

P530/2
S.5 BIOLOGY
Paper 2
2024
2½ hours

BUNDINSE MEMORIAL SECONDARY SCHOOL
UGANDA ADVANCED CERTIFICATE OF EDUCATION
EXAMINATIONS

S.5 BIOLOGY
(THEORY)

Paper 2

2 hours 30 minutes

INSTRUCTIONS:

*This paper consists of sections **A** and **B**.*

*Answer question **one** in section **A** plus **three** questions from section **B**.*

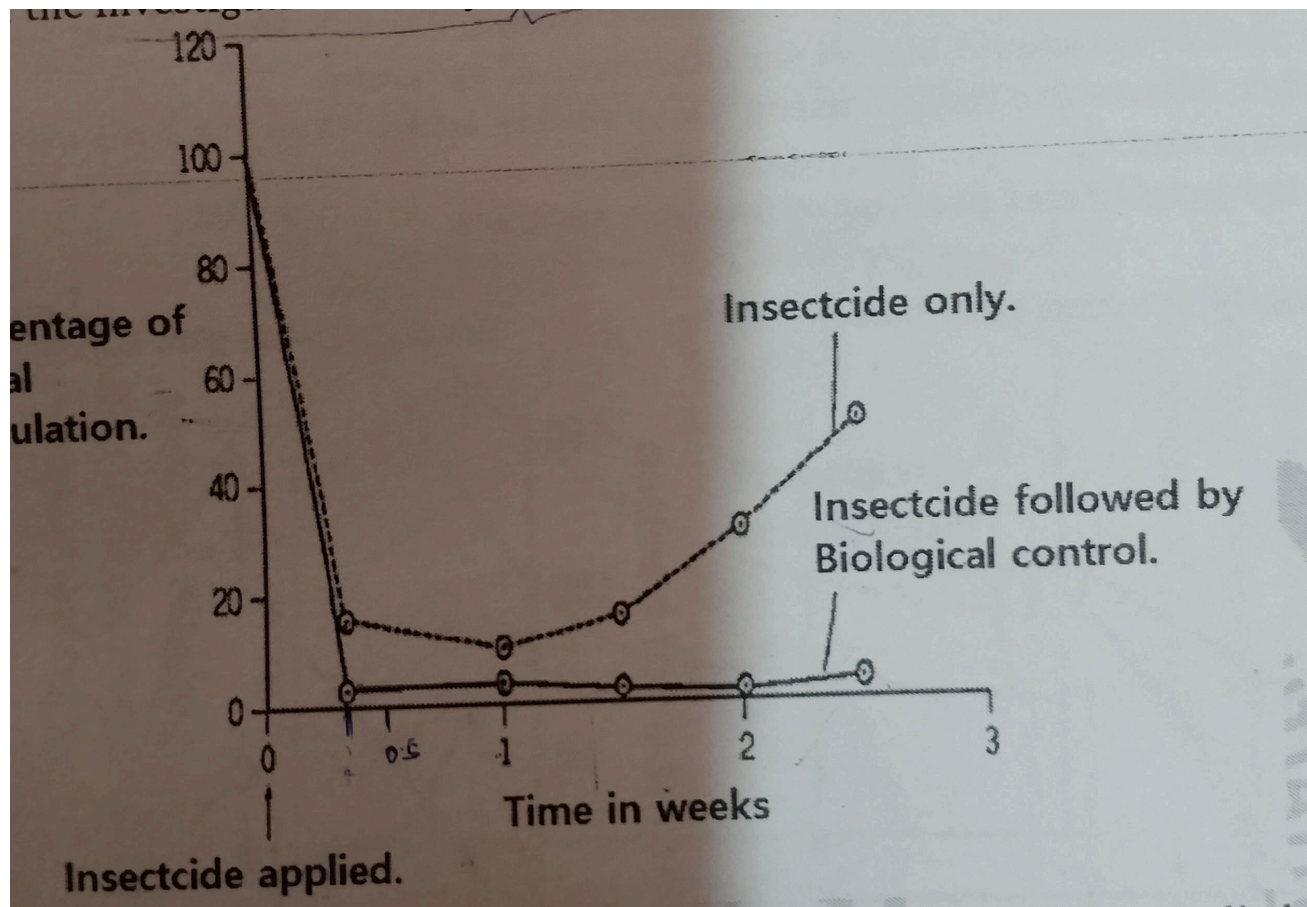
Candidates are advised to read the questions carefully, organize their answers and present them precisely and logically.

*Answers to each question **MUST** begin on a new page*

SECTION A: (40 MARKS)

1. Fire ants, solenosis *Invicta Buren* are serious crop pests in the eastern part of Uganda, Busembatya in Namutumba district. An investigation was was Carried out to find out the best

way to control fire ant population. The figure below shows results of investigation. Study it carefully to provide clear answers



- Compare the population of fire ants when only insecticide is applied and with application of both insecticide and Biological control. 5marks
- Describe the effects on percentage of fire ants when
 - only insecticide treated
 - Insecticide followed by biological control (7 marks)
- Explain the difference in the population of fire ants in (a) (13 marks)
- The ecologists concluded that control by both insecticide and Biological agent was effective. Explain the results support this conclusion.
 - Farmers who grow plants read about this investigation and might decide not to use insecticides only. Suggest reasons for decision. (5marks)

- e. Point out the steps followed when choosing a suitable Biological control agent to manage pests (5marks).

SECTION B (60 MARKS)

- 2(a) What is meant by negative feedback in body processes? (3 marks)
- (b) Describe how each of the following affects the metabolism of carbohydrates
- (I) Insulin. 3marks
 - (ii) Adrenaline. 3marks
- c) Describe how ammonia formed from deamination is converted to urea. 11marks
- 3 (a). Using illustrations, describe the different types of thickening found in the vessels of the xylem (6marks)
- b). Explain how materials are transported in the xylem. (11marks)
 - c). Explain the role of transpiration to flowering plants (3marks)
- 4a). How is mRNA formed from DNA in a cell?? (10marks).
- b). Describe the process of DNA replication? (10marks).
- 5(a). Describe the significance of physical properties of water to organisms (12marks)
- (b). Explain why lipids are better storage materials in animals than carbohydrates (8marks)
- 6(a). Describe the behavior of chromosomes during the cell cycle involving mitotic cell division. (9marks)
- b. Explain how the following contribute to variation among organisms
- I). Independent assortment.
 - ii). Crossing over. (11marks).

The secret to success without hard work is still a secret

THE END