

Candidate's Name: .....

Signature: ..... Personal No. ....

553/1  
BIOLOGY  
Paper 1  
2024  
2½ Hours



## COMPREHENSIVE BIOLOGY TRANSFORMATION INITIATIVE.

UGANDA CERTIFICATE OF EDUCATION  
RESOURCEFUL MOCK EXAM.

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**.

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.

**Adapt to the 21<sup>st</sup> Century Pedagogical skills.**

**SECTION A**

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

**ITEM 1**

Peter’s cassava plants had green leaves and were looking healthy before a dry spell came during which the leaves became wrinkled and turned yellow and the tubers were very small and bitter. However, his neighbor John whose cassava was irrigated during that period produced high yields of sweet cassava.

**Task**

(a) Identify the challenges that Peter’s plants faced.



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(b) Explain how the normal functioning of Peter’s plants was affected.

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(c) How did John’s intervention enable his plants to give high yields?  
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**ITEM 2**

Michael is currently in S.3 but has developed frequent thirst, and eye strain which makes it difficult for him to see the work on the chalk board clearly from his back seat and is addicted to taking alcohol every evening, which has led to poor academic performance at school. During the Biology lesson, he carried out a test on his Urine sample with Benedict’s solution and it turned positive.

**Task**

(a) Explain Michael’s eye condition and how it can be managed for him to study comfortably without changing his sitting position in class.  
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(b) What are the challenges associated with his addiction.

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(c) How can he manage the condition affecting his urine in order to survive for long.

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**ITEM 3**

Naomi has a very small body size for her age but she is surprised to see many body changes due to puberty, some of which are affecting her stay at school.

Her friend Jane who has an average body engaged in a sexual relationship with a sugar daddy due to lack of basic needs. However, she later developed some illness and upon visiting the nearby health centre, she was informed that she was pregnant and HIV positive. Upon delivery, the child's blood group was identified as A and that of Jane was O.

The sugar daddy denied being the father of the child since his blood group is AB.

**Task**

(a) Genetically show the sugar daddy how it is possible that he is the father.

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(b) Identify the challenges affecting Naomi’s stay at school.

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(c) How can Jane manage her health status to live for long?

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## SECTION B

Answer **two** items from this section.

### PART I

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

#### ITEM 4

Kampala city has faced many challenges due to wetland destruction, including loss of lives and property during the rainy season, and disappearance of some organisms. Recently, National Environment Management Authority (NEMA) decided to demolish buildings that had been constructed in Lubigi wetland in Kampala City. NEMA attributed the challenges faced by Kampala residents to the activities that the residents in the wetland were carrying out, hence their decision to evict them. However, the evicted people are unhappy with NEMA's action.

#### Task

Explain the challenges brought about by the actions of residents leading to NEMA's action and suggest how they could be minimized.

Why is it important for NEMA to carry out the eviction in that area?

#### ITEM 5

Last year, residents near Lake Victoria faced many challenges, including collapse of a bridge at Lwera wetland and loss of lives and property during the rainy season, reduction in fish caught from the lake and disappearing of birds that used to stand on the lake shores. This was attributed mainly to the illegal sand mining activities in Lake Victoria. The district Administration of Wakiso district intervened and stopped all the activities but the companies involved in the activities were unhappy.

#### Task

Explain the challenges brought about by the actions of the companies and suggest how they could be minimized.

Why was it important for the District authorities to stop the companies' actions.

## PART II

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

### ITEM 6

James is too fat for his age, which is affecting his stay at school. His diet consists mainly of starchy and fatty foods. He loves sitting a lot even at school since he is weak due to an inefficient transport system, as a result of his feeding lifestyle.

#### Task

Explain the processes that his diet goes through, resulting in his abnormal size.

What are the challenges brought about by his feeding lifestyle and body size and how could he overcome his challenges.

### ITEM 7

Robert has been working in a cigarette factory for 10 years. His fellow workers could sometimes smoke inside the poorly ventilated factory building where he could stay for long hours daily. Recently, he developed breathing difficulties and anaemia and on visiting the hospital, he was informed that that his respiratory and circulatory system was affected by the working conditions. The Doctor informed him that he needed a blood transfusion but it was difficult to get a suitable donor. Robert's wife got annoyed with the Doctor upon being informed that she could not donate to Robert.

#### Task

Explain how the working conditions affected his body functioning and how can he manage his conditions to survive for long.

Why shouldn't the wife get annoyed with the Doctor?

END

*Change is the only constant in life (Vivo)! Embrace the new lower secondary curriculum.*

*Transforming Biology Pedagogy.*