

Student's name..... Signature

553/1
BIOLOGY
(Theory)
Paper 1
NOV. /DEC. 2024
2 $\frac{1}{2}$ hours

S.2



UGANDA CERTIFICATE OF EDUCATION.
COMPETENCE BASED ASSESSMENT EXAMINATIONS

BIOLOGY (THEORY)
PAPER 1
END OF YEAR EXAMINATIONS

SENIOR TWO

2Hours: 30 Minutes

Instructions.

*The paper consists of seven examination items. It has two sections A and B. Section A has **three compulsory** items. Section B has **four** items, grouped in two parts; **Part I and II**. Attempt **one item** from each part.*

*Answer **five** items in total and any additional item answered won't be scored.*

Poor handwriting leads to loss of marks.

*Responses (answers) for section A must be **written in spaces** provided and those of section B on the answer sheet given.*

Item	1	2	3	4	5	Total score
Scores						

(c) Suggest possible solutions on how he can avoid losses next seasons. [05 scores]

ITEM 2

In a given family in Wakiso district; the father has for long experienced health challenges signified as frequent urination, painful joints and bones and with difficulty in swallowing food due to his greatly swollen neck. His five year old daughter experiences; difficulty in breathing, bleeding gums and also not able to see in dim light. After a medical test on the father, the following results where obtained

Medical Test	Normal body levels	His body levels
Iodide ion levels (milligrams/deciliter)	7.8-12	3.1
Blood glucose levels (mg/100cm ³)	90	150
Calcium ion levels (milligrams/deciliter)	8.5–10. 2	2.3

Task

(a) Mention the body organs/tissues affected in the body of the father and the daughter and state the roles such organs/tissues in their body. [04 scores]

SECTION B

*Attempt any one item from each PART.
Any additional number from the same subsection will not be marked.*

PART I

ITEM 4

Mr. Peter and Mr. Ronald are great commercial farmers in masaka district. They always plant maize on very many acres of land. They clear away forests and vegetation cover, burn the dry bush and later plant their crops. They have grown maize on their land for three consecutive years. Their yields have continuously reduced and the area rarely receives rainfall.

Task

- (a) Explain the likely effects on the environment due to their farming practices. **[08 scores]**
- (b) Suggest possible solutions to overcome such challenges and state why it's important to conserve forests? **[07 scores]**

ITEM 5

Mpuga Island is an isolated island in Buvuma district. People on it complain of increased cases of sick people and death due to different diseases. When a health officer visited the area, a number of health observations were recorded that include:

- *Many trenches with stagnant smelling water near houses.*
- *Old pit latrines were near houses and kitchens.*
- *Many heaps of decaying garbage deposited near houses.*
- *Direct discharge of domestic wastes into nearby water.*
- *Drinking of unboiled water from near water of Lake Victoria.*
- *Playing of unprotected sex due to lack of condoms.*

Task

- (a) Identify the likely diseases to be affected by the people staying on this island and explain the possible causes of the health challenges identified. **[08 scores]**
- (b) Suggest solutions on how to manage the health problems and advise the community on this island about the benefits of conserving Lake Victoria. **[07scores]**

PART 2

ITEM 6

From the time Betty stopped breast feeding her son, the son has been experiencing several healthy conditions most especially developed a swollen belly, had low weight, stunted growth and always sickly. When taken to hospital, the doctor recommended the mother to change the diet of the child by feeding the child on foods like eggs and fish. The mother was surprised since after two months, the child had improved greatly with increasing size and weight.

Task:

- (a) Describe the processes the recommended foods by the doctor underwent to greatly improve child's health condition. [10 scores]
- (b) Suggest other recommendations to the mother to ensure normal growth of the child. [05 scores]

ITEM 7.

Catherine a 12 year old child with blood group O experienced severe fever, breathing difficulties and vomiting last month. When rushed to the clinic, she received a medical injection and later her breathing normalized though had low blood levels in the body. The doctor recommended immediate blood transfusion to the child. The family members however could not donate blood to her since the mother had blood group A, the father blood group B and elder brother had blood group AB. They were worried of her losing the life but later compatible blood was got and the child was discharged after two days. The doctor encouraged the home people to feed him more on foods containing iron, proteins, and fruits.

Task

- (a) Explain why the family members could not donate blood to the child. [06 scores]
- (b) Describe how the body of the child responded to doctor's attendance and State how child's body regained its normal functioning. [05 scores]
- (c) State why the doctor the above foods to be given to the child. [04 scores]

***END OF CYCLE
WE WISH YOU SUCCESS
MERRY CHRISTMAS AND HAPPY NEW YEAR***