



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD NUTRITION & DIETETICS, HORTICULTURE AND BACHELOR OF EDUCATION

ACS 203: PRINCIPLES OF CROP PRODUCTION & PLANT PROPAGATION Main & Kitui

DATE: 06TH DECEMBER, 2017

TIME: 1.30 -3.30 PM

**Instructions: ANSWER ALL QUESTIONS IN SECTION A
ANSWER ANY TWO QUESTIONS IN SECTION B**

Time: 2 hours

SECTION A (30 marks)

1. (i) Define crop rotation (2 marks)
(ii) Explain the factors that determine a crop rotation programme (4 marks)
(iii) Design a crop rotation plan of your choice. Give reasons for your preferred rotational system (4 marks)
2. Outline the procedure for:
 - (i) Marcotting layering (2 marks)
 - (ii) Tip layering (2 marks)
 - (iii) Trench layering (2 marks)
 - (iv) Whip/Tongue grafting (2 marks)
 - (v) T-budding (2 marks)
3. Discuss the factors that determines correct spacing (10 marks)

SECTION B (40 marks)

4. (i) Give three qualities needed in stem cuttings for vegetative propagation (3 marks)
(ii) Give three advantages of using cuttings for vegetative propagation (3 marks)
(i) Explain the conditions necessary for successful grafting (2 marks)
(ii) What are the desirable qualities of a rootstock for budding (2 marks)
(iii) Explain the advantages of tissue culture (10 marks)

5. (a). Explain the factors a farmer should consider when selecting planting material (10 marks)
- (b) Discuss the importance of multi-purpose tree species in an agro-forestry system (10 marks)
6. Discuss environmental factors that determines crop performance (20 marks)