

Name.....

Index No.....

School.....

Signature.....

Date.....

231/3
BIOLOGY
PAPER 3
PRACTICAL
July/August 2010
1¾ hrs

BORABU /MASABA NORTH DISTRICTS JOINT EVALUATION TEST – 2010
Kenya Certificate of Secondary Education (K.C.S.E)

231/3
BIOLOGY
PAPER 3
July/August 2010
1¾ hrs

Instructions to candidates

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above,
3. Answer all the questions in this question paper in the spaces provided.
4. You are NOT allowed to start working with the apparatus for the first 15 minutes of the 1 3/4 hours. This time is to enable you to read the question paper and make sure you have all chemicals and apparatus required.

For Examiner's Use Only.

QUESTION	MAXIMUM	CANDIDATE'S SCORE
1	15	
2	13	
3	12	
TOTAL	40	

1. You are provided with a food suspension labeled X and a solution labeled Y.
- (a) Place 2cm³ of food suspension X in a clean test-tube and add 1 cm³ of sodium hydroxide solution. Add 1% copper (ii) sulphate solution drop by drop shaking at each drop. Record your observation and conclusion in the table below.

Observation	Conclusion
(1mk)	(1mk)

b) Take four clean test-tubes and label them A, B, C and D. Into each test tube add 5cm³ of food suspension X.

To each of the tubes B, C and D add 3 drops of dilute hydrochloric acid. Place 1cm³ of solution Y in a test tube and heat until it boils. Put this boiled solution Y into test tube D.

Add 1cm³ of unboiled solution Y into test tubes A, and C only. Place all the four test-tubes in a water bath (maintained at 37°C) for 10 minutes.

Remove the test-tubes from the water bath and place them on a rack. Examine the contents of each tube and record your observations in the table below.

Tube	Contents	Observations	
		At the end of the experiment	At the beginning of experiment
A	Food suspension X + solution Y		
B	Food suspension X + dilute hydrochloric acid		
C	Food suspension X + dilute hydrochloric acid + solution Y		

D	Food suspension X + boiled solution Y + dilute hydrochloric acid		
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(8mks)

c) C) Suggest the identity of solution Y.

(1mk)

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d) Account for your observations in tubes:

i) C

(3mks)

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ii) D

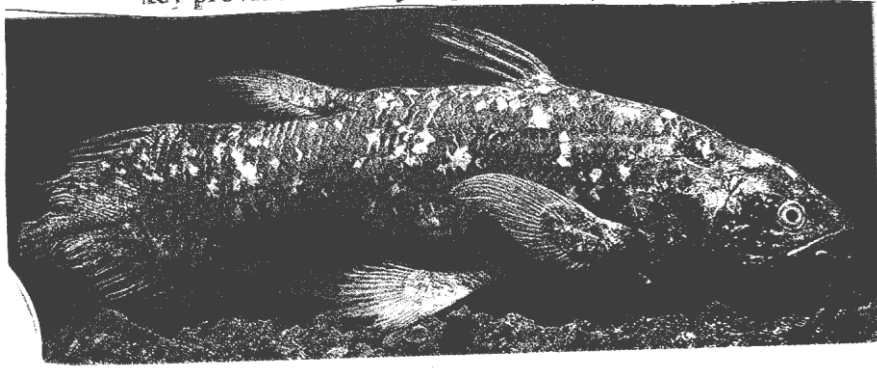
(2mks)

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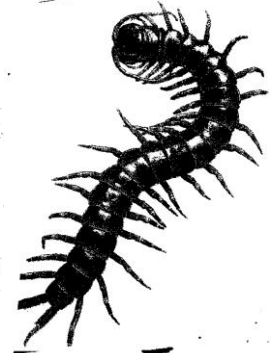
e) In which part of the mammalian alimentary canal is solution Y produced? (1mk)

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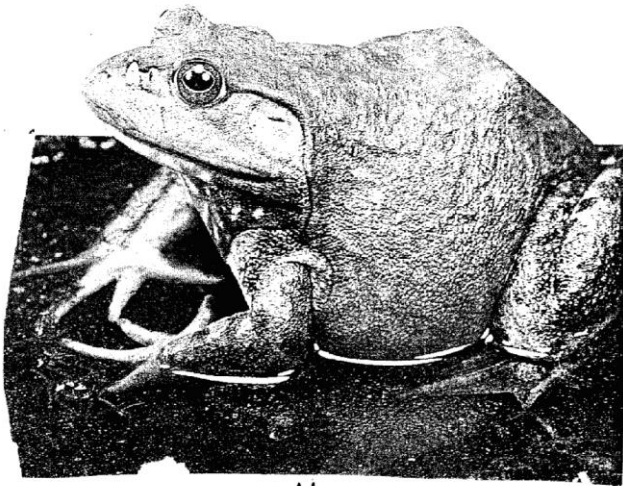
2. Below are photographs of organisms labeled F, G, H, J, K, L, and M. Using the key provided identify organisms, H, J, L and M.



