

NAME.....ADM NO.....CLASS.....

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

1  $\frac{3}{4}$  HOURS.

### MOMALICHE 3 2021

*Kenya Certificate of Secondary Education (K.C.S.E)*

For examiner's only

Questions	Maximum score	Candidate score
1	14	
2	11	
3	15	
	<b>40</b>	

1. You are provided with solution L ,starch solution and sodium chloride in two different concentrations 0.05% and 1.4%. Place 3ml of starch solution in test tubes labeled 1,2 and 3. Add 3 drops of 0.05% sodium chloride to the test tube labeled 2.Then; add 3 drops of 1.4% sodium chloride to the test tube labeled 3. Add 3 ml of solution L to each of the test tube labeled 2 and 3.

(a) Place a drop of the contents from each test tube 1, 2 and 3 on white tile. To each drop, add iodine solution. Record your results in the table below.(3mks)

Test tube	Observations at the start of the experiment	Observations at the end of the experiment
1		
2		
3		

(b) Place the test tubes in a water bath maintained at 37°C and allow to stand for 30minutes. Place a drop of the contents from each test tube on a white tile. To each add a drop of iodine solution. Record your observation in the table above. (3 marks)

(c) Add equal amounts of the Benedict’s solution to test tubes labeled 2and 3; heat to boil.

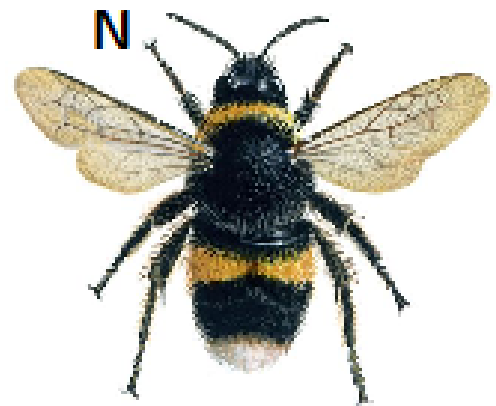
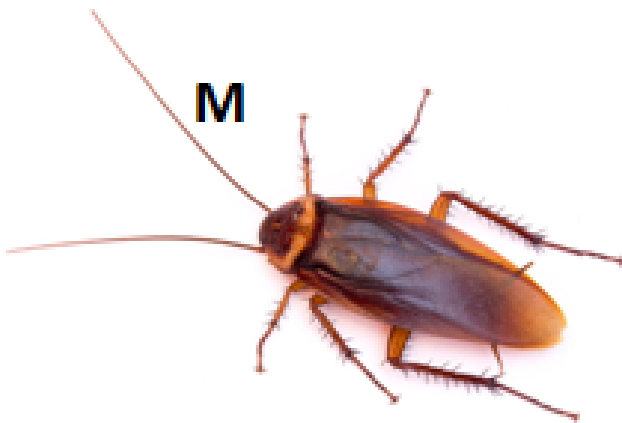
Record your observation.

Test tube 2 (1 mark)

Test tube 3 (1 mark)

- (d) Why was the test tube labeled 1 included in the experiment? (1 marks)
- (e) Account for the results in tubes 1, 2 and 3. (3 mark)
- (f) Suggest the identity of solution L. (1 mark)
- (g) Why were the test tubes placed in water bath maintained at 37°C (1mk)

2. You are provided with photograph M and N below. Examine them.



a) With reasons, name the class to which each of organisms belongs.

(4 marks)

Organism	Class	Reason
M		
N		

b) State two similarities and one difference in the two species.

i. Similarities-

(2 marks)

ii. Difference-

(1 mark)

c) Based on external features, suggest the habitat of the animal in photograph M and state your reasons.

i. Habitat:

(1 mark)

ii. Reasons:

(3 marks)

3. You are provided with plant specimens labelled **P, R, T** and **Y**

(a) Using the features in the order given below, construct a dichotomous key that can be used to identify with letters the specimens provided.

(8 marks)

— Simple or compound leaf

— Leaf venation

— Leaf margin

— Leaf colour

(b) Explain how specimen T is adapted to its mode of pollination  
(3 marks)

(3)

.....

.....

.....

.....

.....

.....

(c) (i) Using floral parts **only** of specimen T, state the class to which it belongs.  
(1 mark)

.....

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

.....

.....

.....

.....