



MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

PRE MOCK EXAMINATION 2023

FORM FOUR

231/3

BIOLOGY

Paper 3

APRIL 2023 – TIME: 1³/₄Hours

Name: _____ Adm No: _____

Class: _____

Marking Guide.

INSTRUCTION TO CANDIDATES

- Write your **name**, **admission number** and **class** in the spaces provided above.
- This paper consists of section 3 questions only.
- Answer **All** the questions in the spaces provided.

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	15	
2	10	
3	15	

1. You are provided by specimen Examine it and answer the questions that follow.

(a) Make a transverse section through K to obtain two halves .From one half of K ,squeeze the juice into a clean test tube and label K. Using juice K and the reagents provided, carry out the food the food tests to determine the food present in juice K. (8marks)

FOOD	PROCEDURE	OBSERVATION	CONCLUSION
Reducing Sugar	- put 2cm ³ of solution K into a clean test-tube Add equal amount of Benedict's solution and boil	- Blue color of Benedict's solution turns to <u>green</u> to <u>yellow</u> to <u>orange</u> ;	Reducing Sugar Present;
VITAMIN C Ascorbic acid	- Put 2cm ³ of DCPIP into a clean test tube. Add solution K into the DCPIP dropwise as you shake.	- DCPIP decolors/disappears;	Vitamin c / ascorbic acid Present;

(b)(i) What is the mode of dispersal for K and J (1mark)

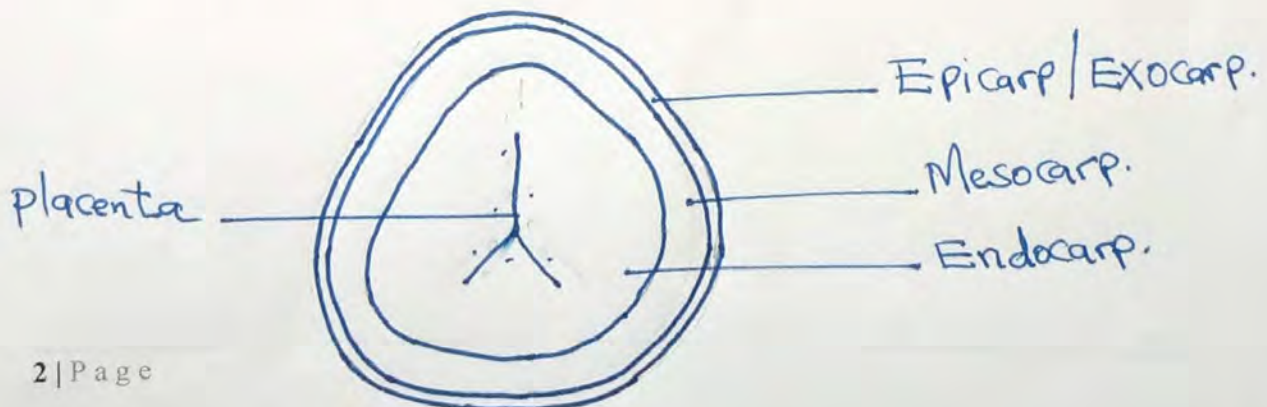
- Animal;

(ii) Give a reason for your answer (1mark)

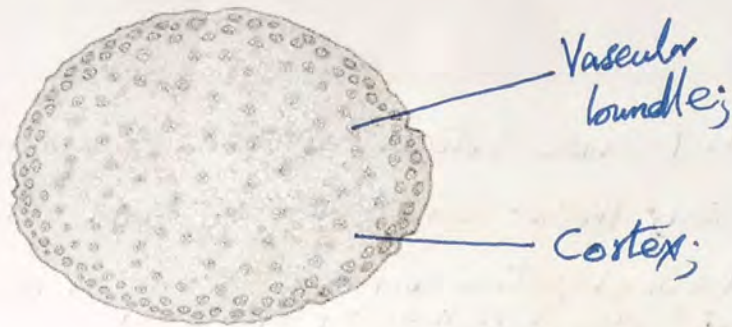
- Fleshy Mesocarp / juicy endocarp / brightly coloured epicarp
- Scented;

(c) Cut a transverse section through J. Examine the cut section carefully using a hand lens.

Make a drawing of what you observe and label any three parts. (5marks)



2. The photomicrograph below represents a certain part of the plant.



(a)(i) From which plant organ was the photomicrograph obtained (1mark)

- Stem;

(ii) Name the class of plant to which the section in the micrograph belong (1mark)

Monocotyledonae;

(iii) Give **one** reason for your answer in (a)(i) above (1mark)

- Vascular bundle is scattered in the stem;

(b) On the micrograph above, label the vascular bundle and the cortex (2marks)

(c) A response exhibited by a certain plant tendril is illustrated below.



