



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 – Meru-Kenya.

Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411

Fax: 064-30321

Website: www.must.ac.ke Email: info@mucst.ac.ke

University Examinations 2012/2013

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR DIPLOMA IN AGRICULTURE AND
DIPLOMA IN AGRICULTURAL EDUCATION AND EXTENSION

BIO 0112: ENTOMOLOGY AND PLANT PATHOLOGY

DATE: APRIL 2013

TIME: 1 ½ HOURS

INSTRUCTIONS: Answer question *ONE* and any other *TWO* questions

QUESTION ONE – 30 MARKS

- a) Define the following terms: (5 Marks)
- i. Necrosis
 - ii. Halo
 - iii. Moulting
 - iv. Parthenogenesis
 - v. Disease
- b) i) Cite the signs associated with P deficiency. (3 Marks)
- ii) What is the role(s) of N in plants? (2 Marks)
- c) Describe the respiratory system in insects. (4 Marks)
- d) Give an example each of a disease, crop affected, and the causative organism under the following categories; (3 Marks)
- i. bacterium
 - ii. fungus
- e) Describe the appearance of the feeding damage which can be used to detect the presence of the following pests in a crop. (3 Marks)
- i. Thrips
 - ii. Caterpillars
 - iii. Leaf miner
- f) What is the M.O.A of the following pesticides? (3 Marks)
- i. Soaps and oils

- ii. Pyrethrins
- iii. Systemic fungicides
- g) Differentiate between parasitic and saprophytic fungi. (2 Marks)
- h) Describe five beneficiaries of entomological information and services. (5 Marks)
- i) The Order Coleoptera is the largest in insects. Give any four characteristics unique to its members. (4 Marks)
- j) Describe the appearance and condition favouring the following fungal diseases.
 - i. Botrytis. (3 Marks)
 - ii. Powdery mildew. (3 Marks)

QUESTION TWO (15 MARKS)

- a) Clearly describe Koch's postulates for disease diagnosis. (5 Marks)
- b) Using the simple disease triangle model, explain the infection process. (10 Marks)

QUESTION THREE (15 MARKS)

- a) Define pest. (2 Marks)
- b) How has man contributed to the worsening pest situation today? (6 Marks)
- c) In which ways do insects play part in plant pathology? (7 Marks)

QUESTION FOUR (15 MARKS)

You have been appointed training and extension manager. Explain to a group of farmers

- a) WHO classification of pesticides. (5 Marks)
- b) Correct use of PPE. (10 Marks)

QUESTION FIVE (15 MARKS)

- a) Define cultural control. (3 Marks)
- b) Describe specific cultural control methods and how they work to suppress pests. (12 Marks)