Name: …… **Index no** ……..…..

School: ……..…. **Candidate's sign** ……..

Date: ……

231/3
BIOLOGY
PAPER 3 (PRACTICAL)
JULY/AUGUST 2011
TIME: 1¾ HOURS

MUMIAS DISTRICT JOINT EVALUATION EXAM

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

Biology
Practical

INSTRUCTIONS TO CANDIDATES:

- *Answer **all** the questions in the spaces provided.*
- *You are required to spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper before commencing your work.*
- *Candidates may be penalized for recording irrelevant and incorrect spelling especially of technical terms.*

For Examiner's Use Only:

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

This paper consists of 5 printed pages. Candidates should check to ascertain that all papers are printed as indicated and that no questions are missing

1. You are provided with solution **L**, dilute hydrochloric acid, Benedict's solution, 1% copper sulphate solution and 10% sodium hydroxide solution.

Add 2ml. of hydrochloric acid to solution **L**.

Filter the mixture using the filter paper provided.

Using the reagents provided carry out food tests on the residue and filtrate. (13mks)

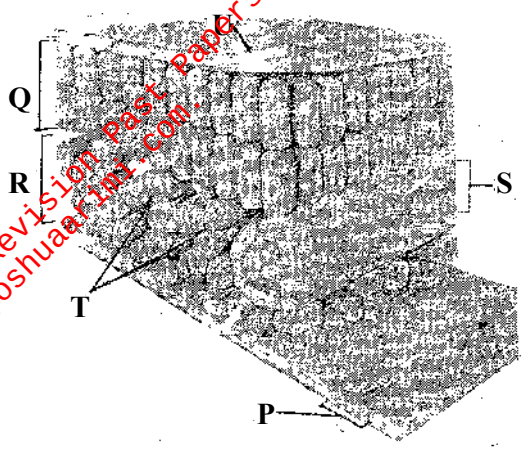
(a)Residue

Food substance being tested for	**Procedure**	**Observation**	**Conclusion**

(b)Filtrate

Food substance being tested for	**Procedure**	**Observation**	**Conclusion**

2. The photomicrograph below shows the arrangement of different type of cells and tissues in a certain living organism. Study it and answer the questions that follow.



(a) (i) From what part of the plant was the photograph obtained? (1mk)

……

(ii)Name the parts labelled. (3mks)

P……

Q……

R……

S……

T……

U……

(b)(i) State the function of the part labeled **Q** (1mk)

……

(ii) State **two** adaptations of structure **Q** to its function (2mks)

……

……

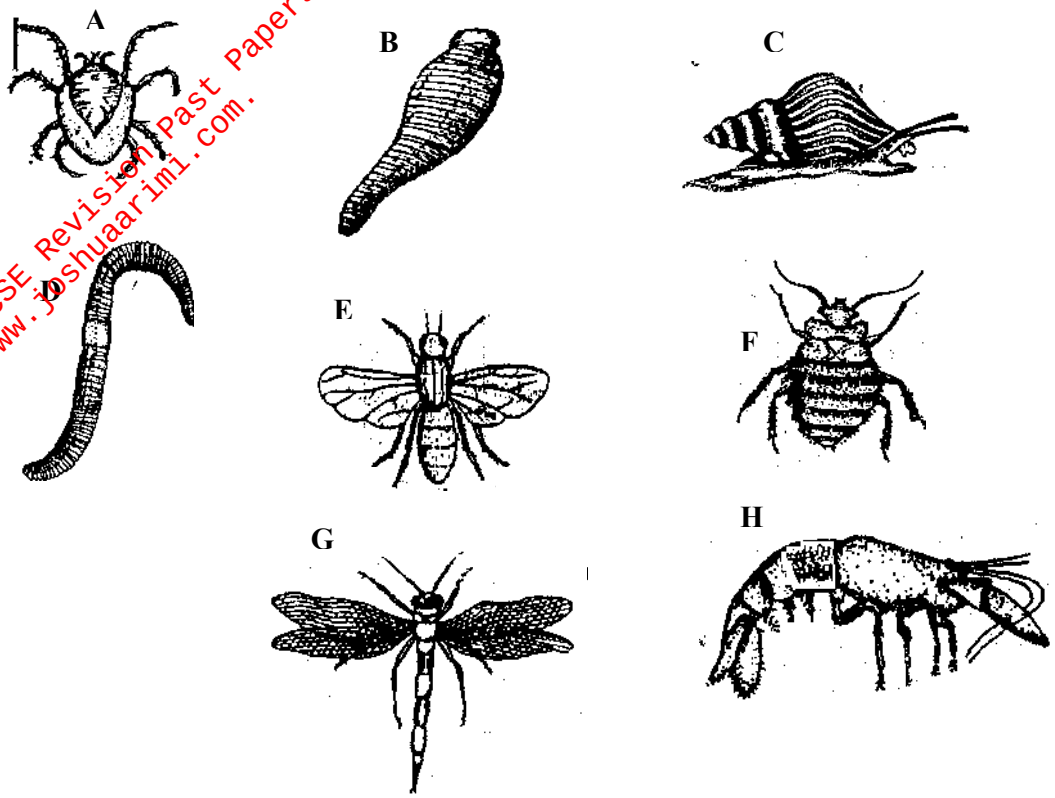
(c) State **two** environmental factors which regulate the function of the part labeled **P**. (2mks)

……

……

(d) Measure the length of **one** cell of region labeled **Q** on the photomicrograph whose magnification is X 5000. What is the actual length of the cell in micrometers. Show your working. (3mks)

3. Below are photographs of various animals. Study the pictures carefully and use the dichotomous key shown below to identify the organisms



1. (a) Jointed legs present……go to 2
   (b) Jointed legs absent…… go to 6
2. (a) Three pairs of legs…….. go to 3
   (b) More than three pairs of legs……. go to 5
3 (a) Wings present…….. go to 4
   (b) Wings absent…….. Bedbug
4 (a) Two pairs of wings……. Dragonfly
   (b) One pair of wings……Housefly
5. (a) Antennae present……Crayfish
   (b) Antennae absent…….. Mite
6. (a) Shell present…… Snail
   (b) Shell Absent……go to 7
7. (a) Prominent clitellum visible……Earthworm.
   (b) No clitellum visible……Leech

(a) Fill in the table below to identify the organism (10mks)

Organism	Identity	Steps followed
A **E** **F** **G** **H**		

(b) With reasons state the phylum of specimen **H**.

Phylum (1mk)

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Reasons (2mks)

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