



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE WITH
INFORMATION TECHNOLOGY**

(MAIN CAMPUS)

AAG 206: PRINCIPLES OF PLANT PATHOLOGY

Date: 3rd April, 2014

Time: 8.30 – 10.45 a.m.

INSTRUCTIONS:

- **Answer ALL questions in Section A and ANY TWO questions from Section B.**



AAG 206: PRICIPLES OF PLANT PATHOLOGY

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A AND
ANY TWO QUESTIONS FROM SECTION B**

SECTION A (30 marks) Answer all questions from this section

1. Agrios (2005) classifies plant diseases into two classes. State the two classifications and give at least 5 causal agents for each class? (4 marks)
2. Why does an obligate pathogen have a survival disadvantage over facultative plant pathogen? (2 marks)
3. State the key ways in which plant pathogens can survive adverse environmental conditions (3 marks)
4. Would it be easier to breed for resistance to race-specific resistance or a race non-specific resistance? Give reasons for your answer. (5 marks)
5. What is the difference between an elicitor and a phytoalexin within the context of plant disease physiology? (3 marks)
6. How is phosphorus important in plant disease development? (3 marks)
7. What is the most important horticultural crop disease caused by virus and why do you consider it to be the most important? (2 marks)
8. Outline the effects of plant variety, as a component of the disease triangle, on the exacerbation or amelioration of disease (2 marks)
9. State, in order of the most to the least common traditional principles of plant disease control (3 marks)
10. List 3 different symptoms exhibited by diseased plants. For each symptom you name, list an altered plant process or function that most likely initiates the symptom. (3 marks)

SECTION B (40 Marks):

Answer any **TWO** questions from this section (20 marks each)

1. Many human activities that have been blamed for rapid buildup and spread of plant diseases are often undertaken to increase the productivity of many crops. Discuss this irony suggesting how such human activities can still be undertaken without the concomitant proliferation or widespread distribution of plant diseases. (20 marks)
2. Describe horizontal and Vertical Resistance highlighting the advantages and disadvantages of each on annual and perennial crops and specifying, with elaborately explained details, which you would use to manage a named disease of roses. (20 marks)
3. Citing specific examples, discuss the mechanisms used by plant pathogens to interfere with the normal physiological processes in susceptible plants. (20 marks)