



# UNIVERSITY OF EMBU

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2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

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

ACS 202: PRINCIPLES OF CROP PROPAGATION

**DATE: APRIL 13, 2017**

**TIME: 2:00-4:00PM**

**INSTRUCTIONS:**

**Answer Question ONE and ANY other TWO Questions**

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**QUESTION ONE (30 MARKS)**

- a) Describe the characteristics of a good “stock plant” in plant propagation. ( 3 Marks)
- b) New plants come from the duplication of their mother plants. Explain the purpose of this in horticultural crops. ( 3 Marks)
- c) Use of poor seeds and uncertified seeds has reduced the yields of most field and horticultural crops. Describe seed tests available in the seed industry to ensure quality seeds. ( 4 Marks)
- d) Explain the meaning of the following terms.
- i. Grafting ( 1 Mark)
  - ii. Embryo rescue ( 1 Mark)
  - iii. cultivar ( 1 Mark)

- e) Assume that you are the farm manager of Upendo flower farm, you received complaints from gardeners that some cuttings failed to produce roots as they expected. Discuss the possible cause of this anomaly. ( 3 Marks)
- f) Discuss the importance of grafting fruits trees. ( 3 Marks)
- g) Discuss the factors that influence the success of embryo rescue in plant propagation. ( 3 Marks)
- h) Explain the advantages of aeroponic over hydroponic technique in plant propagation. (4 Marks)
- i) Discuss limitations of lack of genetic variability as a threat to the farmer. (4 Marks)

**QUESTION TWO**

Micro propagation has economic importance in plant propagation over other techniques. Discuss. (20 Marks)

**QUESTION THREE**

- a) Discuss the reasons that cause plant graft failure. (12 Marks)
- b) Assume you are the horticultural technical officer in charge of a division. The farmers that division would like to change the varieties of their mango trees .Describe the materials used in grafting. (8 Marks)

**QUESTION FOUR**

- a) Assume that you are the zonal Agricultural officer. The gardeners complained of their crop failure due to the infections in the soil .You advised them on the merits of use of soilless planting mixtures .Discuss. (12 Marks)
- b) New seeds must undergo through stages of increase and certification before they become available to ordinary growers. Discuss. (8 Marks)

**QUESTION FIVE**

A grower realized that there are no reputable suppliers of readymade mixes for growth media in his local market. Discuss the factors the grower considered in choosing materials to Prepare homemade mix. (20 Marks)

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