



# 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  
HORTICULTURE

ACH 203: BEVERAGES, MEDICINAL AND NUT CROPS

DATE: APRIL 11, 2017

TIME:8:30-10:30AM

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

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QUESTION ONE

- a) Discuss the role of Potassium (K) element in coffee (3 Marks)
- b) Explain the importance of removing tree stumps and old roots when establishing a tea plantation (3 Marks)
- c) Explain how the dryness of pyrethrum flowers is tested (1 Mark)
- d) Name the two cultivated species of Macadamia (2 Marks)
- e) Name the two major diseases of cashew nuts (2 Marks)
- f) State four (4) advantages of the dwarf type of coconut as compared to the tall type (2 Marks)

- g) State three (3) factors that affect cinchona bark's quinine content (3 Marks)
- h) Explain the importance of planting isolated trees in a tea plantation (3 Marks)
- i) Demonstrate why flowering of a cocoa tree is not a true indicator of realizable ultimate yield (5 Marks)
- j) Although coffee fertilization should be based on soil analysis results, some farmers are either ignorant or find the process too expensive. Develop a general fertilizer application programme for such farmers (6 Marks)

### **QUESTION TWO**

- a) Briefly outline the major challenges facing industrial crops' value chain (5 Marks)
- b) Write short notes on fertilizer application and its importance in cocoa (5 Marks)
- c) Discuss the importance of balancing the level of shade in a cocoa plantation and how it is achieved (10 Marks)

### **QUESTION THREE**

- a) Outline the measures that should be taken during pyrethrum picking to prevent loss of quality (10 Marks)
- b) Discuss any five (5) factors that affect pyrethrin content (10 Marks)

### **QUESTION FOUR**

- a) Discuss the different stages at which coconut can be harvested (3 Marks)
- b) Assume you are a coffee estate production manager. Develop a coffee planting procedure that can ensure long productive life span and sustainable high quality yields (7 Marks)
- c) Discuss the problems facing coffee farmers in Kenya (10 Marks)

### **QUESTION FIVE**

- a) Write short notes on processing of Cinchona bark (3 Marks)
- b) Discuss the industrial processing of cashew nuts (8 Marks)
- c) Discuss tea processing in Kenya (9 Marks)

**END**