

Name.....

Index No.....

School.....

Candidate's sign.....

Date.....

231/3

BIOLOGY

PRACTICAL

PAPER 3

JULY / AUGUST 2010

Time: 1 ¾ Hours

KWANZA DISTRICT JOINT EVALUATION EXAM – 2010

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

231/3

BIOLOGY

PRACTICAL

PAPER 3

JULY / AUGUST 2010

Time: 1 ¾ Hours

INSTRUCTIONS TO CANDIDATES

1. Write your name and Index number in the spaces provided at the top of this page
2. Sign and write the date of examination
3. Answer all questions
4. You are required to spend the first 15 minutes of 1 ¾ hrs allowed for this paper reading the whole paper carefully before commencing your work.
5. Answers must be written in the spaces provided in the question paper
6. Additional pages must not be inserted.

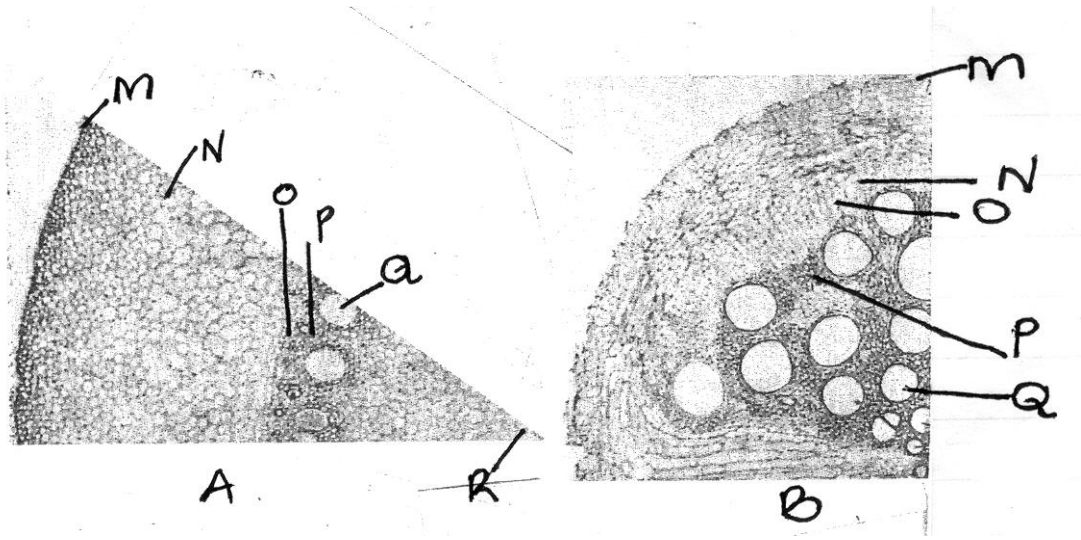
FOR EXAMINER'S USE ONLY

QUESTION	Max Score	Candidate's Score
1	10	
2	12	
3	18	
TOTAL	40	

This paper consists of 8 printed pages.

Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

1.



The photomicrograph above are transverse sections of plant tissues showing arrangement of tissues at primary stage of development. Use them to answer the questions that follows

a) Identity photomicrographs labelled A and B. (2mks)

A

B

b) Name the parts labelled (4mks)

