

The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Agricultural and Plantation Engineering



Study Programme : Bachelor of Industrial Studies Honours (Agriculture)
Name of the Examination : Final Examination
Course Code and Title : AGI3553 Plant Protection
Academic Year : 2024/2025
Date : 23rd February 2026
Time : 13:30 -16:30 hr
Duration : 03 Hours

Index No. :

Examination Type: Closed Book Test

General Instructions

1. Read all instructions carefully before answering the questions.
2. Answers should be in clear handwriting.
3. Do not use red colour pen.
4. This question paper consists of two (02) sections.

Section 1

- Consists of 15 questions in six (06) pages.
- Answer all questions.
- All questions carry equal marks.
- Write answers only in the space provided.
- Please do not remove the question paper from the examination hall.
- You may spend one (01) hour to answer this section.

Section 11

- Contain six (06) questions.
- Answer any four (04) questions.
- You may spend two (02) hours to answer this section.
- All questions carry equal marks.
- Answer for each question should commence from a new page.

SECTION I: Answer all questions. Use the space given under each question.

1. Briefly explain the ecological importance of insects in natural ecosystems.

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2. Name the thoracic appendages, their modifications and role in locomotion.

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3. Differentiate between **complete** and **incomplete metamorphosis**.

Complete metamorphosis	Incomplete metamorphosis
i	
ii	

iii	
iv	
v	

4. Identify three (03) factors responsible for the decline of pollinators and other beneficial insect populations in agro-ecosystems.

i

ii

iii

5. Explain the difference between injury and damage in pest management.

6. List three (03) botanical insecticides and their plant sources.

i

ii

iii

7. What is meant by "Biological control of insect pests"?

8. Name three (03) major groups of weeds based on morphology.

i

ii

iii

9. What is the difference between grass and sedges in terms of stem and leaf?

10. Explain why complete elimination of weeds is not attempted in crop production.

i

ii

iii

iv

v

11. Name the three (03) components of the disease triangle.

i

ii

iii

12. Explain the difference between a symptom and a sign of a plant disease.

13. Explain why environmental factors are crucial in the development of plant diseases.

14. Explain why **wilting caused by pathogens** cannot be corrected by watering the plants.

15. Name three (03 Phrases of pathogen infection process.

i

ii

iii

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SECTION 2: Answer any four (04) questions.

1. Describe the basic body organization of insects, explaining how the head, thorax, and abdomen are structurally and functionally specialized (25 marks).
2. Discuss the factors that contribute to insect outbreaks in agro-ecosystems (25 marks).
3. Explain how weeds interfere with crop production in terms of competition, pest hosting, and irrigation issues etc. (25 marks)
4. Critically evaluate the statement: "Strong, non-stressed plants are less susceptible to disease than weak, stressed plants." (25 marks)
5. Discuss different survival and dissemination methods of plant pathogens (25 marks)
6. Design an integrated pest management (IPM) plan for a specific crop, incorporating preventive, cultural, mechanical, host-resistant, biological, and chemical strategies (25 marks).