

BIOLOGY
PAPER 1
(Theory)
2 $\frac{1}{2}$ Hours

UGANDA CERTIFICATE OF EDUCATION
CONTINUOUS ASSESSMENT EXAM-2026
S.4 BIOLOGY PAPER 1
(Theory)
2Hours 30 Minutes

CANDIDATE'S NAME :
LEARNER'S NUMBER :
CENTRE NUMBER :

You must have:

- A ruler (cm/mm)

THIS PAGE IS FOR SCORER'S USE ONLY

Do not write in boxes on this page.

The scorer will use them to keep a record of your scores.

| SECTION | ITEMS | SCORES |
|----------------|--------------|---------------|
| A | 1 | |
| | 2 | |
| | 3 | |
| B | | |
| | | |
| TOTAL | | |

INSTRUCTIONS

- This paper consists of SEVEN examination items in two sections A and B.
- Respond to all items in section A and two items from section B, ONE item from each part.
- Responses to section A must be written in the spaces of the examination paper provided.
- Respond to FIVE items in all.

ADVICE

- Read each item carefully before you start your response.

Item 3

James is a farmer in a certain village and he majorly plants beans because they take very short time to mature and give quick returns. His beans flower and the flowers eventually mature into bean pods containing seeds. His friend has advised him that he should consider planting of bananas, cassava and onions to boost his income. However, John does not know how the suggested plants are planted and he seeks advice.

Task:

(a) Explain to James how his flowers turn into fruits and seeds.

(b) Advise the farmer on how he should plant the suggested crops.

SECTION B

Part I

Item 4

A certain village near a wetland used to have plenty of fish and clean water. Recently, people started dumping household waste and washing clothes in the wetland. Nowadays, the water looks dirty, fish numbers have dropped and many water plants have died.

Task.

- (a) Explain how the highlighted activities in the wetland affected the environment and the communities within the area.
- (b) Propose the possible biological methods the villagers could use to clean the wetland and restore the aquatic life.
- (c) Suggest why it is important to conserve such an ecosystem.

Item 5

A large piece of land was originally covered by a forest in the North and a grassland in the South. However, human activities from nearby communities began to affect the area. Part of the forest was cleared to set up a small industry that released large amount of smoke and sulphur dioxide into the air while the grassland was heavily overgrazed by livestock.

Task:

- (a)
 - (i) Explain how activities of the nearby communities caused the environmental problems in the area.
 - (ii) Suggest possible measures to reduce on the effects of the problems.
- (b) Why is it important for humans to conserve forests and grassland ecosystems described in the scenario?

Part II

Item 6

Amos is a 2-year-old boy living in Mbale. Since birth, he was exclusively breastfed for six months, then given mostly maize porridge and soda after weaning. Lately, he has become weak, gets flu frequently, has swelling in his feet and bruises easily. His hair has become brittle and pale. Amos's mother noticed that he avoids sunlight and spends most of his time indoors.

The **table** below shows Amos's typical diet.

| Meal | Food consumed |
|-----------|-----------------------------|
| Breakfast | Maize porridge + sugar |
| Lunch | White rice + fried beans |
| Snack | Sweet soda |
| Dinner | Cassava + little vegetables |

Task:

- (a)
- (i) Identify the nutritional deficiencies Amos suffers and explain how they lead to symptoms he manifests.
 - (ii) Explain how these deficiencies could affect Amos's growth, immunity and bone health.
- (b) Suggest a practical diet plan using local foods that could improve Amos's health without medical intervention.

Item 7

Mike and John are both athletes preparing for a district level competition. They both train in highland areas and follow a diet consisting of 70% carbohydrates and 80% proteins. However, John is living with HIV, has a heart complication and has recently been eating less food than usual. During the competition, Mike emerged as the winner. John was disappointed and wondered why he did not perform well. He is now looking for ways to improve and perform better in future competitions.

Task:

- (a) Explain;
- (i) how training in the highland areas and following the described diet would benefit the athletes during competitions.
 - (ii) why John may not have won the competition.
- (b) Advise John on how he can improve his performance in future competitions.

THE END