NATIONAL UNIVERSITY OF LESOTHO

CROP SCIENCE DEPARTMENT

CPS 4509: Integrated Pest and Disease Management

Date: May, 2023   **Marks**: 100   **Time**: 3hours

Instructions: a) Answer any 2 from Section A and any 2 questions from Section B
b) All questions carry equal marks

SECTION A

Instructions: Answer any 2 questions in this section. All questions carry equal marks.

QUESTION 1 (25 Marks)

Discuss disease forecasting under:

1. Uses and Models of disease forecasting [15]
2. Features a successful disease forecasting system [10]

QUESTION 2 (25 Marks)

Crop conditions are influenced by practices such as plant spacing, mulching, pruning, fertilizing and irrigation.

a) Describe how each of these practices can influence development of disease [15]

b) Give any 2 examples of diseases (for each practice) that can be influenced by these practices [10]

QUESTION 3 (25 Marks)

a) Discuss the concept of plant disease measurement and its importance in IDM [15]

b) Compare and contrast between:

i) Yield based and Quality based disease economic thresholds [5]
ii) Plant disease development and epidemic development [5]

SECTION B

QUESTION 4

Discuss the problem evaluation/analysis, design and implementation phases of insecticide resistance management.

QUESTION 5
Explain the following pest management strategies and the tactics used in each strategy
1. Do nothing strategy
2. Reduced number strategy
3. Reduced crop susceptibility strategy

QUESTION 6

1. Define Integrated Pest Management (IPM) by elaborating on each letter
2. Discuss the first five principles of IPM