

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

2ND SEMESTER 2023/2024 ACADEMIC YEAR

THIRD YEAR EXAMINATIONS FOR BACHELOR OF SCIENCE IN AGRICULTURAL EXTENSION AND EDUCATION

AGED 325: GREENHOUSE MANAGEMENT

STREAM: R

TIME: 2 HRS

DAY: MONDAY (2.30-4.30PM)

DATE: 8/4/24

THIS QUESTION PAPER CONSISTS OF THREE (3 PAGES)

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



INSTRUCTIONS: Answer question **ONE** and any other **TWO** questions.

QUESTION ONE (30 MARKS)

- (a) Explain the meaning of greenhouse effect (2 marks)
- (b) Explain what is meant by cation exchange capacity (CEC) and anion exchange Capacity AEC) as used in greenhouse management (4 marks)
- (c) Differentiate between difference between dry-bulb and wet-bulb temperatures (4 marks)
- (d) Explain the meaning and use of electrical conductivity (EC) (4 marks)
- (e) Discuss the advantages and disadvantages of Gothic arch greenhouses. (4 marks)
- (f) Discuss **six** different methods of greenhouse cooling (6 marks)
- (g) Outline why two separate stock tanks used in fertilizer injection are and what fertilizers cannot be mixed together in the same stock tank (6 marks)

QUESTION TWO (20 MARKS)

- (a) Assuming you are the County Executive Committee member (CECM) of Agriculture in your county. Justify using **five** points to the governor why investing in greenhouse in your county will attract more youth in Agriculture (10 marks)
- (b) You have been appointed as the sub county agricultural officer in Rongai Sub County Where farmers do both greenhouse and outdoor tomato farming. It has been noted that some farmers in your area are abandoning greenhouse tomato production.
- i) Use **five** points to explain to the famers why some of them did not succeed in greenhouse tomato production (5 marks)
- ii) Explain **five** ways to boost greenhouse tomato production. (5 marks)

QUESTION THREE (20 MARKS)

- (a) Explain **five** significances of the method of ion balancing according to water analysis important in fertilizing greenhouse crops. **(5 marks)**
- (b) Differentiate between constant feeding and intermittent feeding **(5 marks)**
- (c) Discuss **five** methods of fertilization in a greenhouse **(10 marks)**

QUESTION FOUR (20 MARKS)

- (a) Discuss various two types of greenhouses based on covering material **(10 marks)**
- (b) Extrapolate **five** factors to consider when planning and designing of greenhouses **(10 marks)**

QUESTION FIVE (20 MARKS)

- (a) Differentiate between field capacity and water holding capacity of a growing medium **(4 marks)**
- (b) Explain **three** functional phases of soil **(6 marks)**
- (c) Advises on selecting soils for use in greenhouse crop production **(4 marks)**
- (d) Discuss **three** advantages and disadvantages of using soilless media **(6 marks)**

