NAME ……..…….. **DATE** ……

INDEX NO. ……..……..……..…..… **SIGNATURE** ……..……..

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
TIME: 1¾ HOURS.

MBOONI EAST SUB - COUNTY FORM 4 JOINT EVALUATION TEST, 2014

Kenya Certificate of Secondary Education

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
JULY/AUGUST 2014
TIME: 1¾ HOURS.

INSTRUCTIONS TO CANDIDATES

- Answer **all** the questions.
- You are required to spend the first 15 minutes of the 1¾ hours allowed for the paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.
- Candidates may be penalized for recording irrelevant information and for incorrect spellings.
- This paper consists of 7 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Questions	Maximum score	Candidate's score
Question 1	12	
Question 2	14	
Question 3	14	
Total score	**40**	

1. You are provided with solutions labeled L_1, L2 and L_3. Note that L_3 is the same as L2 except that L_3 has been boiled.

   Label three test- tubes A, B and C.
   Into the test- tube labeled A add 1ml of solution L_1.
   Into the test- tube labeled B add 1ml of L_1 and 1ml of L_2.
   Into the test- tube labeled C add 1ml of L_1 and 1ml of L_3.

   a) Withdraw a drop from test – tube A and place it on a white tile. To the drop add one drop of iodine solution. Record your observation in the table below. (3 marks)

Test - tube	observation	conclusion
A		
B		
C		

Repeat the procedure with contents in test – tubes B and C. Record your observations in the table.
Place the three test –tubes labeled A, B and C into a water bath at 37^0C.

NB. Ensure that the temperature of the water bath does not fall below 35^0C or exceed 38^0C

b) After 30 minutes, test the contents of each of the test – tubes labeled A, B and C following the procedure in (a) above. Record your observations in the table below. (3 marks)

Test - tube	observation	conclusion
A		
B		
C		

c) Why was test – tube labeled A included in the experiment?

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d) (i) suggest the identity of solution L_2 (1mark)

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(ii) Give a reason for your answer in (d) i above. (1 mark)

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e) Suggest a part of the alimentary canal in the body of a mammal where the process being investigated in the experiment would take place. (1mark)

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f) Account for the results at the end of the experiment in the test – tube labeled.

i) B (1mark)

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……

……

ii) C (1mark)

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……

2. The diagram below shows part of a mammalian skeleton. Study it and use it to answer the questions that follow.

SEE PHOTOGRAPH ATTACHED

(a) Name each of the parts of the skeleton marked H, J, K and N. (4 marks)

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(b) Name each of the parts of the human skeleton described below.

(i) The part on which the anterior potion of N articulates. (1mark)

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……

(ii) The three bones that together fuse to form bone M (2marks)

……

……

(c) State any two adaptations of each of the following structures:

(i) Structure M (2marks)

……

……

(ii) Structure L (2marks)

(d) On the diagram label each of the following parts using the letters in brackets.

(i) The pubis symphysis (P) (1 mark)

(ii) The part where intercostal muscle attach (I) (1mark)

(iii)A joint that can turn through 180^0 only (1mark)

3. You are provided with three sets of seedlings, labeled;

Set A_1

Set A_2

Set B

Examine them and use them to answer the questions that follow.

SEE PHOTOGRAPHS ATTACHED

(i) Name the phenomenon exhibited by seedlings in set A_2 (1mark)

……

……

(ii) Give a reason why plants exhibit the phenomenon named in (i) above. (1 mark)

……

……

(iii)Name the response exhibited by the seedlings in set B (1mark)

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……

(iv) Explain how the response named in (iii) above occurred. (4 marks)

……

……

(v) State five differences between seedlings in set A_1 and A_2. (5 marks)

Set A_1	SetA_2

(vi) State the conditions under which the seedlings in set A_1 and A_2 were grown. (2 marks)

Set A_1

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Set A_2

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