MACHAKOS UNIVERSITY

University Examinations for 2016/2017 Academic Year

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRIBUSINESS MANAGEMENT

THIRD YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF EDUCATION (SCIENCE)

KST 302: PRINCIPLES OF PLANT PATHOLOGY
THEORY

Date: 7/12/2016 **Time: 11:00 – 1:00 PM**

INSTRUCTIONS

1. **This paper has sections A and B.**
2. **Section A has one question and is compulsory. 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 (30 marks)

QUESTION ONE (COMPULSORY) (30 MARKS)

a) Explain the following terminologies:

i) Conidiophore (2 marks)

ii) Mottling (2 marks)

iii) Penetration peg (2 marks)

b) Describe 2 obligate pathogens and give one crop affected by each (4 marks)

c) Identify 2 parasitic weed species that affect maize and cowpeas respectively in Kenya and explain how they acquire food from the host plants. (4 marks)

d) Explain 2 causes of toppling over disease in bananas (4 marks)

e) Describe three pathogens that cause wilting and yellowing in tomato giving their scientific and common names. (6 marks)

f) Explain 3 causes of damping off disease in nurseries. (6 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

a) Differentiate the symptoms of cassava mosaic virus disease from those of cassava brown streak virus disease and state the vectors that transmit each disease. (10 marks)

b) Describe the causal agents of maize lethal necrosis disease, symptoms of the disease and insect vectors involved in transmission (10 marks)

QUESTION THREE (20 MARKS)

a) Identify the insect vector that transmits tomato spotted wilt disease and explain the disease symptoms. (10 marks)

b) Explain five management strategies for insect vectors that transmit viral diseases (10 marks)

QUESTION FOUR (20 MARKS)

a) Describe the potato cyst nematode and symptoms caused by this pest. (10 marks)

b) Explain five management strategies for the control of soil borne pathogens (10 marks)

QUESTION FIVE (20 MARKS)

a) Describe 2 major features used in identifying the following four classes of fungi; Ascomycetes; Basidiomycetes; Deuteromycetes, Zygomycetes and give examples of one plant pathogenic fungus in each class (12 marks)

b) Illustrate and explain the role of each of the 4 components of the disease tetrahedron. (8 marks)