

BARINGO NORTH TRIAL EXAMINATIONS

INSTRUCTIONS:

- a) Write your name and index number un the spaces provided above.
- b) Answer all the questions in the spaces provided in the question paper.
- c) You are supposed to spend the first 15 minutes of the 2¹/₂ hours allowed for this paper reading the whole paper carefully before commencing your work.
- d) Marks are given for a clear record the observations actually made their suitability accuracy and the use made of them.
- e) Candidates are advised to record their observations as soon as they are made
- f) KNEC mathematical table and non-programmable silent calculators may be used.

QUESTION1

	с	d	e	f	g	h	Total
Maximum score	5	1	5	1	2	6	20
Candidates score							

QUESTION 2

	(a)	(b)	(d)	(e)	(f)	(g)	(h)	Total
Maximum score	3	1	6	5	2	2	1	20
Candidates score								

Grand Total

- Q1. You are provided with the following apparatus
 - 2 dry cells, size D and a cell holder •
 - Two carbon resistors •
 - 100cm nichrome wire mounted on a millimeter scale •
 - 8 connecting wires, at least 4 with a crocodile clips •
 - A switch •
 - A jockey 👌 •



Place the jockey at L = 20 cm from x and then close the switch. Record the ammeter reading and the b) voltmeter reading in the table 1 below.

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Repeat procedure (b) above with the jockey at L = 40, 60, 70, 80 and 90cm from x. Record the c) voltmeter and ammeter readings and complete the table.

Length L(cm)	I(A)	p.d(v)	I (MA)	p.d(MV)	Log I	Log V
20.0						
40.0						
60.0						
70.0						
80.0						
90.0						

(9marks)

(5marks)



e) Determine the slope of the graph.

(3marks)

f) The relationship between current I (A) and P.d (v) is given by the equation. $I = KV^n$ where k and n are constants.

From the equation Log I = n Log K. Determine using your graph the value of;

(2marks)

(1mark)

Q2. Part A

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² You are provided with the following:

- A coin (20shillings coin)
- Metre rule (labeled with its mass)
- Knife edge
- Measuring cylinder, 100ml
- Container with water

Procedure

i) Record the mass of the rule M_r .

M_r.....g

ii) Balance the rule on the knife edge

 $C.O.G = \dots \qquad (1mark)$

- iii) Put the rule on the knife edge d_1 cm from the centre of the rule.
- iv) Place the coin as shown in the fig below and adjust it until it gain balances horizontally.





Part B

- You are provided with:
- Beaker labeled B, 1000ml
- Plain paper white
- Complete retort stand
- Plane mirror (10cm by 5cm)
- Optical pin P
- Water in a container
- Plasiticine
- Half metre rule, 1 metre rule
- Cork

Procedure

- i) Mark a black line on the white paper provided and place it beneath the base of the beaker, with the mark near the centre of the base of the beaker.
- ii) Set up the apparatus provided as shown in fig 3 below.



black line mark on paper



viii) Repeat steps (iv) to (vii) for *four* other heights h, shown in the table below. (4marks)

Height h(cm)	6.5	9.0	11.0	13.5
AP (cm)				
g(cm)				

ix) Plot a graph of height, h against g.

(5marks)



x) Calculate the slope of the graph.

(2marks)

xi) State the physical importance of the slope.

(1mark)

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