



# MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT AND TRADE

AGR 307: PRINCIPLES OF CROP PROTECTION

DATE:

TIME:

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## INSTRUCTIONS:

Answer Question ONE and any other TWO

### QUESTION ONE (30 MARKS)

- a) Giving an example of an insect order, describe the process of complete metamorphosis (2 marks)
- b) Explain four harmful effects of weeds on crops (4 marks)
- c) Explain four functions of integument in an insect body (4 marks)
- d) Describe four morphological features of the homopterans (4 marks)
- e) Explain four measures of exclusion as a principle in plant disease management (4 marks)
- f) Describe four above ground symptoms of plant parasitic nematodes (4 marks)
- g) Explain four advantages of chemical weed control (4 marks)
- h) Explain four symptoms of bacterial wilt disease of potatoes (4 marks)

**QUESTION TWO (20 MARKS)**

- a) Explain how the following factors affect plant disease epidemiology
  - i. Pathogen mode of reproduction (5 marks)
  - ii. Temperature (5 marks)
- b) Explain five strategies of reproduction in insects (10 marks)

**QUESTION THREE (20 MARKS)**

- a) Discuss five mechanical methods of controlling insect pests (10 marks)
- b) Discuss powdery mildew disease under the following headings
  - i. Symptoms (5 marks)
  - ii. Management (5 marks)

**QUESTION FOUR (20 MARKS)**

- a) Explain five methods of weed seeds dispersal (10 marks)
- b) Explain five methods of transmission of plant viruses (10 marks)

**QUESTION FIVE (20 MARKS)**

- a) Discuss five negative effects of nematodes on the plants (10 marks)
- b) Discuss five weed prevention measures (10marks)