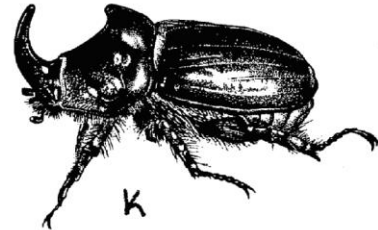
F



H



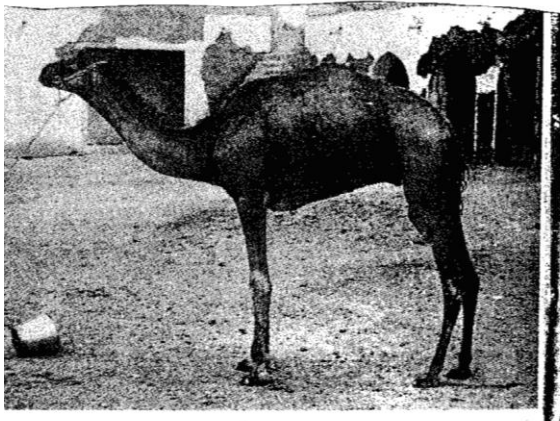
H



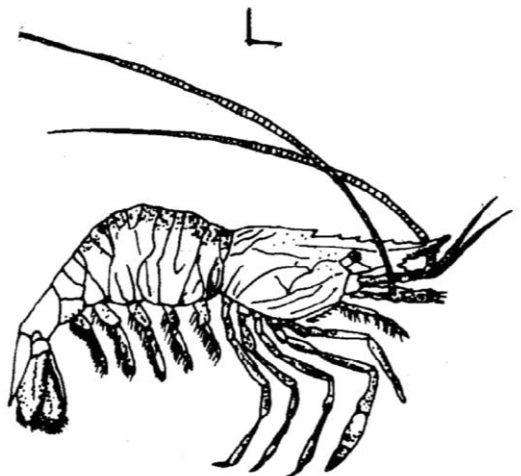
K



L



G



L

KEY

- I a) Has exoskeleton go to 2
- b) Has endoskeleton go to 7
- 2 a) Has five or less than five pairs of legs go to 3
- / b) Has more than five pairs of legs go to 6
- 3 a) Body has three distinct parts go to 4
- b) Body has two distinct parts..... go to 5
- 4 a) Has membranes outer wings..... snapdragon
- b) Has a hard outer wing Beetle
- 5 a) Has two pairs of antennae crustacea
- b) Has no antennae Arachnida
- 6 a) Body cylindrical with two pairs of leg per segment Diplopoda
- b) Body flattened with one pair of legs per segment Chilopoda
- 7 a) Has fins for locomotion..... Pisces
- b) Has two pairs of limbs for locomotion..... go to 8
- 8 a) Body covered with fur Mammalia
- b) Body covered with rough warty skin Amphibia

identify the organism H, J, L and M

(8mks)

	Photograph	Steps	Identify
i)	H		
ii)	J		
iii)	L		
iv)	M		

- b) Examine photographs G carefully. Explain three observable features that adapt the organism to survive in its habitat. (6mks)

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3. The photographs below are of flowers of different plants. Flower P₁ and P₂ are from the same plant.



- a) Identify the flower type in photograph p₁ and P₂. (2mk)

p₁:

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P₂

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b) i) Suggest the likely agent for pollination for flowers? (1mk)

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ii) From observation features only, explain how flower P is adapted for the agent of pollination in b (i) (6mks)

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c) Give the class to which the plant from which flower p1 and p2 were obtained. Give a reason. (2mk)

Class:

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Reason:

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d) i) Name the agent for pollination for the flower in photograph Q. (1mk)



Flower Q

Agent

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ii) Give one reason for your answer in d (i) above.

(1mk)

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