



MACHAKOS UNIVERSITY

University Examinations for 2016/2017 Academic Year

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRIBUSINESS MANAGEMENT

SECOND YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN
AGRIBUSINESS MANAGEMENT

**KST 201: PRINCIPLES OF CROP PROTECTION
THEORY**

DATE: 6/12/2016

TIME: 8:30 – 10:30 AM

Instructions

1. This paper has sections A and B.
2. Section A has one question. Answer all questions in this section (totaling to 30 marks)
3. Answer any two questions in section B (totaling to 20 marks each)

SECTION A (COMPULSORY) (30 MARKS)

QUESTION ONE (30 MARKS)

- a) Explain the following terms with reference to crop protection:
- | | |
|-----------------------------|-----------|
| i) Invasive species | (2 marks) |
| ii) Epidemiology | (2 marks) |
| iii) Minimum residue levels | (2 marks) |
| iv) Bio-pesticide | (2 marks) |
| v) Pre-harvest interval | (2 marks) |
- b) Explain biological control of pests in crop production. Give one example. (4 marks)

- c) Identify one bird species that is a serious pest to crops in Africa and give one management practice for it . (2 marks)
- d) A potato crop was having wilting and chlorosis symptoms. State three possible pathogens that could be responsible for these symptoms in potato indicating their common names and scientific names. (6 marks)
- e) Explain 2 symptoms caused by *Tuta absoluta* on tomatoes. (2 marks)
- f) Describe one non chemical control strategy that is effective for the management of *Tuta absoluta* (2 marks)
- g) Identify 2 insects that are virus vectors in plants and give the name of the disease each one of them transmits. (4 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) Explain the life cycle of the armyworm and plants affected by this pest (include 3 crops and 3 wild plants) (10 marks)
- b) Explain five host factors that affect disease epidemics. (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain five factors that influence the rapid spread of the weed species, *Parthenium spp.* to new areas (10 marks)
- b) Explain the effect of *Parthenium spp.* on humans and livestock (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain 5 symptoms of bacterial wilt disease of potatoes (10 marks)
- b) Explain five reasons why the management of the parasitic weed species (*Striga spp.*) is a major challenge in crop production. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe 4 symptoms for each of Banana Xanthomonas wilt and Fusarium wilt diseases (8 marks)
- b) Explain 6 management strategies for banana Xanthomonas disease. (12 marks)