NYAHOKAKIRA CLUSTER TWO 2024

Kenya Certificate of Secondary Education

231/3 BIOLOGY Paper 3

(Practical)

July 2024 - 1Hour 45Min

Name: ……..... Adm. No: ……..…..

Stream…….……..... School…….

Instructions to Candidates

(a) Write your name, admission number, stream and school in the spaces provided above.

(b) Answer all the questions in the spaces provided in this paper.

(c) You are required to spend the first 15 minutes of $1\frac{3}{4}$ hours allowed for this paper reading the whole paper carefully before commencing your work.

(e) This paper consists of 6 printed pages.

(f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no question is missing.

(e) Candidates should answer the questions in English.

For Examiner's Use Only.

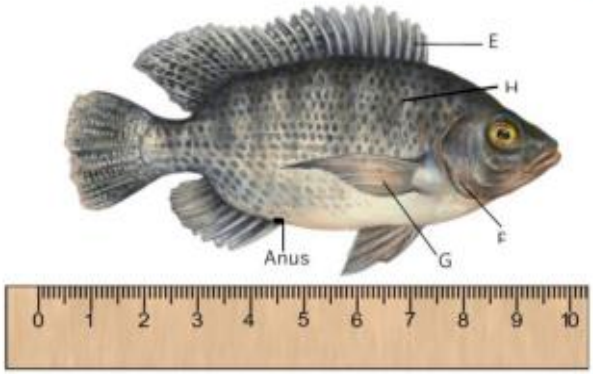
Question	Maximum Score	Candidate's Score
1	15	
2	13	
3	12	
TOTAL SCORE	40	

1. Study the photomicrographs below and answer the questions that follow.

PHOTOGRAPH L

PHOTOGRAPH K

PHOTOGRAPH J



(a) Giving reason, state class of animals shown in the photograph (4 Marks)

J……...……

Reason…….

K……..…….

Reason…….

b) i. On the photograph J name the parts labeled E, F and G. (3marks)

ii. State the function of the structures labeled H in photograph J. (1mark)

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……..……

iii. Calculate the magnification of specimen J. Show your working (2mks)

c) Below is a photograph of a specimen obtained from a plant. Examine the photograph

i) Name the mode of pollination and the features that adapt the specimen to the mode of pollination.

-Mode of pollination **(1mrk)**

……

-Adaptive features. **(2mrks)**

……

……

ii) Label any four parts on the specimen **(2mrks)**

2. You are provided with solutions labelled L1, L2 and L3. Note that L3 is the same as L2 except that L3 has been boiled.
   - -Label three test-tubes A, B and C
   - -Into the test-tube labelled A, add 1ml of solution L1
   - - Into the test-tube labelled B, add 1ml of solution L1 and 1ml of solution L2
   - - Into the test-tube labelled C, add 1ml of solution L1 and 1ml of solution L3

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. Repeat the procedure with contents in test-tube B and C. Record your observation in the table below (3mks)

Test-Tube	Observation	Conclusion
A		
B		
C		

.

b) -Place the three test-tubes A, B and C into a water bath at 55^0C

-NB. Ensure that the temperature of the water bath does not fall below 35^0C or exceed 60^0C

-After 30 Minutes, test the content of each test-tube labelled A, B, and C following the procedure in a) above.

i) Record your observations in the table below. (3mks)

Test-Tube	Observation	Conclusion
A		
B		
C		

ii) Why was test-tube labelled A included in the experiment? (1mk)

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iii) Suggest the identity of Solution L2 (1mk)

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iv) Give reasons for your answer in b) iii. above (2mks)

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

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d) Account for the results at the end of the experiment in test-tube labelled C (2mks)

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3. You are with two Irish potato cylinders of 4cm each, two unknown solutions labelled S_1 and S_2.Place one cylinders completely immersed in liquid S_1 in a beaker and the other in the liquidS2 for 30 minutes.

a) i). Remove each of the cylinder from the liquid S_1 and S_2. Feel the texture of each of the cylinders by pressing them gently between your fingers record your observations. (2mrks)

Cylinders in S_1 ……

Cylinder in S^2……

(ii). Account for your observation in 3 (i) above.

S1 (3mks)

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……

……

S2 (2mks)

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……

……

iii) Apart from the physiological process investigated above, give any other two physiological process? (2mks)

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b) Name the class of carbohydrate of the food substance found in potato Cylinders and give its final product of digestion in mammals. (2marks)

Class of carbohydrate: .....

Final product of digestion: .....

c) The end product of digestion of food substance found in potato cylinder is not found in urine of a healthy person. Explain. (2 marks)

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