

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



Study Programme	: Bachelor of Industrial Studies Honours (Agriculture) Degree Programme
Name of the Examination	: Final Examination
Course Code and Title	: AGI6486 Field and Laboratory Techniques in Plant Protection
Academic Year	: 2023/2024
Date	: 23 rd February 2025
Time	: 13.30 - 16.30 hrs

Index number

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** in **one (01) page**.
- 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 General Equilibrium Position (GEP) of an insect population.

.....

.....

.....

.....

.....

2. Briefly explain the influence of crop susceptibility on Economic Injury Level of an insect population.

.....

.....

.....

.....

.....

3. List five (05) objectives of 'Pest Surveillance'.

i.

ii.

iii.

iv.

v.

.....

4. Indicate whether the following statements are true (T) or false (F).

i. The major damage symptom of Rice thrips (*Stenchaetothrips biformis*) is silvery streaks or yellowish patches due to laceration of tender leaves and translucent epidermis of the damaged area.

ii. Rice gall midge (*Orseolia oryzae*) attack during the paddy ripening stage.

iii. The common name of *Leptocorisa oratorius* is paddy bug.

iv. Red palm weevil (*Rhynchophorus ferrugineus*) make holes on trunk secreted with brownish ooze and inner leaves of central shoot shows yellowing and gradual wilting.

v. Shot hole borer (*Euwallacea fornicates*) attack is common in coconut

5. Name four (04) polyphagous Insect-pests.

i.

ii.

iii

iv

6. Briefly explain the nature of the Diamondback moth (*Plutella xylostella*) attack

7. Explain one (01) principle of Integrated Pest Management (IPM)

.....

.....

.....

.....

.....

.....

8. Briefly explain the damage symptoms of Rice leaf folder (*Cnaphalocrocis medinalis*) attack.

.....

.....

.....

.....

.....

.....

.....

9. Name the pathogen responsible for the following symptoms

i. Vein enation

ii. Mildew

iii Vein clearing

iv. Leaf blisters

v. Above ground wilting

.....

10. Define the term 'sign' in plant pathology.

.....

.....

.....

.....

11. List four (04) factors effect on successful isolation of fungi from diseased plants

i.

ii.

iii

iv.

.....

.....

.....

.....

.....

12. Briefly explain one (01) plant fungus isolation method from leaves.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

13. Briefly explain the importance of Kitch's postulates in plant pathogen identification

.....

.....

.....

.....

.....

.....

.....

.....

.....

14. Explain the Baermann Funnel Technique applying for nematode identification

.....

.....

.....

.....

.....

.....

.....

.....

.....

15. Name common name and the scientific name of the pathogen causing blast disease of rice.

.....

.....

.....

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



Study Programme	: Bachelor of Industrial Studies Honours (Agriculture) Degree Programme
Name of the Examination	: Final Examination
Course Code and Title	: AGI6486 Field and Laboratory Techniques in Plant Protection
Academic Year	: 2023/2024
Date	: 23 rd February 2025
Time	: 13.30 - 16.30 hrs

Index No. -----

SECTION 2: Answer any four (04) questions.

1. 'Ecological Engineering (EE) for pest management is a new paradigm to enhance the natural enemies of pests in an agro ecosystem'. Explain different types of plants that can be used for above ground insect control in Ecological Engineering pest management (25 marks).
2. Explain the attack of banana stem weevil (*Orseolia oryzae*) under following topics.
 - a. Stage of the life cycle (05 marks)
 - b. Symptoms (10 marks)
 - c. Management practices (10 marks)
3. Propose and explain the Integrated Pest Management (IPM) programme for a paddy field (25 marks).
4. Explain the serological methods of plant pathogen identification (25 marks)
5. Discuss the advantages and disadvantages of plant pest control methods and practices (25 marks).
6. Explain the laboratory method/s of plant bacteria isolation and identification (25 marks).