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Biology Practical

Paper 2

July - August, 2023

UGANDA MUSLIM TEACHERS' ASSOCIATION

UMTA JOINT MOCK EXAMINATIONS – 2023

NAME.....

INDEX NO.....SIGNATURE.....

UGANDA CERTIFICATE OF EDUCATION
BIOLOGY PRACTICAL
Paper 2

2 HOURS

Instructions to Candidates

- Attempt all questions.
- Drawings should be made in the spaces provided.
- Use a sharp pencil for your drawings.
- Coloured pencils or crayons should **NOT** be used.
- No additional sheets of writing paper are to be inserted in the booklet.
- Work on additional sheets will not be marked.

FOR EXAMINERS USE

No.	Marks	Initials
1		
2		
3		
Total		

Turn over

1. You are provided with specimen **A** which was obtained from animal tissue and solution **B** which is unknown. Carry out tests and fill in a results table below.

   Cut out **5** equal pieces of specimen **A** and boil one piece in water strongly.

   Allow it to cool. Label five test tubes 1, 2, 3, 4 and 5. Measure $3cm^3$ of solution **B** and add to each of test tubes 1, 2, 3 and 4.

   To test tube 5 add $3cm^3$ of distilled water. After setting up the experiments allow them to stand for 10minutes.

TABLE 1

(a)

TEST	OBSERVATION	DEDUCTION
1. To test tube **1**, add on un boiled piece of specimen **A**		
2. To test tube **2** add $1cm^3$ of dilute Hydrochloric acid followed by one un boiled piece of Specimen **A**		
3. To test tube **3** Add $1cm^3$ of dilute Sodium hydroxide Solution followed by one un boiled piece of specimen **A**		
4. To test tube 4 add the boiled piece of specimen **A**		
5. To test tube **5,** Add one un boiled piece of specimen **A**		

(b) Name the active ingredient in **A** and the unknown solution **B** (01 mark)

Active ingredient.....

Solution **B**.....

(c) Explain your results in experiment **2**, **4** and **5** (06 marks)

2.....

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4.....

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5.....

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(d) State the properties of the active ingredient that have been investigated. (03 marks)

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2. You are provided with specimens **K** and **M** which were obtained from the same animal. Examine the specimens and answer the questions that follow.

(a) Identify the specimens giving a reason in each case. (04 marks)

K.....

Turn over

Reason.....

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M.....

Reason.....

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(b) Describe **3** structural differences between specimens **K** and **M**. (04½ marks)

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(c) State **4** adaptations of specimen **M** to its functions. (06 marks)

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(d) Make a large labelled drawing of the lateral view of specimen **K** State your magnification.
(05 ½ marks)

3. You are provided with specimens **L1, L2, L3, L4** and **L5** which are plant parts. Examine the specimens and answer the questions that follow.

(a) State which plant part the specimens are and give 2 reasons for your answer.
(03 marks)

Plant part.....

Reason.....
.....
.....

Turn over

(b) Pluck off one complete leaf from each of the specimens **L1, L2, L3** and **L4** and label them **1, 2, 3, 4** respectively. Examine each leaf and answer the questions that follow.

(i) Describe the petioles of each leaf and fill in a table below.

Table 2

Leaf	Description
1	
2	
3	
4	

(ii) Using the characteristics in the table above construct a dichotomous key to identify the leaves. (03 marks)

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(c) Describe **3** survival adaptations of specimen **L5** to the environment where it grows. (03 marks)

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(d) Make a large labelled drawing of specimen **L5** and state your magnification. (05 marks)

END

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Biology

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ADVANCE INSTRUCTIONS

UGANDA MUSLIM TEACHERS' ASSOCIATION

UMTA JOINT MOCK EXAMINATIONS – 2023

UGANDA CERTIFICATE OF EDUCATION

Biology Paper 2

CONFIDENTIAL

Each candidate should be provided with:

- A piece of fresh liver measuring about $3cm \times 3cm \times 3cm$ labelled specimen **A** / Piece of meat.
- 15mls of **1%** hydrogen peroxide solution labelled solution **B**
- Dilute hydrochloric acid solution
- Dilute sodium hydroxide solution
- Distilled water
- Thoracic vertebra labelled specimen **K**
- Cervical vertebra labelled specimen **M,**

  K and **M** should be obtained from the same mammal.

Turn over

- A piece of a mature stem with at least **2** nodes with leaves of the following plants labelled

Specimen: - **L1** - Commelina plant

L2 - Lantana camara plant

L3 - Cassia plant

L4 - Sweet potato plant

L5 - Spear grass /couch grass underground stem

- **5** test tubes
- Razor blade/scapel
- 10ml measuring cylinder
- Hand lens
- Heat source

END