

NAME:.....

CENTRE/ INDEX No.....

SCHOOL.....

SIGNATURE:.....

553/1
BIOLOGY
PAPER 1
July/August 2025
 2½ hours



WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

BIOLOGY

Paper 1

Theory

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

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

*Sections **A** has **three** compulsory items. Responses to this section should be written in the spaces provided.*

*Section **B** has two Parts; **I** and **II**. Answer **one** item from each part. Responses to this section should be written in the answer booklet(s)/sheets provided.*

*Answer **five** items in all.*

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

FOR SCORERS USE ONLY				
SECTION		ITEM	SCORE(S)	SCORER'S SIGNATURE
A		1		
		2		
		3		
B	PART I	4		
		5		
	PART II	6		
		7		
TOTAL				

SECTION A

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

Item 1

A farmer owns half an acre of land where he intercroops maize and cassava. The first two years the crops had large green leaves and the farmer obtained high yields. The subsequent years the crops had small yellow leaves and appeared stunted, the farmer obtained low yields. The maize cobs and grains were small. The Agricultural extension worker attributed the conditions of the crops over the years to mineral deficiency.

Task

- (a) Explain the causes of the observations for each crop in the subsequent years.

- (b) Explain the low yields in the subsequent years.

- (c) Suggest to the farmer how he can improve on yields of the said crops.

Item 2

On her way back home from school, Joan encountered a snake, screamed, jumped and ran away for her life until she reached home.

On arrival at home, the concerned mother asked her what was the problem, but Joan could not talk because she was breathing heavily and felt a lot of pain in her legs.

Task

- (a) Explain the roles of the body structures involved in this situation.

- (b) Explain the physiological changes in her body leading to the heavy breathing and feeling of pain in her legs.

- (c) Suggest how Joan was able to recover from her conditions with time.

Item 3

Susan a 14 – year old student in S.2 and John a 19 – year old student in S.6 were known to be lovers. Susan conceived and when John learnt of it he disappeared from the village. Susan's life began changing over time, as the parents and friends started distancing themselves from her.

Task

- (a) What were the potential risks to Susan as a teenage girl?

- (b) Susan of blood A, delivered a child of blood group O. John was eventually arrested and tested to have blood group B, but denied responsibility.

Using the principles of genetics, explain how John;

- (i) Was guilty.

- (ii) May have been innocent.

SECTION B

Answer only two items from this section, taking one item from each of the parts I and II.

Part I

*Answer only **one** item from this part.*

Item 4

A volcanic eruption occurred on a mountain and with time large volume of water would be seen flowing down slope each time it rained. The farmers down slope experienced low yields, and also began competing with wild animals for food. Herbalists too had no source of income and people suffered from several illness.

Task

- (a) Explain the environmental challenges observed in the scenario and how they can be mitigated.
- (b) Explain why this environment should be restored.

Item 5

A natural forest next to a water body was cleared to grow sugar canes. The sugar canes were regularly sprayed to control pests. The fishermen complained of reduced catch of fish and the wild animals were also encroaching on the crops of the surrounding community.

Task

- (a) Explain the cause of the challenges faced by the community.
- (b) Suggest why the natural forest should be restored.

Part II

Answer only one item from this part.

Item 6

Patrick is a known heavy smoker, who lives next to a swampy area. He often suffers from malaria, has poor appetite for food, has swollen legs and looks fatigued. In the hospital he was diagnosed with respiratory diseases and kidney problems.

Patrick noted that he could no longer do his routine activities with ease and could not understand the cause.

Task

- (a) Explain why Patrick could no longer do his routine activities with ease.
- (b) Suggest how Patrick can manage his health status.

Item 7

A 25-year old athlete was seen training for a marathon at high altitude for a month. Initially he experienced shortness of breath, fatigue and dizziness. When the athlete went for the competition he did not experience fatigue and dizziness and eventually won the competition.

Task

- (a) Explain the cause of the challenges the athlete experienced initially and how he was able to win the marathon.
- (b) Suggest how this athlete can maintain winning the marathon races.

END