

NATIONAL UNIVERSITY OF LESOTHO

B.Sc. AGRICULTURE EXAMINATIONS

CPS 3509: Plant Protection: Disease and Pest Control

Date: August 2023 Supp exam Marks: 50 Time: 1.5 hours

INSTRUCTION:

1. Answer any two questions from this section

QUESTION ONE

Giving examples where possible elaborate on the following mechanisms of resistance

- i. Non Preference [12]
- ii. Antibiosis [13]

QUESTION TWO

- i. Elaborate on the three elements of biological control [15]
- ii. Discuss the application of inundative and inoculative releases in insect pest biological control [10]

QUESTION THREE

- A. Elaborate on the following two insect pest control methods . [15]
 - i. Physical control
 - ii. Cultural control.
- B. Define the term sex pheromone and elaborate on its role in pest management. [10]

SECTION B: Disease Control

Instructions: Answer ALL questions in this Section

QUESTION 1

- A. Describe the following plant disease terminology: [10]
 - 1. Obligate parasite
 - 2. Saprophyte
 - 3. Inoculum
 - 4. Pathogenicity
 - 5. Incubation period
- B. Explain the mechanisms used by fungi to penetrate and infect a plant [10]
- C. Explain the role of toxins produced by fungi in causing disease [5]

QUESTION 2

A. You observe the following diseases in the field and based on your observation you made a preliminary field diagnosis of their identity. How would you verify (confirm) your field diagnosis in the laboratory [12]

1. Verticillium wilt of potato
2. Bacterial wilt of potato
3. Fusarium wilt of tomato
4. Bacterial rot of tomato

B. List 4 characteristics that distinguish broad spectrum from narrow spectrum fungicides [8]

C. Describe brown rot symptoms on infected fruits and twigs [5]