



# UNIVERSITY OF EMBU

2019/2020 ACADEMIC YEAR

SUPPLEMENTARY/SPECIAL EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
HORTICULTURE

ACH 301: VEGETABLE PRODUCTION 1: TEMPERATE VEGETABLES

**DATE: OCTOBER 26, 2020**

**TIME: 8:30 AM -10:30 AM**

## INSTRUCTIONS

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

### QUESTION ONE (30 MARKS)

- a) State the two stages at which bulb onions can be harvested (2 marks)
- b) Discuss the limitations of using seeds in propagation of vegetables (4 marks)
- c) Explain why it is advisable to mix cabbage and spinach in the same meal (2 marks)
- d) Outline the cultural practices used to control neck rot of bulb onions (2 marks)
- e) Describe the splitting disorder of cabbage (2 marks)
- f) Explain why Phosphorous deficiency causes purplish colour on vegetables (1 mark)
- g) Describe the three different stages at which sweet corn can be harvested (3 marks)
- h) Demonstrate the feasibility of earning a net income of Kshs 650,000 from one acre of hybrid bulb onions in one season (3 marks)
- i) Explain why potatoes should not be preceded by tomatoes in the same field (2 marks)
- j) Discuss the grading standards of French beans in Kenya (4 marks)



ISO 27001:2013 Certified

*Knowledge Transforms*



ISO 9001:2015 Certified

- k) Assume you have been hired by Horticultural Crops Directorate as a consultant to develop strategies of improving vegetable farming in Kenya. Generate a short report on this  
(5 marks)

**QUESTION TWO (20 MARKS)**

- a) Give ten (10) reasons why an onion farmer in Machakos County may opt to use hydroponic system of irrigation (10 marks)
- b) Assume you want to lease a farm for commercial production of tomatoes in Mbeere South. Discuss five (5) factors you should consider in that venture (10 marks)

**QUESTION THREE (20 MARKS)**

- a) As a plant breeder, explain how you can manipulate the ecological conditions to enable flowering of spinach in the tropics (5 marks)
- b) As a farm manager in a vegetable farm, outline any five (5) factors you should consider when managing irrigation water in your farm (5 marks)
- c) Citing relevant examples, describe any five (5) anti-nutritional components of vegetables (10 marks)

**QUESTION FOUR (20 MARKS)**

Discuss a hydroponic tomato production system project under the following subtopics:

- a) Project Infrastructural Requirements (4 marks)
- b) Feasible Installation Budget (4 marks)
- c) Choice of Tomato Cultivar (4 marks)
- d) Crop Management (4 marks)
- e) Profitability of the Project (4 marks)

**QUESTION FIVE (20 MARKS)**

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

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