

Candidate's Name: .....

Signature: .....

Random No.					Personal No.		

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

553/1  
BIOLOGY  
Paper 1  
(Theory)  
Oct./Nov. 2024  
2½ hours



UGANDA NATIONAL EXAMINATIONS BOARD  
Uganda Certificate of Education

BIOLOGY

Paper 1  
(Theory)

2 hours 30 minutes

**INSTRUCTIONS TO CANDIDATES:**

*This paper consists of two sections; A and B. It has seven examination items.*

*Section A has three compulsory items.*

*Section B has two Parts; I and II. Answer one item from each part.*

*Answers to Section A must be written in the spaces provided while answers to Section B must be written in the answer booklet(s) provided.*

*Answer five items in all.*

*Any additional item(s) answered will not be scored.*

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**SECTION A**

*Answer all the items in this section in the spaces provided.*

**Item 1**

Badru is a pumpkin farmer in Kitumba village. The village experienced a long dry season characterised by high temperatures, much sunshine and dry windy conditions. During the season, the hairy pumpkin leaves would droop (bend downwards) and flower petals remained closed for a longer part of the day but they would straighten and open during early morning hours respectively.

Badru had a very poor yield of pumpkins.

**Task:**

- (a) Mention the processes in the pumpkin plants that were affected by the conditions experienced.

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- (b) Describe how the conditions experienced affected the functioning of the pumpkin plants which led to poor yields.

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**Task:**

Explain;

- (a) how the different activities have caused challenges in the area and how they can be overcome.
- (b) why the community should conserve the hill.

### Part II

Answer only one item from this part. Answers should be written in the answer booklet(s) provided.

#### Item 6

John, whose mother has hepatitis B was involved in a motor accident. He hit his head, lost a lot of blood and became unconscious. He was rushed to a nearby health centre IV where they found that he is of blood group AB and also had injured his kidneys. The doctor advised that John should undergo blood transfusion in addition to other medication.

The health centre did not have blood but John's relatives with safe blood were willing to donate blood to save his life. However, they were confused as to who of them could donate the blood. Table 1 shows the blood groups of John's available relatives.

**Table 1**

Relative of John	Blood group
Cousin	A
Mother	B
Sister	AB
Brother	O

**Task:**

- (a) Explain how the accident affected the functioning of John's body.
- (b) Without referring John to another hospital, suggest with reasons, which relative(s) could donate blood to John.

#### Item 7

Chandiru, a good sports lady, and her husband who is a smoker, live near a swampy area. As time went on, she developed poor appetite and was found to be HIV positive, having heart and respiratory diseases and frequently suffers from malaria. Chandiru observed that her level of performance had greatly declined and she could not understand the cause.

**Task:**

- (a) Explain why Chandiru's level of performance in sports had declined.
- (b) Advise Chandiru on how she can manage her health condition.