



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**FOURTH YEAR FIRST SEMESTER EXAMINATIONS FOR
THE DEGREE OF BACHELOR OF SCIENCE IN
HORTICULTURE AND BACHELOR OF SCIENCE IN
AGRONOMY WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

AHC 403: POMOLOGY II

Date: 30th November, 2016

Time: 12.00 - 3.00 pm

INSTRUCTIONS:

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

2016/2017

AHC 403: POMOLOGY II

INSTRUCTIONS: Answer **ALL** questions in section A and any other **TWO** questions from section B.

SECTION A (30 MARKS)

- Q1. (a)** Architectural manipulation and observance of crop nutrition of a fruit crop contributes positively to the crop's performance. Describe how this can be achieved in a newly established mango orchard (5 marks)
- (b)** Nucellar embryos are important in ensuring trueness-to-type. Justify this statement giving an example of a fruit crop where this could be possible (2 marks)
- (c)** The best type of Macadamia tree for an orchard culture is a low branching tree with a leader and several sets of branches. How do you achieve this morphological growth (3 marks)
- Q2. (a)** A mango farmer who was keen on commercial production was shocked to realize that his orchard had a very low fruit set while he had realized a bumper harvest in the previous year. What could be the cause of this poor fruit set and the possible measures he could undertake to reverse the trend in future (5 marks)
- (b)** Give the economic justification for the production of *Ananas comosus* as a commercial crop (3 marks)
- (c)** What is the importance of *Trioza erytrea* in fruit production (2 marks)

Q3. (a) Migori County has diverse agro-ecological zones and their chief officer for Agriculture feels that Banana production could be an economic venture. Provide an outline of the ecological conditions suitable for the crop to enable the Agriculture Department decide on the Sub-County to assign this economic activity (6 marks)

(b) Mr. Mburu planted his Pineapple orchard one year ago but he is not sure about when to start harvesting the crop. What should he look for in order to make this important decision (2 marks)

(c) What do you understand by the filler tree pattern and replacement procedure in Macadamia production (2 marks)

SECTION B (40 MARKS)

Q4. (a) The performance of a fruit crop partly depends on the agronomic practices. How would you ensure good quality and yields in Avocado through plant propagation and field establishment (10 marks)

(b) Discuss the significance and management of *Phytophthora cinnamoni* and *Colletotrichum gloeosporioides* in Avocado production (10 marks)

Q5 Discuss the production of Passion fruit under the following headings:

- (i)** Plant's architectural manipulation (5 marks)
- (ii)** Choice of cultivar and propagation (5 marks)
- (iii)** Orchard establishment (5 marks)
- (iv)** Economic justification for its production (5 marks)

Q6. (a) The choice of rootstocks for propagation determines the performance of the crop in question. Describe how you would raise seedling rootstocks of Citrus (6 marks)

(b) Horticultural crops can be established in the field either directly or indirectly. How can *Carica papaya* be established directly (7 marks)

(c) Floral biology has a bearing on the fruit production of crops. Briefly describe the flowering of Pawpaw and how it affects its production (7 marks)