M

N

O

P

Q

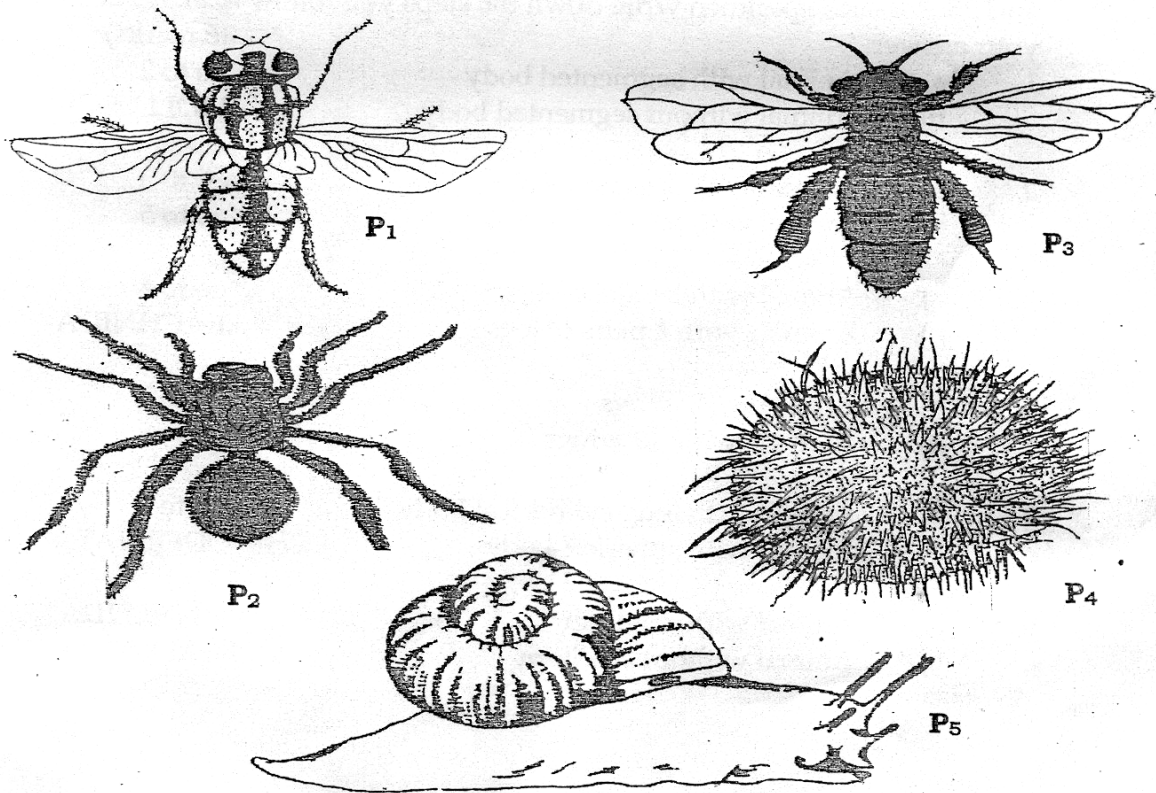
R

- c) List FOUR differences between photomicrograph A and B

(4mks)

Photomicrograph A	Photomicrograph B
(i)	
(ii)	
(iii)	
(iv)	

2. Below are drawings of different animals P₁, P₂, P₃, P₄ and P₅. Study the diagrams and answer the questions that follow.



(a) (i) Name the phylum and class to which specimens P₁ and P₃ belong

Phylum (1mk)

.....

Class (1mk)

.....

(ii) State two distinguishing features found in the members of the;

Phylum (2mks)

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.....

.....

Class (2mks)

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.....

(b) Use the dichotomous key given below to identify the specimens P₂, P₄ and P₅. For each specimen write down the steps you follow to arrive at your answer. (6mks)

- | | | | |
|----|----|--|---------------|
| 1. | a) | Animal with segmented body | go to 2 |
| | b) | Animal without segmented body | MOLLUSCA |
| 2. | a) | Animal with appendages | go to 3 |
| | b) | Animal without appendages | go to 5 |
| 3. | a) | Animal with 3 pairs of legs | go to 4 |
| | b) | Animals with 4 pairs of legs | ARACHNIDA |
| 4. | a) | Animal with wings | go to 7 |
| | b) | Animals without wings | go to 9 |
| 5. | a) | Animal with long cylindrical body | go to 6 |
| | b) | Animal with spherical body | ECHINODERMATA |
| 6. | a) | Animal with clitellum | ANNELIDA |
| | b) | Animal without clitellum | NEMATODA. |
| 7. | a) | Animal with one pair wings | DIPTERA |
| | b) | Animal with two pairs of wings. | Go to 8 |
| 8. | a) | Animal with pair of hard forewings and a pair of membranous hind wings | COLEOPTERA |
| | b) | Animal with two pairs of soft wings. | LEPIDOPTERA |
| 9. | a) | Animal with constriction between thorax and abdomen. | HYMAENOPTERA |
| | b) | Animal with constriction between thorax abdomen. | ISOPTERA |

	SPECIMEN	IDENTITY	Steps followed
P ₂
P ₄
P ₅

3. You are provided with a specimen labelled P.

a) Examine the inner and outer leaves of the bulb

i) Record the differences between them. (2mks)

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.....

ii) Give reasons for the differences in (a) (i) above. (2mks)

.....

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.....

b) Separate the roots and aerial leaves from the bulb.

Crush the roots, aerial leaves and bulb separately

To each crushed material add 1 ml water. Put the extract from the material into separate test tubes and label them. Using reagents provided, test for the food substances in each of the extracts. Record the procedure, observations and conclusions in the table below.

Extract	Procedure	Observation	Conclusion
Roots			
Bulb			
Aerial leaves			

(6mks)

c) Account for the results obtained in b) above.

(i) Roots (3mks)

(ii) Bulb (3mks)

(iii) Aerial leaves. (2mks)

