

Name.....

Signature.....

P553/1

BIOLOGY

Paper 1

August 2025

DIVINE COLLEGE WAKISO

END OF TERM TWO 2025

Uganda Certificate of Education

BIOLOGY

Paper 1

Theory

2 HOURS

INSTRUCTIONS

*This paper consists of **six** examination items .It has two sections; A and B*

Section A has two compulsory items

*Section B has two parts; I and II. Answer **one** item from each part*

*Answer **four** items in all*

SECTION A

Item 1.

Mrs. Pamela bought a piece of land with compact soils. When the rainy season started, she planted quality bean seeds. After one week, most seeds failed to germinate and the few plants that germinated had yellow leaves, some had purple leaves and some started folding and dropping down, weak stems and poor root development leading to poor yields. She was advised by the ministry of Agriculture to add some fertilizers and after adding the fertilizers, she managed to get some yields

Task

a) Identify the plant organs affected and processes affected

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b) Describe how the major plant nutrients that were lacking in her garden affected the normal growth of the bean plants

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c) Explain how the bean plants managed to give some yields after application of fertilizers and advise her on possible measures she can do to ensure good yields the next season

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Item 2

During a research study by world health organization about eating disorders and body mass index among university students, it was discovered that there is a sharp increase in eating disorders among university students since covid-19 pandemic and emphasis was put on bulimia nervosa and anorexia nervosa

Task

a) Describe any two causes of increasing eating disorders among university students

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b) In attempt to get BMI of students, John a 20 year old and Pricilla a 23 year old were used in the study. When the body measurements of John and Pricilla were taken, he had **60kg** and **1.5m** high while Pricilla had **40kg** and **1.7m** high but both were not sure of their nutritional status

Support material

BMI	Interpretation
<18.5	Underweight
18.5 to 24.5	Normal weight
25 to 29.5	Overweight
30 to 35	Obese

Task

a) State how important is to know the BMI of an individual

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b) Showing your **calculations**, help them to know their health status and state the likely challenges of each of the students

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c) Advise them on how to maintain the normal weight and height

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SECTION B

Answer on one item from each part on answer sheets provided

Part 1

Item 3

A hilly place previously covered with thick vegetation has recently been dominated by many activities that include timber cutting, charcoal burning, rearing of cattle and crop gardening. Farmers practice bush burning in preparation for planting and also dig up and down the slopes of hills. Incidence of strong wind, mud slides and flooding of gardens in the valleys are now common in the area

Task

Explain;

- a) How the different activities have caused challenges in the area and how they can be overcome
- b) The benefits of conserving the hill

Item 4

Mr. Otim had a piece of land with many trees. He cleared the land in order to grow maize on large scale. He also destroyed all ant hills with chemicals since he feared that termites would attack maize and also applied fertilizers in his maize garden. This has caused many challenges to the environment

Task

Explain;

- a) The challenges he caused to the environment
- b) Why it is important to Mr. Otim to conserve his environment

Part 11

Item 5

During his first hospital visit in January, Daniel, a five year old boy was found to be having wasted muscles, not physically active, had wounds on his body and was generally weak. Special foods majorly comprising of millet porridge, fish and fruits were recommended by the nutritionist for Daniel. His condition has since improved

Task

- a) Explain the health challenges basing on the above symptoms
- b) Explain how his body utilized the special foods to enable him improve his conditions

Item 6

In Mr. Kato's family, his two children Emma (8 years old) and Joshua (5 years old) had some health challenges .When they went to the hospital, the following diagnosis results were obtained. Doctor Shivan advised the father to change diet of his children

EMMA	JOSHUA
Pale hair, pot belly and swollen bleeding gums	Shortness of breath and body fatigue
Body weight=12kg	Body weight=18000g
Body height=80cm	Body height =0.72m

NOTE: Refer to the BMI chart on item 2 in section A

Task

- a) Explain the causes of the problems in Mr. Kato's family basing on the calculated BMI
- b) Advise them on how to overcome the challenges to live a normal life

END