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DATE: \_\_\_\_\_ CANDIDATE'S SIGN: \_\_\_\_\_

231/3  
BIOLOGY  
PAPER 3  
PRACTICAL  
MARCH/APRIL, 2016  
TIME: 1  $\frac{3}{4}$  HOURS

**MOKASA JOINT EVALUATION EXAMINATIONS**  
**K.C.S.E (Kenya Certificate of Secondary Education)**

231/3  
BIOLOGY  
PAPER 3  
PRACTICAL  
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**INSTRUCTIONS TO CANDIDATES**

- Write your Name and Index No. in the spaces provided above
- Answer ALL the questions in the spaces provided

**FOR EXAMINERS USE ONLY**

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1		
2		
3		
<b>TOTAL</b>	<b>40</b>	

1. You are provided with a visking tubing. Open one end and blow air through the open end. Tie firmly one end with a piece of thread provided. Make sure that it is not leaking. Put into the tubing equal quantities of solution L1 and L2. Tie with a thread the open end and ensure that the thread is long enough to suspend the visking tubing from the glass rod as shown in the diagram.

Put the tubing suspended in distilled water as shown above. Let the set up stand for 30 minutes.

As you wait, carry out the food tests on solution L1 and L2 separately. Use only the reagents provided and fill the table below. (6 marks)

a)

	Test	Procedure	Observation	Conclusion
L1				
L2				

- b) Remove some solution from the beaker after 20 minutes from the time you set the experiment and test for the two food compounds you tested in (a) above

Test	Observation	Conclusion

(2 marks)

- c) Add 3 drops of iodine solution into the beaker. After 6 – 10 minutes, what do you observe in;

(i) The beaker (1 mark)

.....  
 .....

(ii) Visking tube (1 mark)

.....  
 .....

- d) What physiological process is being tested in step (b) and (c) above (1 mark)  
.....  
.....
- e) Account for your observations in steps (b) and (c) (3 marks)  
.....  
.....  
.....  
.....

2. Below is a photograph of an organism. Examine it and answer the questions that follow.

- a) The actual length of the pair of scissors next to the organism is 12.5cm. Using this information, calculate actual length of the organism. (4 marks)

b) The photograph below shows structures visible after removing the parts labelled P. The inset is a magnified view of one of the structures.

(i) Name the parts labelled R, S and T (3 marks)

R .....

S .....

T .....

(ii) Explain how each of the parts named in (i) above is adapted to its function (3 marks)

R .....

.....

S .....

.....

T .....

.....

c) The photograph below shows the inner surface of the upper left side of the rib cage.

Explain the role of the part labelled M in inhalation (4 marks)

.....

.....

.....

.....

.....

.....

3. (i) Identify the fruits labelled (5 marks)

S .....

L .....

K .....

M .....

(ii) Give a reason for your identify of the specimen; (3 marks)

S .....

.....

R .....

.....

M .....

.....

(iii) Briefly describe any two types of placentations found in the fruits provided in 3(i) above (2 marks)

.....

.....

.....

.....

(iv) State one difference between a seed and a fruit (1 mark)

.....

.....

(v) Using the handlens provided draw the fruit labelled R (3 marks)