



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF EDUCATION (SPECIAL NEEDS)

HOR 211: PRINCIPLES AND PRACTICES OF HORTICULTURE

DATE:

TIME:

INSTRUCTIONS:

Answer Question ONE and any other TWO

QUESTION ONE (30 MARKS)

- a) Explain two benefits of home gardening (2 marks)
- b) Explain two effects of quality of light on production of horticultural crops (2 marks)
- c) Describe the process of pruning using modified leader system (2 marks)
- d) (i) Differentiate between organic and inorganic sources of soil-less media (2 marks)
- d) (ii) Explain the relationship between porosity and bulk density of a growing media (2 marks)
- f) Explain four reasons for the rapid growth of horticultural industry in Kenya (4 marks)
- g) Describe the process of preparing ground beds in a greenhouse (4 marks)

- h) Describe how different features are allocated in a landscape to achieve proportion (4marks)
- i) Explain four categories of pesticides products not allowed to be sprayed on horticultural produce exported the European Union (EU) market (4 marks)
- j) Describe the process of curing horticultural produce in the field (4 marks)

QUESTION TWO (20 MARKS)

- a) Discuss “harmony” as a principle in landscaping (10 marks)
- b) Explain five problems faced by horticultural farmers when using soil-less media (10 marks)

QUESTION THREE (20 MARKS)

- a) With aid of a diagram, describe the working principle of the Nutrient Film Technique (NFT) (10 marks)
- b) Discuss five factors that affect orientation of a greenhouse (10 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the characteristics of four types of peats used in horticulture (10 marks)
- b) Explain five advantages of using polyvinyl chloride (PVC) films as a covering material in greenhouses (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss three ways in which lighting is controlled in the greenhouse (12 marks)
- b) Discuss four farm-based requirements by Global-GAP (8 marks)