

Name: Centre/Index No:

Signature: School.....

553/1
BIOLOGY
Paper 1
Jul/Aug.2024
2½ hours



UGANDA TEACHERS' EDUCATION CONSULT (UTEC)

Uganda Certificate of Education

BIOLOGY

Paper 1

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.

SECTION A

Answer all the items in this section in the spaces provided

Item 1

Mr. Wambui is a commercial farmer with 15 acres of planted mango trees. In one season he was invaded by caterpillars and by the time he noted the invasion, 10 acres of the plantation had been affected. In that season the harvest was poor and was heard pleading to the department of disaster preparedness to compensate him.

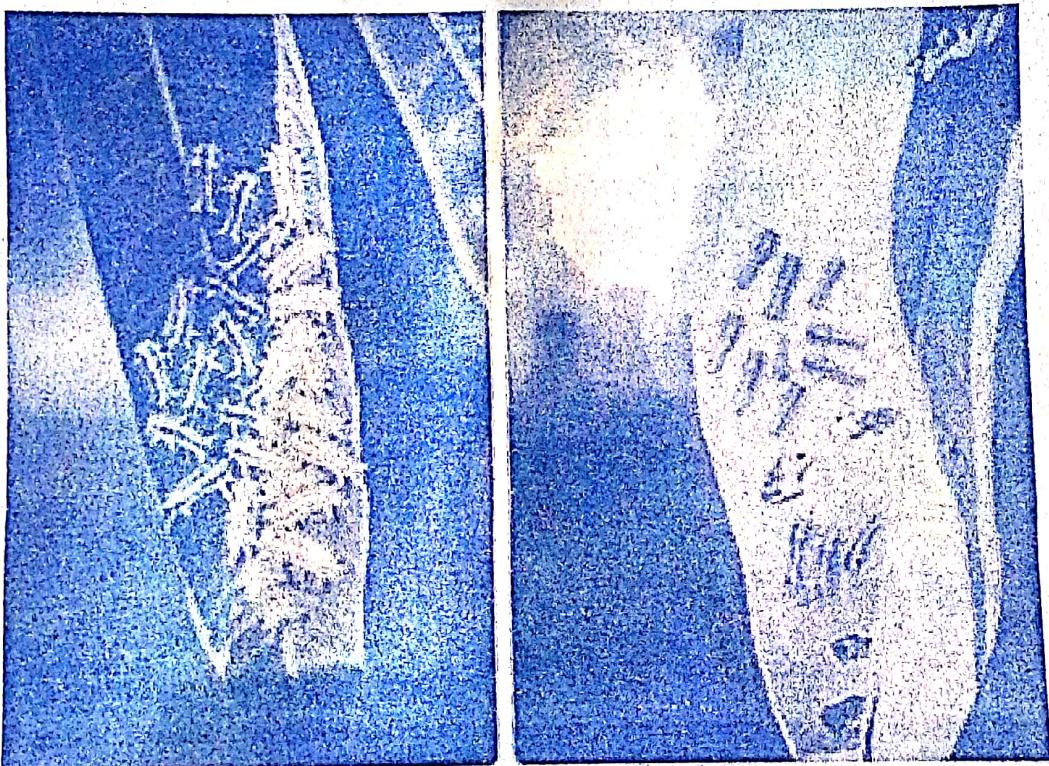


Fig 1. Shows the affected mango trees.

Task

- a) Identify the plant organ(s) that were affected.

.....
.....

- b) Explain how the caterpillars affected the processes in the mango trees.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

- c) What does Mr. Wambui need to do in future to avoid the said challenge?

.....
.....
.....
.....
.....

Item 2

George was often sick and initially failed to seek medical attention, he later realized his life was deteriorating. When he was eventually taken to hospital he reported symptoms frequent urination, thirst, fatigue, weakness, poor vision weight loss, irritability and moody changes after meals. His diet mainly consisted of posho and sweet potatoes. The examination revealed difficulty in standing steadily and alcohol on his breath.

Task:

- a) Mention which organs are affected by the patients' symptoms explaining the roles these organs play in the body.

.....
.....
.....
.....
.....

b) Identify possible causes of his condition.

c) Explain the strategies for managing the condition

Item 3

John and Jane have been happily married, blessed with three healthy children. Unfortunately, the fourth child had light skin, pink eyes and white hair. This appeared abnormal and the couple became suspicious of the neighbour with whom Jane picked a quarrel during her pregnancy. When they visited the doctor, he explained that it was a genetic disease, but they did not believe. John after his evening drinking spree was heard quarrelling, saying one day he will go and behead the said neighbour.

Task

- a) Identify the genetic disorder and show how the child inherited the disorder to enable the neighbour live in peace with the couple.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

- b) How would you advise the young people planning to marry to avoid the problem faced by John and Jane?

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

SECTION B

Part I

Answer only one item from this part. Answers should be written in the answer booklet(s) provided.

Item 4

Malaria is one of the leading killer diseases in Africa.

One time the government was planning to buy a chemical branded DDT and spray the whole Uganda using a helicopter. The environment activists urged against the proposal in fear of the effects the DDT would cause to the useful insects and humans as well.

Task

Assuming you are one of the environment activists write a report you would present to the government to drop its plan and provide the alternative measures to combat the problem at hand.

Item 5

Landslides are common in Bududa Manafa district. Usually cause misery and death of lives of many life forms and humans as rolling rocks clear whatever is along their path. One time the survivors had to be settled in the forest reserve next to the swamp.

Consequently, many challenges broke out in the community.

Task

Explain the environmental challenges that broke out in the community. Advice on how to minimize the effects of the challenges and show measures to conserve the environment in the area.

Part II.

Answer only one item from this part. Answers should be written in the answer booklet(s) provided.

Item 6

An old male patient showed the following symptoms, painful and bleeding gums, high blood pressure, breathing with difficulty and coughing bloody mucus. He admitted to the doctor that he had been smoking for the last 30 years.

Task

Identify the body organs affected and describe how the patient's body function is affected and suggest possible strategies that would improve his health.

Item 7

In your conversation with your grandfather, he said athletes are usually given glucose at the end of the sports, they are characterized by unpleasant odour, breathe faster and their heart beat is faster than before. He keeps wondering about the happenings.

Task

As a grandchild who has studied Biology explain the occurrences of the said events and advise how the occurrences can be minimized.

END