

NATIONAL UNIVERSITY OF LESOTHO

FACULTY OF AGRICULTURE

B.Sc. AGRICULTURE EXAMINATIONS

CPS 3504 – Crop Pests and Control.

January 2024

MARKS: 100

TIME: 3 HOURS

INSTRUCTIONS:

Answer any four questions.

All questions carry equal marks [25 marks]

QUESTION ONE

- A. With **examples** Explain the following terms as applied in pest management
1. Direct vs indirect injury [5 marks]
 2. Damage vs Injury [5 marks]
 3. Assimilate sappers vs leaf mass consumers [5 marks]
- B. Write notes on the cultural control methods [10 marks]

QUESTION TWO

The use of natural enemies for the control of pest is one of the growing management strategies in Integrated Pest Management.

- A. Elaborate on the three elements of biological control. [15 marks]
- B. Discuss the two approaches used in augmentation. [10 marks]

QUESTION THREE

- A. Pheromones, especially sex pheromones are widely used in pest management. Define the term pheromone and explain their role in pest management and the factors considered when using them. [17 marks]
- B. Discuss the use of artificial infestations as crop loss assessment method. [8 hours]

QUESTION FOUR

- A. Elaborate on the two mechanisms of resistance [15 marks]
- B. Show and explain the specific insect aspect steps in the host plant relationship that relate to mechanisms of resistance as shown in A above [10 marks]

QUESTION FIVE

- A) Explain the factors that affect the level of economic threshold (ET). [5 marks]
- B) You have 10,000 heads of cabbages in a hectare of land. You buy Karate Zeon as an insecticide to control diamond back moth (DBM) in your cabbage. A liter costs M400.00 and you only need 200ml to spray your cabbage. You plan to sell a head of cabbage for M20.00. Karate Zeon control effectiveness is 80% and DBM has the potential of causing 30% loss.
1. What will be your gain threshold? [10 marks]
 2. Calculate the Economic Injury level (IEL) [5 marks]
 3. Supposing the effectiveness of the insecticide is decreased to 60% what will be the new IEL? [5 marks]