MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE IN AGRONOMY, HORTICULTURE & SOIL SCIENCE AND AGRICULTURAL EDUCATION & EXTENSION WITH INFORMATION TECHNOLOGY

MAIN CAMPUS

AAG 304: PRINCIPLES OF HORTICULTURE

Date: 20th June, 2017 Time: 12.00 - 3.00pm

INSTRUCTIONS:

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

SECTION A (40 MARKS)

Q1. (a) Using specific examples, justify the classification of a particular crop as horticultural (3 marks)

(b) Define ornamental horticulture as a branch of horticulture highlighting the types of plants used therein (2 marks)

(c) A farmer decided to use raw sawdust in his protected cropping of tomatoes. He realized that the seedlings were characterized by chlorosis and stunting during the early stages of growth. Explain to him the possible underlying cause(s) of this scenario and how he could improve on this even in his future production (2 marks)

(d) Explain the aspects of environmental management that would be achieved by greenhouse crop production (5 marks)

Q2. (a) Transplanted seedlings are often followed by some kind of check in growth due to the taking and resetting of the plants. Outline the factors that determine this growth check (4 marks)

(b) Discuss the approaches used to achieve horticultural plants' architectural manipulation with emphasis on the objectives of the same (10 marks)

Q3. (a) Define the terms grafting and budding as used in horticulture (2 marks)

(b) Justify the use of grafting in horticultural production (5 marks)

(c) Seeds can be used for asexual propagation. Justify this statement giving examples of crops where this could be possible (3 marks)

(d) The ability of seeds to germinate is an important aspect in successful horticultural production. How can this be determined before crop establishment (6 marks)

SECTION B (30 MARKS)

Q4. Different types of materials have been used as growth substrates for horticultural production. Discuss the basic functions of any type of substrate used and the criteria one would use to settle on a particular material (15 marks)

Q5. One of the approaches to improved quality in horticultural production is micro-propagation. Describe this horticultural procedure highlighting its areas of application (15 marks)

Q6. The management of the post-harvest life of any horticultural product is key to maintenance of quality. Discuss the approaches usually employed to achieve the same (15 marks)