

KAPSABET HIGH SCHOOL



POST MOCK 2024



BIOLOGY

231/3 (PRACTICAL)

PAPER 3

TIME: 1¾ HOURS

NAME..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

REQUIREMENTS

Each candidate will require;

- (a) Specimen **R**- a piece of ripe pineapple fruit
- (b) 2mls Benedict's solution placed in a test tube with a dropper
- (c) 2mls of 10% Sodium hydroxide solution placed in a test tube with a dropper
- (d) 2mls of 1% Copper sulphate solution placed in a test tube with a dropper
- (e) Source of heat
- (f) 4 test tubes in a rack
- (g) 2 Droppers
- (h) Scalpel/Razor blade
- (i) Pestle and mortar
- (j) Filter paper
- (k) 4mls DCPIP solution placed in a small beaker with a dropper
- (l) 4mls of 0.1% solution of Ascorbic acid supplied in a test tube
- (m) White tile

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INSTRUCTIONS TO CANDIDATES

- (a) Write your name, Admission number and your other details in the spaces provided above.
- (b) Spend the first 15 minutes of the time allocated to read through the question paper before commencing your work
- (c) Answer **all** the questions in the spaces provided.
- (d) Additional pages must **not** be inserted

For Examiner's Use Only

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	14	
2	14	
3	12	
Total Score	40	

Answer **all** the questions in the spaces provided.

1. You are provided with the following reagents and materials.

Specimen **R**

Benedict's solution

Sodium hydroxide solution

Copper sulphate solution

Source of heat

3 test tubes in a rack

Droppers

Scalpel/Razor blade

Pestle and mortar

Filter paper

Study the specimen **R** provided.

(a) Identify the type of fruit.

(1 mark)

.....

(b) With reasons, identify the method of dispersal for the specimen.

Method of dispersal

(1 mark)

.....

Reasons

(2 marks)

.....

.....

.....

(c) By use of the scalpel provided, peel off the outer cover of the specimen **R** to reveal the inner juicy part. Extract a small portion of the juicy part, place in a mortar and mash it using a pestle. Use the filter paper provided to filter the extract from the specimen **R**.
Divide the extract from specimen **R** into two portions each 2cm³ and use them as follows;

Portion one

Use the reagents provided to test for the food substances present in portion 1. Use the table below as a guide. (6 marks)

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

PORTION TWO

(d) (i) To 1cm³ of DCPIP in a test tube, add 0.1% solution of Ascorbic acid drop by drop until the colour of DCPIP disappears. Shake the test tube after addition of each drop. Record the number of droplets used. (1 mark)

.....
.....

ii) To another 1cm³ of DCPIP in a test tube add the **portion two** drop by drop, shaking the test tube after addition of each drop until the colour of DCPIP disappears. Record the number of drops used
(1 mark)

iii) From the results obtained in (d) (i) and (ii) above, calculate the percentage of Ascorbic acid in the juice obtained from specimen **R**. Show your working (2 marks)

.....
.....
.....

2. Study the photographs below and answer the questions that follow.



(a) (i) By use of a flow chart, show the possible energy flow in the ecosystem above.(1 mark)

(ii) State **two** ways in which energy is lost from one trophic level to the next one. (2 marks)

.....
.....

(b) With **observable reasons**, identify the classes of specimen **X** and **Z**

Specimen **X**

Class (1 mark)

Reasons (2 marks)

.....
.....
.....

Specimen **Z**

Class (1 mark)

.....

Reason (1 mark)

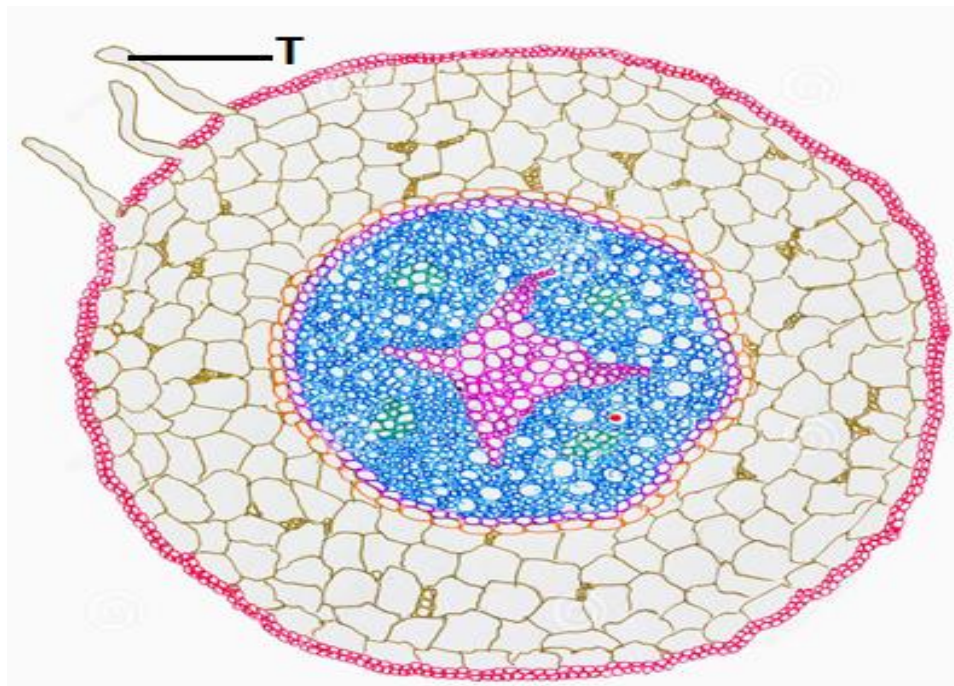
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(c) Describe **two** adaptations of organism labeled **Y** to its habitat. (2 marks)



