Candidate's Name: .....

Signature: .....

Random No.						Personal No.		

(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.*

Turn Over

Item 1

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.

You are provided with soil samples **L** and **M** obtained from the two parts of Rashid's garden.

Task:

Design and carry out a scientific investigation to determine the part of the garden from which soil samples **L** and **M** were obtained. Use your results to explain the difference in the yields from the two parts of Rashid's garden.

Your design and investigation should include the following:

(a) Aim, hypothesis, variables, apparatus/ requirements.

(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.

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.

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

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

END

Do not write in this margin

UCE

Do not write in this margin

UGANDA NATIONAL EXAMINATIONS BOARD

UGANDA CERTIFICATE OF EDUCATION

OCTOBER – NOVEMBER, 2024

Candidate's Name: ....

Signature: ....

Random No.						
Personal Number						

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

FOR SCORERS' USE ONLY

Item ______

Basis code												
Score												

Scorer's initials ....

Item ______

Basis code												
Score												

Scorer's initials ....

Item ______

Basis code												
Score												

Scorer's initials ....

Item ______

Basis code												
Score												

Scorer's initials ....

Item ______

Basis code												
Score												

Scorer's initials ....

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^3 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^3 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^3 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.