Name……Signature……...

School……...Index No……..

553/2

BIOLOGY

(PRACTICAL)

July/August 2023

2 hours

BIO-CHEMISTRY TEACHER'S ASSOCIATION MOCK EXAMINATIONS

(BCTAME)

Uganda Certificate of Education

BIOLOGY

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES

1) *This paper consists of three questions.*
2) *Answer* **all** *questions.*
3) *All answers should be written in the spaces provided.*
4) *Drawings should be made in the spaces provided.*
5) *Use sharp pencils for your drawings.*
6) *Coloured pencils or crayons should not be used*
7) *No additional sheet of paper should be inserted in the booklet. Work on additional sheet will not be marked.*

FOR EXAMINERS USE ONLY

QUESTION	Marks	Examiners initials
1.		
2.		
3.		
Total		

1. You are provided with specimen **A**, solution B and distilled water.carry out the tests on specimen A following the procedures provided.
   (i) Wash and peel specimen **A**, cut out five cubes each measuring 1cmx1cmx1cmx1cm.
   (ii) boil one cube in about 5cm3 of water for two minutes pour off the water and keep the boiled cube
   (iii) Label five test tubes as test tube 1, 2, 3, 4, and 5.pour 5cm3 of solution B in test tubes 1-4 and 5 cm3 of distilled water in test tube 5.
   (iv) Using a ruler measure the height of the solutions in each test tubes and record it as initial height of the solution in the table(L1 cm)

   (v) Treat the cubes as follows (7.5 mks)

Test tube	Contents	Initial height of the solution (L1) cm	Final height of the froth (L2) cm	Difference in height cm
1	Solution B and 1cube of A			
2	Solution B and 1 cube of A cut into 4 pieces			
3	Solution B and 1 cube of A cut into 8 pieces			
4	Solution B and boiled cube of A			
5	Distilled water and I cube of A			

   (b) Explain the difference in heights of froth in the test tubes
      (i) Test tube 1 (02 mks)
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      ……
      ……
      ……
      ii) Test tube 3 (02 mks)
      ……
      ……
      ……
      ……

iii) Test tube 4 (02 mks)

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iv) Test tube 5 (02 mks)

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……

c) State what was being investigated in;

i) Test tube 1 and 2 (01 mks)

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……

ii) Test tube 4 (01 mks)

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……

iii) Test tube 5 (01 mk)

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……

(d) Giving a reason name the active ingredient present in specimen A (1.5 mks)

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2. You are provided with the following specimen F, G, H, K and L. Use them to answer questions that follow.

(a) Identify the plant organs giving two reasons for your identity (03 mks)

Plant organs……

Reasons

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……
……

(b) Observe the specimen carefully and fill the table below based on the observable characteristics of each (10 mks)

Specimen	**Nature of lamina**	**Venation**	**Nature of petiole**	**Nature of apex**
F				
G				
H				
K				
L				

(c) Basing on the characteristics from the table above construct a dichotomous key to identify the specimen above (04mks)

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(d) In the space below draw and label specimen k (04mks)

3. You are provided with **X** and **Y** which were obtained from the same animal.

(a) Giving two reasons in each case identify the specimen

Specimen **X** (02 mks)

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Reasons

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……

……

Specimen **Y** (02 mks)

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Reasons

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(b) State four structural differences between X and Y (04 mks)

Specimen **X**	Specimen Y

c) Explain how each specimen is adapted to its function.

(i) Specimen **X** (02 mks)

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(ii) Specimen **Y** (02 mks)

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(d) Draw and label the anterior view of **X** (07 mks)

END