Candidate's Name: .....

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

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BIOLOGY
Paper 1
Jul / Aug 2026
$2\frac{1}{2}$ Hours

JINJA JOINT EXAMINATIONS BOARD

Uganda Certificate of Lower Secondary Education

MOCK EXAMINATIONS - JULY / AUGUST 2026

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.

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SECTION A

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

ITEM 1

A traditional herbalist collects herbal medicine from medicinal plants in a nearby forest. In the process of harvesting, he frequently plucks leaves and flowers, digs out roots, and strips bark from tree stems. Over time, the population of many medicinal plant species in the forest has greatly reduced. However, one particular species, which has numerous buds and a high capacity for regeneration, has continued to survive and remain abundant.

Task

a) Explain how the herbalist's harvesting methods affect the normal functioning of medicinal plants.

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b) Explain why one particular species has continued to survive despite the poor harvesting methods.

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ITEM 2

An old woman has been suffering from joint pain and frequent fractures. Her son developed visual and hearing impairment. When the son was diagnosed in hospital, the clinical laboratory report indicated that the auditory canals had a lot of wax and the ear drums and cochlea were damaged. The iris had less pigment and the ciliary muscles were weak. While in the hospital, the old woman was informed that her sickness was due to hormonal imbalance as a result of her old age. The woman is so worried about her health condition.

Task

1. Explain the cause of the son's impairments as indicated in the report.

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2. Explain what can be done by the old woman to manage her health condition.

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ITEM 3

A 15-year-old Senior Three homozygous normal girl became pregnant after engaging in a sexual relationship with a heterozygous normal man from a family with some albino members. The pregnancy has negatively affected her. She is also worried that the unborn baby may be albino because albinism exists in the man's family. Due to this and the challenges associated with the pregnancy, she is considering abortion. However, her friend has advised her against making that decision.

Task

a) Genetically show to the girl the possible phenotypes of the unborn child.

b) Explain the likely challenges that the girl could be experiencing due to her current condition.

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c) Explain the importance of the friend's advice to the girl.

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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

A farmer cleared a large area of natural vegetation to establish a crop field. He began growing maize intercropped with millet and, during the first three planting seasons, he obtained high yields. After several seasons of growing the same crops, the yields started to decline, and pest infestations became more severe. In response, the farmer began applying artificial fertilizers and broad-spectrum pesticides every season. Although yields improved temporarily, they later declined again. He also noticed that the fruit trees growing near the crop field produced fewer fruits than before.

Task

a) Explain how the activities of the farmer caused the observed challenges.
b) Advise the farmer on how he can sustainably ensure high yields.

ITEM 5

In the dry plains of a cattle corridor in Uganda, residents cut down trees for charcoal burning, burn grass during the dry season to control parasites and keep large herds of cattle. As a result, the hunters have observed a reduction in wild animals in the area, increased populations of rats in their homes and increased environmental temperature.

Task

a) Explain how the challenges in the area were brought about by the activities of the residents.
b) Why is it important for the residents to sustainably use the area?

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PART II

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

ITEM 6

A five-year-old boy in primary one, suffered nutritional deficiencies which presented the following signs and symptoms; bow-shaped legs, bleeding gums, pot belly and a larger body size for his age. His Physical Education teacher realized that he is extremely slow during physical exercises but encouraged him to continue in order to improve his health. One day, during exercise, the teacher observed that the boy's heartbeat and breathing rate increased so much and he was complaining of muscle pain. She advised him to rest but the boy continued breathing fast for a while before returning to the normal rate.

Task

a) Explain the causes of the boy's health challenges.
b) Explain the body changes that occurred during and after exercise.

ITEM 7

A veterinary officer has been mixing his drugs while smoking cigarettes inside his poorly ventilated drug shop before going out to treat animals for his customers. He usually misses lunch since he spends the whole day attending to his various customers. Recently, he became ill. He was taken to hospital and the clinical laboratory report indicated that he has broken alveolar walls, very few cilia lining the air passages, wounds in the inner lining of the stomach and few villi in the ileum.

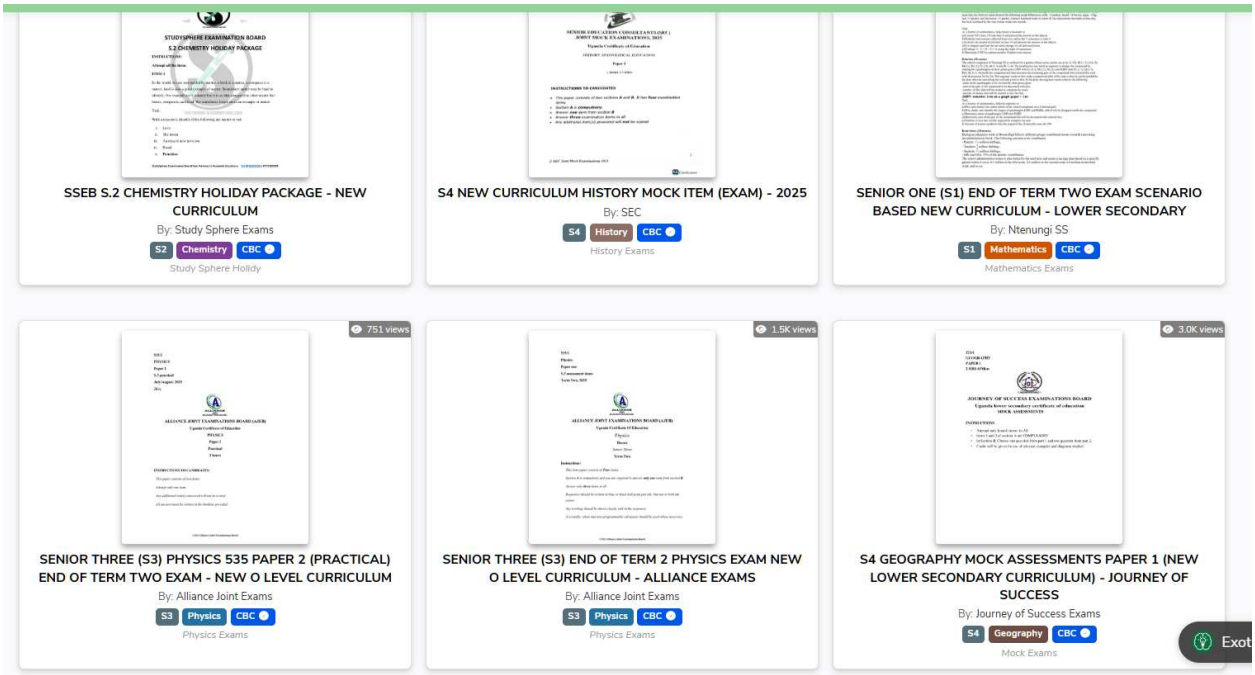
Task

a) Explain how the observations in the report led to the officer's ill health.
b) Apart from treatment, what advice can you give to him to improve his health?

END

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