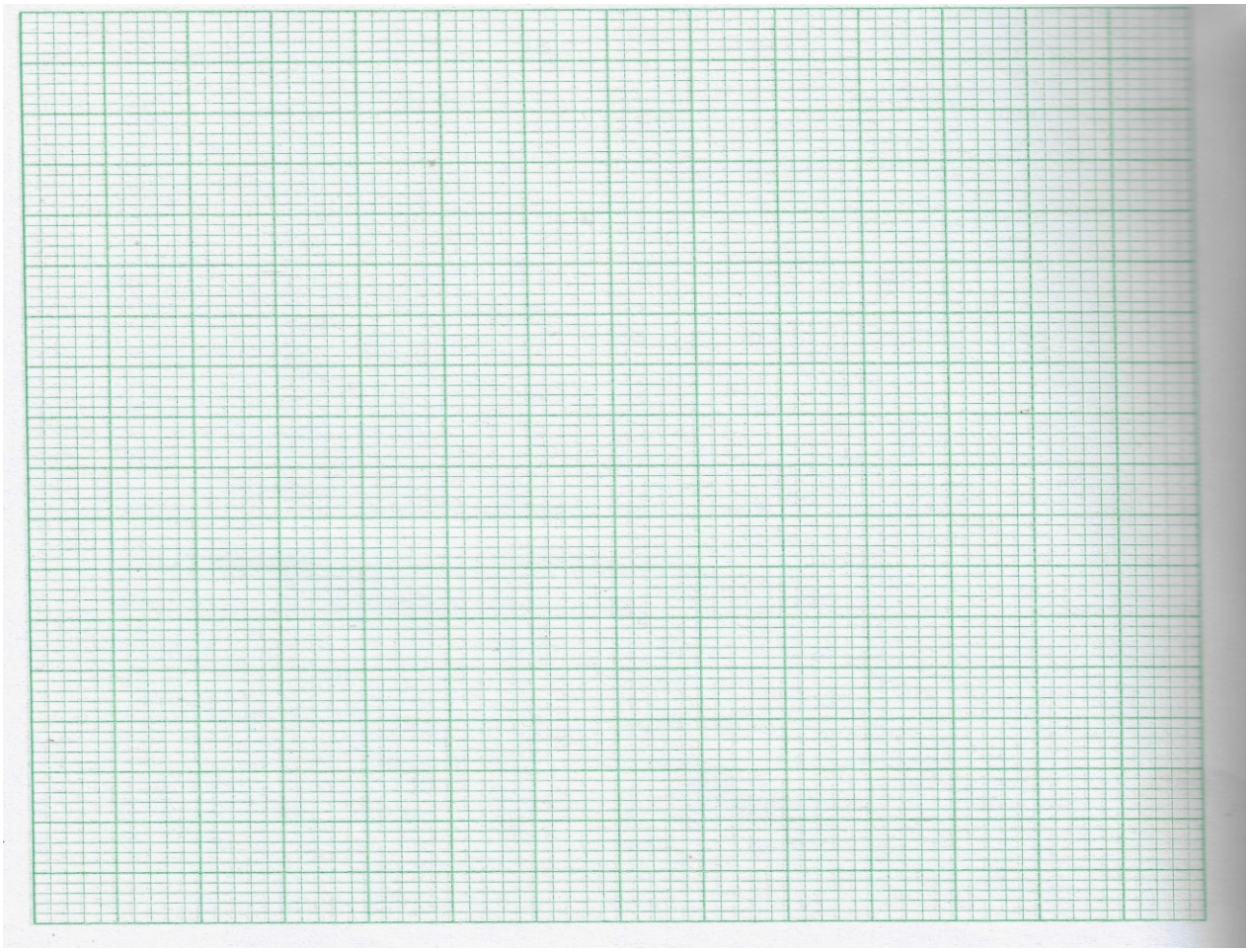
b) Close the switch S, and adjust the potentiometer P, until the voltmeter reads 2.0V. **Record** the corresponding ammeter reading.

c) Repeat the procedure in (b) above for other values o voltage as in the table 2 and then complete the table.

Voltage (V)	2,0	1.6	1.2	1.0	0.8	0.5
Current, I(A)						

(3mks)

d) (i). Plot a graph of voltage, V (y-axis) against current, I. (5mks)



ii). From the graph,

Determine the resistance of the bulb when the voltage is 0.8 volts. (3mks)

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iii). **Explain** the shape of the graph. (1mk)

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PART B:

e) i). Clamp the cork so that the optical pin rests horizontally as shown in the set up below.

ii). Position the mirror on a flat surface so that the tip of the pin is directly above the centre of the curved mirror. Measure the distance OA.

OA =…… (1mk)

iii). By viewing directly from above the tip of the pin move the Boss and Clamp, up and down the stand until a clear, image of the pin is seen. Position the pin at this point (p) and clamp firmly.

Describe the image observed fully

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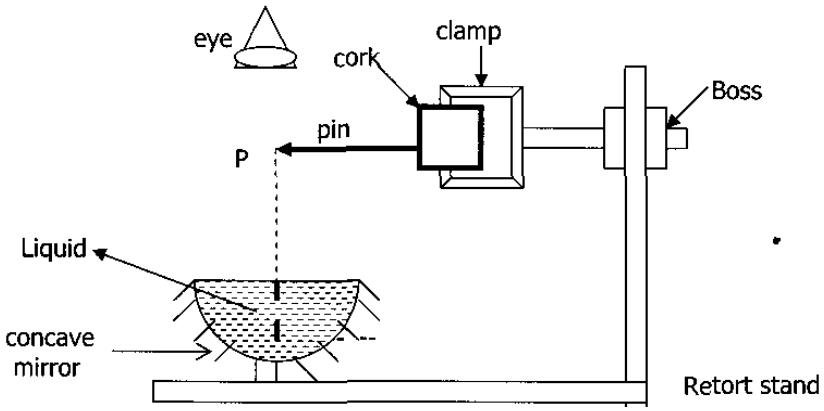
……

Use the rule to measure the distance OP. OP = ... (2mks)

iv). Fill the mirror to the brim using liquid L and then adjust the position of the pin until a clear image of the pin is observed. Position the pin at this point R and measure the distance OR.

(1mk)



v). Use the values obtained above to determine the value of AP/AR, hence state its significance.

Significance …… (3mks)

vi). What is the focal length of the mirror you have used? (3 Marks)

f =…… (½mk)