THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

232/3 -

PHYSICS

- Paper 3

(PRACTICAL)

Nov. 2018 - 2½ hours

Name										••••••
Candidate's Signatu	ıre	•••••	•••••	•••••	Date	•••••		•••••	••••••	•••••••
Instructions to cand	***************************************	***************************************	•	······································			······································			or
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You are	provided	with	the	fol	lowing:

- Some water in a container
- A 10 ml measuring cylinder
- A piece of a glass rod
- A 10 g mass
- 5 paper clips
- A half metre rule
- A metre rule
- Two stands, two bosses and two clamps
- Three pieces of sewing thread

Proceed as follows:

045	(a)	Pour 6 ml of the water into the measuring cylinder. Lower the glass rod and determine the volume V of the glass rod.	into the water
		$V = cm^3$	(1 m

Remove the glass rod from water.

(b) Using a stand and a piece of string, suspend the half metre rule at its centre of gravity C so that it balances horizontally with the scale facing you.

Using a second stand, clamp a metre rule vertically near one end of the half metre rule to note the height at which the half metre rule is horizontal.

(1 mark)

Maintain this height throughout the experiment

Record the centimetre mark of the centre of gravity C.

$$C = \dots cm$$
 (1 mark)

Using the string, suspend the 10 g mass on the half metre rule at a distance d = 2 cm from C. The distance d = 2 cm should be maintained throughout the experiment.

Balance the half metre rule by suspending the glass rod using a string at a distance X from C.

Record the value of X

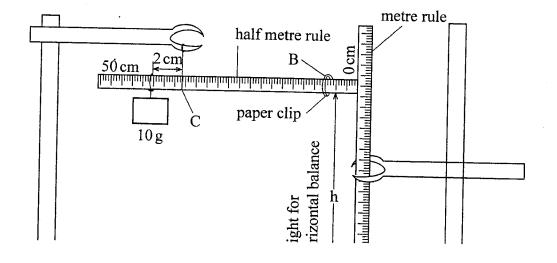
$$X = \dots cm$$
 (1 mark)



(d) Using the results in part (a) and (c) determine the;

(i)	mass of the glass rod,	(2 marks)
		•••••
		•••••••••••••••••••••••••••••••
(ii)	density of the glass rod.	(2 marks)
		•••••••••••••••••••••••••••••••••••••••
		•••••••••••••••••••••••••••••••••••••••

(e) Remove the glass rod. Push the half metre rule through one paper clip and adjust the position of the clip to a point P where the half metre rule balances horizontally. See **Figure 1**.



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