

Candidate's Name:..... Signature:

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

ASSHU ANKOLE JOINT MOCK EXAMINATIONS 2025
Uganda Certificate of Education
BIOLOGY

Paper 1/Theory

2 hours

INSTRUCTIONS TO CANDIDATES:

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

Section B has two Parts; I and II. Answer one item from each part. Answer five items in all.

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

For scorer's use			
Item No	Basis code	score	Score's initials
Item 1	U ₂		
	A ₂		
Item 2	U ₄		
	A ₄		
Item 3	U ₅		
	A ₅		
Item 4/5	U ₁		
	A ₁		
Item 6/7	U ₃		
	A ₃		
Total scores			

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c) How were the maize plants able to survive the conditions experienced?

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ITEM 2

James, a Senior Two student, experiences eye strain when reading words close/near to the eyes. Her parents are seeking a solution to enable him learn well in class. Recently, he was discovered to be Diabetic after experiencing frequent urination and thirst.

Task

(a) Explain with clear illustration why James experiences reading problem.

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(b) What advice can you give to James to help him manage the condition discovered recently in his life?

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ITEM 3

Jane, a Senior Two student in a certain school, began a sexual relationship with her boyfriend. Because the boyfriend had multiple relationships, Jane contracted HIV and other illnesses. She also became pregnant. Her angry parents chased her from home, but she managed to survive in the slums of a nearby town and later gave birth to a baby who turned out to be a sickler, with acute pain, swollen hands and yellowing of skin. The boyfriend denied being responsible for the pregnancy since him and Jane did not have such a condition.

Task

(a) Genetically show the boyfriend the possibility of producing a child with such a condition.

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(b) How can Jane manage her challenges and those associated with her child's condition?

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SECTION B

PART I

Answer one item from this part. Write your answer in the answer booklet provided.

ITEM 4

Last year, residents living near a certain river faced several challenges: frequent flooding, birds that used to gather around it disappeared, the river water changed colour and had a lot of plant growth. This was mainly attributed to the illegal sand mining activities along the river banks, commercial agriculture by the river banks and continued devegetation by the residents.

Task

- Explain how the residents' activities have contributed to the challenges faced along the river community.
- Why was it important to sustainably use such an environment?

ITEM 5

Paul cleared a forest and began growing only maize on a steep slope for several seasons. He used herbicides for weeding, artificial fertilizers during planting, frequent irrigation and tillage, and pesticides for pest control. Over time, residents began facing challenges which were attributed to Paul's activities.

Task

- (a) Explain how Paul's activities affected the environment.
- (b) Advise Paul on how he can sustainably utilize the environment without much damage

PART II

Answer one item from this part. Write your answer in the answer booklet provided.

ITEM 6

During inter-team football competitions, the Nile team had a match against the Victoria team. Ten minutes before the match, Victoria's team manager served his players a heavy meal of posho and beans, while Nile's manager served glucose and water.

One Nile player was seen breathing rapidly, sweating excessively, and with a fast heartbeat. He took a sugary drink but managed to play until the end. Victoria lost the match but won their second one.

Task

- (a) Explain the processes the meal given to the Victoria players went through to benefit them in the second match.
- (b) How did the observed body changes in the Nile player and his actions help him overcome challenges in his body?

ITEM 7

Robert has worked in a cigarette factory for 10 years. Some workers smoke inside the poorly ventilated factory where Robert spends long hours each day. He also has a poor diet. Recently, he developed breathing difficulties, chest pain, anaemia, weak bones, and bleeding gums. Doctors linked his condition to his work environment and poor nutrition.

Robert, who is blood group O, needed a transfusion. His wife, who is blood group A, volunteered to donate blood but became angry when the doctor told her she couldn't donate to him.

Task

- (a) Explain;
 - (i) to the wife to understand the doctor's advice.
 - (ii) how Robert's illness was brought about by his working conditions and diet.
- (b) What measures can be taken to help Robert live longer despite his condition

END