(i) Name the type of response (1mark)

- Thigmotropism / Haptotropism;

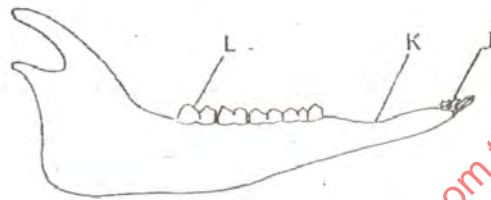
(ii) Explain how the response named in (a)(i) above occurs (2marks)

- Contact causes lateral migration of auxins to the outer side of the stem; higher concentration of auxins on the outer side causes rapid cell elongation and faster growth on the outer side than contact side; hence twisting of the stem.

(iii) What is the importance of tactic responses to microscopic animals? (2marks)

- Enable organisms to escape from harmful stimuli;
- To seek favourable habitat and resources;

3. The photograph below represents the lower jaw of a mammal



(a)(i) Name the mode of nutrition of the mammal whose jaw is shown (1mark)

- Herbivorous / herbivores;

(ii) State one structural and one functional difference between the teeth labelled J and L.

Structural (1mark)

J is narrow / sharp / chisel shaped while L is broad / ridged.

Functional (1mark)

J is used for seizing prey while L is for crushing and grinding food;

(b) (i) Name the toothless gap labelled K. (1mark)

- Diastema;

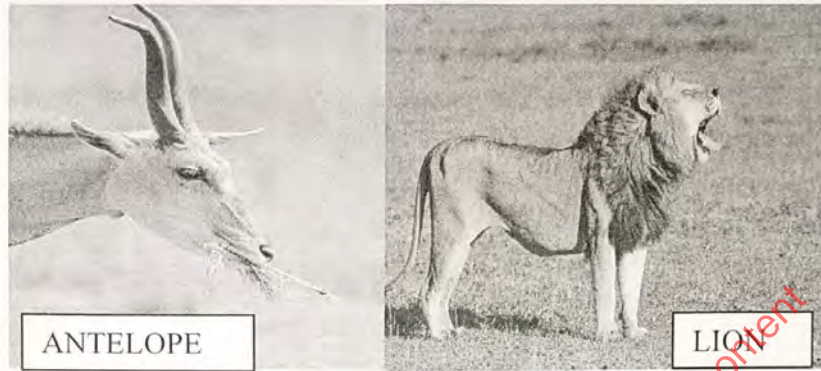
(ii) State the function of the gap (1mark)

- Allow space for the tongue to manipulate food during chewing;

(iii) Name the substance that is responsible for hardening of teeth (1mark)

- Calcium phosphate / phosphorus / phosphate rej calcium

(c) Organisms shown in the photograph below are often found in the same ecosystem. Examine them.



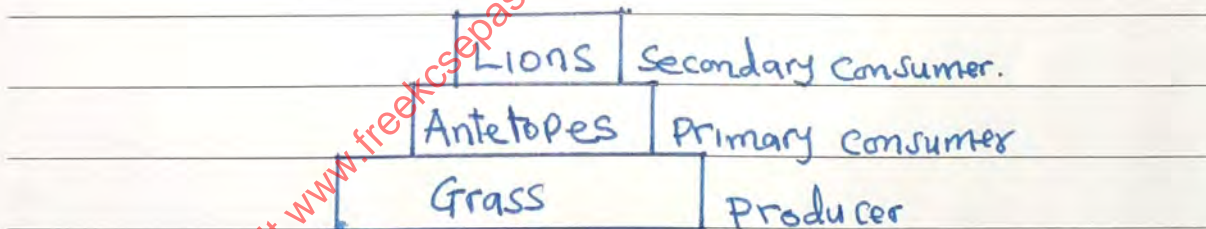
(i) Name the trophic level occupied by the antelope (1mark)

- Primary consumer;

(ii) Give a reason for your answer (1mark)

- It feeds on grass;

(iii) Draw a pyramid of numbers for the organisms in the ecosystem (4marks)



(c)(i) State the relationship between the bacteria found in the root nodules of leguminous plants and the host plant. (1mark)

- Symbiosis;

(ii) How does the host plant and the bacteria benefit from this relationship (2marks)

- Plant uses some ammonia made by the bacteria through fixation; bacteria obtain shelter and carbohydrates from plant.