



## MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

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University Examinations 2011/2012

FIRST YEAR, FIRST SEMESTER EXAMINATIONS FOR DIPLOMA IN  
AGRICULTURAL EDUCATION AND EXTENSION

**BIO 0112: ENTOMOLOGY AND PLANT PATHOLOGY**

**DATE: APRIL 2012**

**TIME: 1½ HOURS**

**INSTRUCTIONS:** Answer question *one* and any other *two* questions

### QUESTION ONE (30 MARKS)

- a. Define the following terms as used in plant pathology (3 Marks)
  - i. Biotrophs
  - ii. Pathogenicity
  - iii. Toxins
- b. State at least three characteristics of plant pathogenic bacteria (3 Marks)
- c. State and explain three types of biological control procedures that can be applied using parasites, predators and micro-organisms (6 Marks)
- d. Write brief notes on the following measures as methods of control of insect pests
  - i. Physical control (2 Marks)
  - ii. Mechanical control (2 Marks)
  - iii. Plant resistance (2 Marks)
- e. State three symptoms of bacteria diseases in plants and for each name the microorganism responsible (6 Marks)
- f. Discuss the three components of a disease triangle (6 Marks)

### QUESTION TWO (15 MARKS)

- a. state at least two advantages and two disadvantages of chemical control as method of control of insects (4 Marks)

- b. write short notes on classification of insecticides under the following headings
- i. classification by target pest species (3 Marks)
  - ii. classification by mode of action (3 Marks)
  - iii. classification by how and when they work/persistence (3 Marks)
- c. Explain what you understand by integrated pest management (3 Marks)

**QUESTION THREE (15 MARKS)**

- a. Define the term taxonomy (1 Mark)
- b. Discuss the characteristics of the class hexapoda (8 Marks)
- c. Giving examples explain what you understand by the terms pest, beneficial and neutral insects (6 Marks)

**QUESTION FOUR (15 MARKS)**

- a. state the organisms responsible for the following fungal diseases in plants
- i. Rhizome rot of ginger (1 Mark)
  - ii. Flag smut of wheat (1 Mark)
  - iii. Rust of beans (1 Mark)
- b. Discuss at least three symptoms of bacterial diseases in plants (9 Marks)
- c. Give three characteristics of plant pathogenic bacteria (3 Marks)

**QUESTION FIVE (15 MARKS)**

- a. Write brief notes on prepenetration, penetration and post penetration of fungi in plants (6 Marks)
- b. Discuss methods of control of biotic diseases in plants (9 Marks)