



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF
SCIENCE IN BIOLOGY
SBT 205: PHYTOPATHOGENS**

DATE: 4/12/2017

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE

- a) Explain the conditions for the manifestation of the disease triangle.
- b) Explain how plant metabolism is influenced by the amount of water available. (3 marks)
- c) State three features that can be used as indicators of a healthy plant. (3 marks)
- d) Explain why *Phytophthora infestans* is regarded as a facultative saprophyte. (3 marks)
- e) Explain three negative influences of phytopathogens to plants. (3 marks)
- f) Explain the following life cycles of phytopathogens: monocyclic, polyetic and polycyclic. (3 marks)
- g) Explain the term necrosis in plant pathology, giving examples. (3 marks)
- h) Explain the effect of *Phythium* in seed nurseries. (3 marks)
- i) State and explain three factors that influence spore germination on a plant leaves. (3 marks)
- j) Explain the conditions that aid the spread of plant viral diseases. (3 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss **Five** cultural practices used to manage crop diseases. (10 marks)
- b) Discuss the common approaches for classifying and applying of plant pesticides (10 marks)

QUESTION THREE (20 MARKS)

- a) Outline the classification of plants pathogens based on the occurrence and distribution.
Give examples in each. (10 marks)
- b) Discuss histological plant symptoms. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the life cycle of *Puccinia graminis* f. sp. *tritici*, (10 marks)
- b) Using examples, describe the action of pectin degrading. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss how plant pathogen survive adverse conditions. Give examples. (10 marks)
- b) Discuss the names and locations in the plant where specific pathogens are found. (10 marks)