NAME:	INDEX NO:

de.

t www.freekcselde SIGNATURE:

DATE :

CANDIDATE'S SIGNATURE:

232/3 PHYSICS PAPER 3 (PRACTICAL) JULY / AUGUST 2014 TIME: 2 1/2 hours

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NANDI NORTH SUB-COUNTY JOINT **EVALUATION 2014**

FOR MORE Free KCSE Past Kenya Certificate of Secondary Education (KCSE) TIME: 2 ¹/₂ HOURS

INSTRUCTIONS TO CANDIDATES

- (a) Write your Name, Index Number and School in the spaces provided above.
- (b) Sign and write the date of Examination in the spaces provided above.
- (c) Answer all questions in the spaces provided.
- (d) You are supposed to spend the first **15 minutes** of the 2½ hours allowed for this paper reading the whole paper carefully before commencing your work.
- (e) Marks are given for a clear record of observations actually made, their suitability, accuracy and the use made of them.
- (f) Non-programmable silent electronic calculators and KNEC Mathematical tables may be used in calculations.

FOR EXAMINER'S USE ONLY

QUESTION 1

Part A	Part B											
Question	(i)	(ii)	(iii)	(iv)	(v)	(vi	(vii)	Question	е	f	g	Sub-total
Max score	1/2	1/2	1/2	1/2	1/2	1/2	3	Max score	6	5	3	20
Candidate's score								Candidate's score				

QUESTION 2

Question	С	d(i)	d(ii)	e(i)	e(ii)	f	g	Sub-total	TOTAL SCORE
Max score	7	5	3	1	1	2	1	20	40
Candidate's score									

1. PART A

You are provided with the following; 32, 25, 30
A boiling tub

- A boiling tube.
- Some dry sand.
- A liquid in a measuring cylinder labelled L.
- Half metre rule. < •
- A vernier calipers (to be shared)
- A weighing machine (one per form)
- Tisse paper.

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*measuring cylinder.

Proceed as follows:

(i) Measure the length of the boiling tube. h = cm

- (½mk)
- Put a little amount of sand in the boiling tube and place it in the measuring (ii) cylinder which is almost filled with liquid L. Add sand, little by little until the tube floats upright as shown in fig. 1



Measure the length, d, of the boiling tube which is above the liquid.

d= _____ cm (½mk)

- Determine the length, t, of the boiling tube which is immersed in the liquid. (iii) t = _____ cm (½mk)
- (iv) Remove the boiling tube from the measuring cylinder, wipe it dry (on the outside) and measure its mass, m, including the sand inside.

(½mk) m = _____ g



PART B

You are provided with the following:-

- A white screen with cross wires labelled O.
- A lens and a lens holder.
- A white screen labelled S.
- A metre rule.
- A candle.
- (a) Set up the apparatus as shown in fig. 2.



- (b) Position the lens so that the object distance u = 20cm.
- (c) Adjust the screen S so that a sharp image of the cross wire is formed on the screen S. Measure the image distance v. Record the value u and the

- corresponding value of v in table $1_{3,5}$. (d) Repeat (b) and (c) above for other values of u in table 1.
 (e) Complete table 1.

u (cm)	20LTe	25	30	35	40	45
v (cm)	ar .					
u + v (cm)						
uv (æm²)						

(5mks)



(g) Determine the slope of the graph and state its significance. (3mks)

- ers. 2. You are provided with the following apparatus:-
 - A voltmeter •
 - An ammeter
 - A switch .
 - 6 connecting wires (one with a crocodile clip) •

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- 2 new dry cetts.
- A cell holder.
- A nightome wire mounted on a millimetre scale. Rast

Procedure

(a) Connect the apparatus as shown in fig. 3



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- (b) With the crocodile clip at y, 80cm from x, close the switch and record the voltmeter reading and the corresponding ammeter reading in table 2.
- (c) Repeat the procedure in part (b) for other lengths of xy as shown in table 2. complete the table.

Length (xy) cm	80	70	60	50	40	30	20
Voltmeter reading (V)							
Ammeter reading (A)							



- mine the slope of your graph. aperts.com (3mks) (e) Given that V = $K_1I + K_2$ where K_1 and K_2 are constants, determine: (1mk) (ii) The value of K₂. (1mk)
 - (f) What quantity do constants K_1 and K_2 represent? (2mks)

(g) State the reason why the switch should be open when no readings are being taken.(1mk)