



# UNIVERSITY OF EMBU

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2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
AGRICULTURE (CROP SCIENCE MAJOR)

ACS 310: VEGETABLE PRODUCTION

DATE: APRIL 12, 2017

TIME: 11:00AM-1:00PM

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

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QUESTION ONE

- a) Name four major diseases of Irish potato (*Solanum tuberosum*) in Kenya (4 Marks)
- b) Distinguish between vernalization and bolting in vegetable production (2 Marks)
- c) List the four (4) anti-nutritional compounds present in eggplant (4 Marks)
- d) Describe the recommended practice for harvesting beetroot (3 Marks)
- e) Write short notes on weeding in onions (2 Marks)
- f) Explain why some bulb onions cultivars may not form bulbs in the tropics (2 Marks)
- g) Briefly explain why selection for low cucurbitacin in cucumber is important (1 mark)

- h) Discuss the four (4) maturity indicators of watermelon (4 Marks)
- i) Explain the distinguishable feature between leaf chlorosis caused by Nitrogen and that caused by Sulphur deficiency (2 Marks)
- j) As a vegetable breeder, explain the guiding principle that you would apply to select for a cabbage variety with tolerance to bolting (3 Marks)
- k) Assume you have entered into a contract with Ketchup Company Limited to supply them with tomatoes for processing. Develop three strategies you would adopt to ensure good profitability in this venture (3 Marks)

### **QUESTION TWO**

- a) Discuss with examples any four (4) disorders caused by Boron deficiency in vegetables (4 Marks)
- b) Discuss the nutritional value of vegetables (6 Marks)
- c) Describe any five (5) anti-nutritional components of vegetables (10 Marks)

### **QUESTION THREE**

- a) Discuss the general principles in maintenance of vegetable quality during storage (5 Marks)
- b) Discuss the harvesting, grading and post-harvest handling of French beans (15 Marks)

### **QUESTION FOUR**

- a) Outline the major constraints facing vegetable production in Kenya (8 Marks)
- b) Describe the different harvesting stages of tomato (12 Marks)

### **QUESTION FIVE**

Assume that the School of Agriculture of the University of Embu has organized a seminar for vegetable farmers and has invited you to present a topic on factors affecting vegetable quality in Kenya. Prepare a detailed farmer friendly presentation on this topic (20 Marks)

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