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.....

(d) Study the photograph below and answer the questions that follow.



(i) Which part of the plant is represented by the cross-section shown above **(1 mark)**

.....

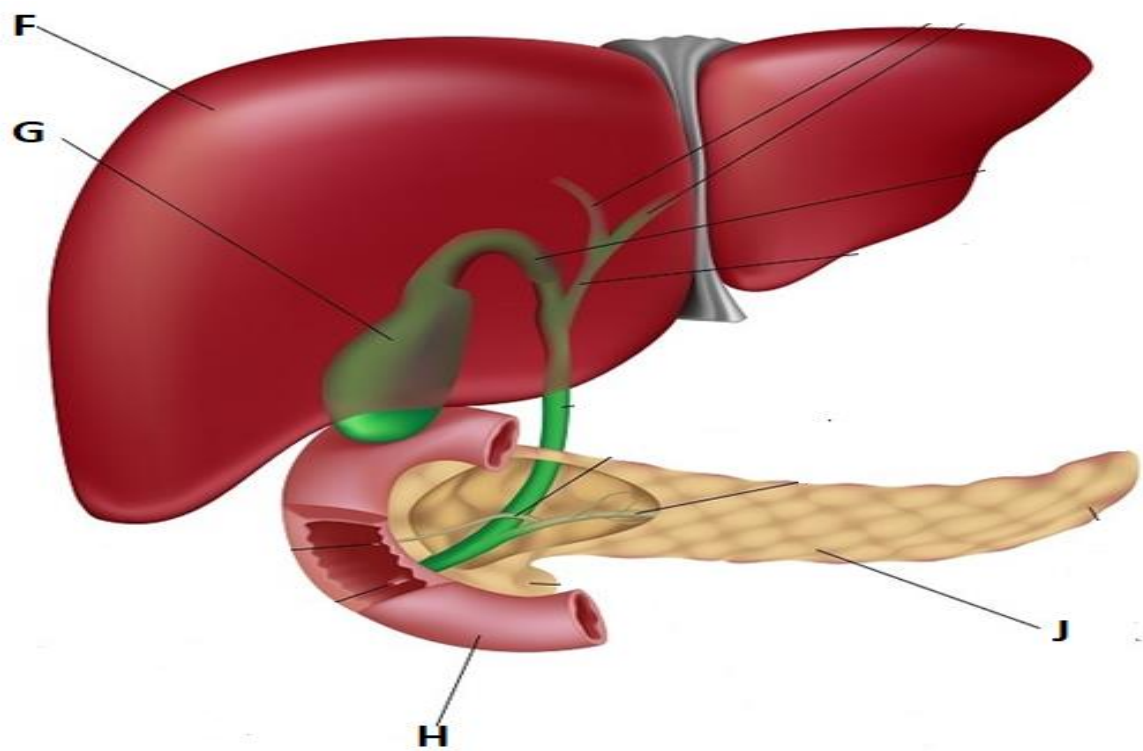
(ii) Give **two** observable reasons for your answer in (d)(i) above. **(2 marks)**

.....
.....

(iii) Give **one** adaptation of the part labeled **T** to its function. **(1 mark)**

.....
.....

3. Study the photographs below and answer the questions that follow.



(a) Identify the following parts (2 marks)

F

G

(b) (i) Identify the secretions stored in part labeled G (1 mark)

.....

(ii) Give **two** functions of the secretions you have identified in (b)(i) above . (2 marks)

.....

.....

(c) (i) Give **two** major roles of the part labeled J . (2 marks)

.....

.....

(d) (ii) State the hormone secreted by the part labeled H. (1 mark)

.....

(e) Study the photograph below and answer the questions that follow.



(f) (i) Identify the following parts. (2 marks)

K

L

(ii) Give **two** adaptations of the part labeled **M** (2 marks)

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.....
.....
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