



# MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)  
University Examinations for 2014/2015 Academic Year

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

THIRD YEAR, SEMESTER **ONE2**; EXAMINATION FOR BSC IN **AGRICULTURAL EDUCATION AND EXTENSION**

KST 302 PRINCIPLES OF PLANT PATHOLOGY  
THEORY

Date:

Time:

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## 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 1

a) Explain the following terminologies used in plant pathology:

- Epidemiology ( **2 marks**)
- Etiology ( **2 marks**)
- Necrosis ( **2 marks**)
- Mosaic ( **2 marks**)

- Quarantine **(2 marks)**
- b) List four biotic factors that cause diseases in plants **(4 marks)**
- c) Explain three means of transmission of viral diseases **(3 marks)**
- d) Explain 3 ways in which pathogens survive from one season to another **(3 marks)**
- e) Identify two insect vectors that transmit the maize lethal necrosis disease and state four symptoms of the disease **(6 marks)**
- f) Integrated Pest Management contributes to environmental safety. Explain four reasons that justify this statement **(4 marks)**

## **SECTION B**

### **Question 2:**

- a) Describe five major steps in the infection process of crown gall disease in roses and five symptoms observed in infected plants **(10 marks)**
- b) Explain five dissemination pathways of the potato cyst nematode **(10 marks)**

**Total marks (20)**

### **Question 3:**

- a) Illustrate the disease tetrahedron using a diagram and explain four factors that influence it **(8 marks)**
- b) Explain six factors that affect disease epidemics in plants **(12 marks)**

**Total marks (20)**

### **Question 4**

- a) Describe five symptoms of banana bacterial wilt disease **(10 marks)**

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

**Total marks (20)**

**Question 5**

- a) Describe symptoms of four abiotic diseases affecting plants **(8 marks)**
- b) Explain three factors that lead to damping off disease of seedlings in nurseries and name three pathogens that cause the disease **(12 marks)**

**Total marks (20)**