

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE

Department of Crop Science
BSc Crop Science (Honours) Part II Examination
Introduction to Entomology and Nematology

AGC 209

JUN 2023

3 HOURS (100 Marks)

INSTRUCTIONS

Answer any TWO questions from each of sections A and B. Each question carries 25 marks.

SECTION A: ENTOMOLOGY

1. (a) Use five morphological features to distinguish butterflies from moths. **[5 marks]**
- (b) Distinguish insects in the order Thysanoptera from Hemiptera. **[5 marks]**
- (c) With reference to the order Isoptera, describe the classes/castes that are found in insects. **[15 marks]**
2. (a) Draw and label the insect egg. **[5 marks]**
- (b) Classify any insect of your choice into its Phylum, Class, Sub-class and Order. **[5 marks]**
- (c) Write notes on the binomial system of nomenclature used in insect classification. **[15 marks]**
3. (a) Briefly explain the harmful effects of insects in crop agriculture. **[5 marks]**
- (b) Discuss five features that make insects successful. **[20 marks]**

SECTION B: NEMATOLOGY

4. (a) With the aid of a diagram, describe the digestive system of a nematode. **[10 marks]**
- (b) Explain how adding organic matter to the soil may help in nematode control. **[7 marks]**
- (c) Distinguish, with relevant examples, sedentary endoparasitic and migratory

endoparasitic nematodes.

[8 marks]

5. (a) Describe the passive dispersal of nematodes. [16 marks]
- (b) Explain the effects of the following on nematode populations;
- (i) Water [3 marks]
- (ii) Temperature [3 marks]
- (iii) pH. [3 marks]
6. (a) With the aid of a diagram, describe the structure of the nematode cuticle. [10 marks]
- (b) Discuss the role of nematodes in agriculture. [15 marks]

End of Paper