



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF MASTER OF SCIENCE IN PLANT BREEDING WITH
INFORMATION TECHNOLOGY**

(MAIN - CAMPUS)

**AAG 823: BREEDING FOR RESISTANCE TO PLANT PEST AND
DISEASES**

Date: 21st July 2014

Time: 11.00 - 1.00 pm

INSTRUCTIONS:

- Answer ALL Questions in SECTION A and any TWO other questions in section B.



AAG 823: BREEDING FOR RESISTANCE TO PLANT PESTS AND DISEASES

INSTRUCTIONS

Answer **ALL** questions in **section A** and any **TWO** other questions in **section B**

SECTION A (40 MARKS)

Answer ALL questions from this section

Question 1.

- (a) Give concise definitions of the following terms within the context of resistance to plant pests and diseases (2 marks each):
- i) Tolerance
 - ii) Avirulence
 - iii) Aposematism
 - iv) Phytoalexins
 - v) Thigmonasty
- (b) Distinguish between the following within the context of resistance to plant pests and diseases. (3 marks each)
- i) Horizontal versus vertical resistance
 - ii) Antixenosis versus Antibiosis
 - iii) Allelochemicals versus semiochemicals
 - iv) Mimicry versus camouflage
 - v) Constitutive versus induced defenses

Question 2.

Successful pathogens cause disease because they are able to evade recognition or suppress host defense mechanisms or both. Briefly describe are the major categories of biochemicals that pathogens utilize to attack plants? (5 marks)

Question 3.

Briefly explain the key plant-related factors that affect the expression of resistance. (7 marks)

Question 4.

State the major limitations that have hampered the widespread deployment of resistance as a strategy for the management of plant pests and diseases.