

NAME.....INDEX NO.

SIGNATUREPERSONAL NO:

553/1
Biology Theory
Paper 1
July /Aug. 2025
2 ½ hrs



KAYUNGA SECONDARY SCHOOLS EXAMINATIONS COMMITTEE (KASSEC)
JOINT MOCK EXAMINATION 2025

Uganda Certificate of Education

BIOLOGY
(Theory)

Paper 1

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 booklets provided.*
- *Answer five (5) items in all*
- *Any additional items answered will not be scored.*

Turn Over

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SECTION B

Part I

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

Item 4

Mukoye college located in Kayunga district is located on a hill and has for long been forested with many indigenous species of trees on the western side of the school. An investor setup a sugar processing factory on one part of the forest, shortly after cases of farmers encroaching on the remaining part of the forest were recorded.

Monkeys and snakes have become common on the school compound, rains have reduced in the area with average increase in the temperatures of the place. The farmers' crops flower but do not form fruits with a general decline in the crop yields.

Task:

- (a) Explain how the human activities contributed to the challenges observed.
- (b) Suggest to the community members practical solutions on how to overcome the observed challenges

Item 5

Mr. Lubega and his wife divorced and agreed to divide their land. Mr. Lubega took the part that was partly bushy and partly forested, while the wife took the already cleared part with gardens. For the last five years, the wife has been growing maize, sorghum, and cassava in the same garden causing a drop in her yields. Mr. Lubega cleared only the bushy part and left the forested area but still gets good harvests.

Now, the ex-wife wants to clear the forested land for farming, saying it's idle, however, Lubega has refused believing it should be preserved.

Task:

- (a) Explain the impact of the wife's agricultural behavior on the environment
- (b) Advise Mr. Lubega and his ex-wife on how to sustainably use the resources each of them owns

Part II

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

Item 6

Jesca used to perform excellently in the previous inter district athletics competitions without any challenges. In the most recent competition, Jesca failed to emerge among the winners of the competition even after feeding on large quantities of glucose before the start of the race. She also experiences challenges of muscle aches, fatigue, increased breathing and heart rates shortly after the race.

She was reported to have started smoking with one of the peer groups in her village. Her medical doctor collected her exhaled air, analysed it and compared it with the exhaled air of a non-smoker. The laboratory results of both individuals are presented in the table below.

Component	Inspired air	Exhaled air	
		Non-smoker	Jesca
Carbon dioxide	0.03	4	6
Oxygen	21	16	18

Task:

- (a) Explain how Jesca's lifestyle affects the normal functioning of her body and its contribution to the observed challenges after the race
- (b) Suggest measures that Jesca can undertake to ensure that she continues with her career successfully

Item 7

In an athletics competition, *athlete A* was given a cup of porridge between racing events. *Athlete B* chose to take water containing some glucose and water melon between the same racing events. In all events, *athlete B* emerged a better athlete winning all races. Athlete A revealed that he often consumes boiled cassava and rice while athlete B mainly consumes fruit juice, milk shakes, banana and chicken.

Task:

- (a) Explain the difference in the performance of the two athletes between the racing events.
- (b) Explain how *athlete B* body enabled him to win the race.
- (c) Suggest to *athlete A* strategies he can undertake to improve on his performance in the subsequent races

END