

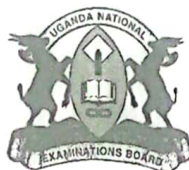
Candidate's Name: .....

Signature: .....

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(Do not write your School/ Centre Name or Number anywhere on this booklet.)

553/2  
BIOLOGY  
Paper 2  
(Practical)  
Oct./Nov. 2024  
2½ hours



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

BIOLOGY

Paper 2  
(Practical)

2 hours 30 minutes

### INSTRUCTIONS TO CANDIDATES:

*This paper consists of **two** examination items. Answer **both** items in the spaces provided.*

*Drawings should be made in the spaces provided. Use **sharp pencils** 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 of paper will **not** be scored.*

Rashid uprooted two maize plants from his garden and observed that the one from the northern part of the garden had few short roots and big leaves while the other from the southern part had many long roots and small leaves. At harvest time, the northern part had high yield while the southern part had low yield. Rashid was told that the difference in the yields from the two parts of his garden could be due to the difference in the ability of the two soils to retain water. Rashid wants to understand why the two parts of his garden had different yields.

### Task:

*Your design and investigation should include the following:*

- 
- This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

- (b) (i) Procedure to determine the ability of the two soil samples **L** and **M** to retain water.

(ii) Results of the experiment.

(iii) Identify the part of the garden from which soil samples **L** and **M** were obtained.



- (c) Using your results explain to Rashid the difference in the yields from the two parts of the garden.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

### Item 2

Sarah had a healthy cow which gave her plenty of milk. Suddenly the cow started looking weak and the milk production reduced. On inspecting her cow, she picked some organisms from the skin around the eyes and udder. She also saw another type of organism moving along the destroyed wooden poles of the cow shade.

You have been provided with specimens **A** and **B** which are organisms Sarah collected.

### Task:

- (a) (i) With reasons identify any **two** taxa to which both specimens **A** and **B** belong.

This image shows a blank sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(ii) Explain how specimen A is able to survive on the cow.

- (b) Draw specimen **B** and label its main body parts.



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UGANDA CERTIFICATE OF EDUCATION  
OCTOBER – NOVEMBER, 2024

UCE

Candidate's Name: .....

Signature: .....

Random No.

Personal Number

Subject: ..... Paper Code ...../.....

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FOR SCORERS' USE ONLY

Item \_\_\_\_\_

Basis code

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553/2 Inst. Sch.  
Biology  
Practical  
Instructions  
Oct./Nov. 2024



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

BIOLOGY PRACTICAL INSTRUCTIONS

553/2 Inst. Sch.

October/November 2024

***CONFIDENTIAL***

This information is given only to facilitate preparation of the examination.

**Great care should be taken so that the information given below does not reach the candidates either directly or indirectly.**

**INSTRUCTIONS FOR PREPARING SPECIMENS AND APPARATUS**

The teacher responsible for preparing specimens must ensure that candidates are provided with correct specimens and other materials as specified in these instructions. Specimens and solutions which have been assigned codes should be presented to candidates using those **codes only** and not any other identity. The head teacher **must** ensure that the teacher responsible for preparing the specimens hands in his/her procedure and trial results for the physiology/biochemistry item, properly sealed in a separate envelope and **firmly** fastened (attached) to the candidates' script envelope(s).

**Each candidate should be provided with:**

A freshly killed/well preserved tick, labelled **A**.

A freshly killed soldier termite, labelled **B**.

A freshly killed house fly, labelled **C**.

40 cm<sup>3</sup> of dry soil, sample **L**.

*(L is a uniform mixture of soil in the ratio of 2 sandy soil: 3 fine clay soil.)*

40 cm<sup>3</sup> of dry soil, sample **M**.

*(M is a uniform mixture of soil in the ratio of 1 sandy soil: 9 fine clay soil.)*

10 cm<sup>3</sup> of 1 % sucrose solution, labelled **N**.

2 measuring cylinders (100 ml).

Hand lens.

Filter funnel.

Cotton wool.

2 beakers.

3 test tubes.

Stop clock.

Blue litmus paper.

Red litmus paper.

**Access to:**

Water.

Heat source.

Reagents for carrying out food tests.