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553/1

Biology

July/August 2025

2½ hours

MWALIMU EXAMINATIONS BUREAU

UCE RESOURCE MOCK EXAMINATIONS 2025

Biology (Theory)

Paper 1

2 hours 30 minutes

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 Only

SECTION	A			B (PART I)		B (PART II)	
ITEM	1	2	3	4	5	6	7
SCORE							
TOTAL							

SECTION A

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

ITEM 1

Mr. Pokino, a farmer in Pajule Village planted beans and maize in a garden near a dusty road and around flowering time, a dry spell set in and the garden was also infested by caterpillars and aphids which ate up leaves, flowers and bore holes on stems and leaves. However, after about two weeks, the rains resumed and despite the challenges faced by his crops, Mr. Pokino was able to realize some low yields.

TASK:

- a) Explain how the various plant processes were affected leading to poor yields.

[illegible]

- b) How were the plants able to overcome the prevailing conditions to give some yields.

ITEM 2

A 70-year-old woman has a neck swelling, frequent back pain and poor vision. Upon medical examination, the doctor further revealed that her bones are softening and has age related eye defect and that her family members may manage her condition through diet and other measures.

TASK.

- a) Explain the cause of the old woman’s health condition.

b) Suggest how a suitable diet, sight correction and other possible strategies would manage her condition.

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ITEM 3.

A young couple was very happy when they welcomed their first son. However, four years later, they noticed that he couldn't distinguish ripe red fruits from unripe green ones in their garden. This generated anxiety and upon consulting the doctor, he told them that the boy has a genetic disorder which is sex linked.

The mother is now experiencing morning sickness and frequent vomiting with genital rashes and blisters. This has stressed the family and resulted into frequent fights at home:

TASK.

a) Using genetic symbols, explain to the couple how their son's condition came about.

b) Explain to the couple how they can manage the challenges they are experiencing and ensure normal healthy peaceful family.

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SECTION B

PART 1

Answer only one item from this part.

Answers should be written in the answer booklet provided.

ITEM 4

In Mbarara, many investors have constructed factories near River Rwizi, wastes are released without proper treatment, commercial farming is ongoing with farmers using herbicides to kill weeds and washing pesticide containers in the water: fishermen use mosquito nets to catch fish and over time the fish population has drastically reduced, water birds have flown away, nearby communities have suffered from stomach problems and skin diseases and the river now has bad smell and the water looks green and foamy.

TASK.

- a) Explain how the human activities have caused the challenges / problems to the organisms and the surrounding eco-system.
- b) Explain how the challenges can be solved and why it's important to protect water bodies like River Rwizi.

ITEM 5.

Mr. Ntabanzi cleared a forest along the slopes of a hill that had fertile soils to expand his farm for growing maize. After several years of planting maize on his farm and using herbicides to control weeds, pesticides to control pests, the maize started to grow slowly with yellow leaves which greatly reduced the maize yields, especially at the hill top than in the valley.

The residents of the village also use the valley in the farm to dump plastic water bottles and polythene bags which posed more challenges.

TASK.

Explain the likely effects of Mr. Ntabanzi's and the residents' actions and suggest possible ways to overcome the effects. What is the importance of conserving the hill and valley?

PART II

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

ITEM 6.

Nixon a re-known trader in Kikuubo has over the past 24 months gained much body weight and when asked by a friend what his secret was Nixon boasted of taking proper care of himself by eating fried chicken and chips along with soda, the friend also observed that Nixon drives a posh car, rarely exercised, sits most of the time in the shop smoking cigarettes and drinking Uganda waragi.

Of recent, Nixon complained of swollen feet, chest pains, shortness of breathe and most of his clothes no longer fit him. On visiting the hospital and medical examination, the doctor advised Nixon to change his lifestyle and this left him confused.

TASK

- a) Explain how Nixon's lifestyle has contributed to his health challenges.
- b) Suggest practical ways Nixon can improve his health conditions.

ITEM 7.

Recently, a factory worker was assaulted and severely injured by some thugs on his way home from work, leading to severe bleeding and loss of teeth. He was taken to the hospital and upon examination the doctor reported that his pancreas and kidney were severely damaged. Since then, the worker presented a number of health challenges like swollen legs, dizziness, body weakness, weight loss and diarrhoea. This has kept the worker worried about his life.

TASK.

- a) Explain how the assault by the thugs affected the functioning of the worker's body.
- b) Suggest recommendations on how the worker's condition could be managed to enable his body return to normal state and functioning.

End