



EMBU UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)

TRIMESTER EXAMINATIONS 2013/2014

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
IN AGRICULTURE AND BACHELOR OF SCIENCE IN HORTICULTURE

ACS 202: PRINCIPLES OF PLANT PROPAGATION

DATE: AUGUST 6, 2014

TIME: 8.30 – 10.30AM

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions.

1. a). Define the following terms
 - i.) Annuals (1 mark)
 - ii.) Adventitious roots (1 mark)
 - iii.) Scion (1 mark)
 - iv.) Micro-propagation (1 mark)
 - v.) Embryo rescue (1 mark)
- b). Differentiate between
 - i.) Pollen culture and anther culture (2 marks)
 - ii.) Perfect flowers and dioecious plants (2 marks)
 - iii.) Planting medium and interstock (2 marks)

- c). Write short notes on the following
- i.) Factors to consider when selecting a site to raise seedlings (5 marks)
 - ii.) Seed certification (5 marks)
 - iii.) Leaf bud cuttings (5 marks)
- d). Discuss the advantages of grafting as a way of propagating plants (4 marks)
2. Explain any five (5) factors that are responsible for deterioration of genetic purity of a variety during production cycles (20 marks)
3. a). Describe the four (4) classes of seeds that are recognized in seed certification (4 marks)
- b). Outline five (5) advantages of sexual method of propagation (5 marks)
- c). What is the commercial applications of tissue culture as a means of propagation? (5 marks)
- d). Describe the four (4) sequential stages in tissue culture systems (4 marks)
- e). Define the term totipotency (2 marks)
4. Citing relevant examples, describe the plant growth substances that are involved in adventitious shoot and root initiation in plants (20 marks)
5. a) Describe the agronomic principles to be considered during the production of quality seed (10 marks)
- b). What are the benefits of using aeroponics in raising plants (4 marks)
- c). Explain the advantages of using hydroponics in growing of plants (6 marks)

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