Candidate's Name: ……..

School Name: …… Signature: ……
553/2
BIOLOGY
PRACTICAL
Jul,/Aug. 2023
Paper 2
2 Hours

MATIGO MOCK EXAMINATIONS BOARD

Uganda Certificate of Education
BIOLOGY
PRACTICAL
2 Hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of three (3) compulsory questions.
Attempt all question sin this paper.
Answers must be written in the spaces.
Provided work on additional paper will not be marked.
Drawings should be made using sharp pencils.

EXAMINER'S USE		
QUESTION	MARKS	SIGNATURE
1		
2		
3		
TOTAL		

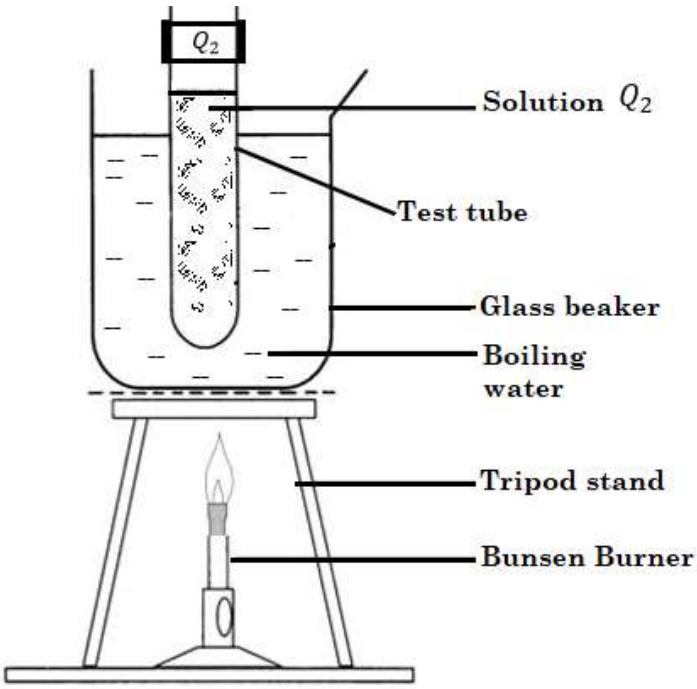
Turn Over

1. You are provided with specimen $\boldsymbol{Q}$ which is a plant organ. Cut specimen $\boldsymbol{Q}$ transversely into two equal halves. Use one half for question 1 and keep the second half for question 2. Squeeze out juice from one half of specimen $\boldsymbol{Q}$ into a beaker provided. Label two test tubes $\boldsymbol{Q_1}$and $\boldsymbol{Q_2}$and pour into them equal volumes of juice from $\boldsymbol{Q}$. Use juice $\boldsymbol{Q_1}$ to carry out the tests in table 1 below to identify the food substances present in solution $\boldsymbol{Q_1}$. record your observations and deductions in the table below.

TABLE 1

TEST	OBSERVATIONS	DEDUCTIONS
(i) To $1cm^3$ of solution $\boldsymbol{Q_1}$ in a test tube and 3 drops of iodine solution.		
(ii) To $1cm^3$of solution $\boldsymbol{Q_1}$in a test tube add $1cm^3$of Benedict's solution and boil.		
(iii) To $1cm^3$ of solution $\boldsymbol{Q_1}$in a test tube add $1cm^3$of dilute sodium hydroxide solution followed by 3 drops of copper (ii) sulphate solution and shake.		
(iv) To $2cm^3$ of DCPIP solution in a clean test tube add solution $\boldsymbol{Q_1}$ drop by drop. (count the number of drops needed to decolorize DCPIP)		

(b) Place solution $\boldsymbol{Q_2}$in boiling water for 20 minutes as shown below.



After boiling for 20 minutes cool the solution under tap water then carry out tests on solution $\boldsymbol{Q_2}$. Record your observations and deductions in the table 2 below.

TABLE 2

TEST	OBSERVATIONS	DEDUCTIONS
(i) To $1cm^3$ of solution $\boldsymbol{Q_2}$ in a test tube and 3 drops of iodine solution.		
(ii) To $1cm^3$of solution $\boldsymbol{Q_2}$in a test tube add $1cm^3$of Benedict's solution and boil.		

(iii) To $2cm^3$ of DCPIP solution in a clean test tube add solution $\boldsymbol{Q_2}$ drop by drop. (count the number of drops needed to decolorize DCPIP)		

(c) (i) What food substances are present in solution $\boldsymbol{Q_1}$?

……

……

(ii) Explain the difference in results obtained in test (iv) of **table 1** and test (iii) of **table 2.**

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……

……

2. You are provided with specimens $\boldsymbol{Q}$ and $\boldsymbol{R}$ which are fruits. Open specimen $\boldsymbol{R}$ longitudinally.

(a) (i) Identify the type of fruit giving a reason for your answer.

Specimen	Type of fruit	Reason
$\boldsymbol{Q}$		
$\boldsymbol{R}$		

(ii) Measure the diameter of one half of $\boldsymbol{Q}$ and record the value in cm…….

……..

(b) Make a large, well labeled drawing of the one half of specimen ***Q***.
State your magnification.

(c) State four differences between specimens ***Q*** and ***R.***

	Q	***R***
(i)		
(ii)		
(iii)		
(iv)		

(d) Describe the arrangement of seeds in specimens ***Q*** and ***R***
Q

……

……

……

……

R

……

……

……

……

(e) From the structure of specimen ***R***, describe how it dispersed.

……

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……

……

3. You are provided with specimens T_1 and T_2 which were obtained from the same animal.

(a)(i) Identify specimens T_1 and T_2.

T_1 ……(01 mark)

T_2 ……(01 mark)

(ii) Classify the animal from which T_1 and T_2 were obtained under the following taxa.

Kingdom

……

(01 mark)

Phylum

……

(01 mark)

Class

……

(01 mark)

(b) Make a large labelled drawing of $\boldsymbol{T_1}$**.** Using an arrow, indicate the directions of the flow of water. (05 marks)

(c)(i) Stretch specimen $\boldsymbol{T_2}$. Make a well labeled drawing of specimen $\boldsymbol{T_2}$. State the magnification. (Measure the length of $\boldsymbol{T_2}$ in (cm)……) (05 marks)

(ii) Give five ways structure $\boldsymbol{T_2}$ is suited to its function? (05 marks)

1. ……

2. ……

3. ……

4. ……

5. ……

END

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