



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

SECOND YEAR SECOND SEMISTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SPECIAL NEEDS)

BACHELOR OF EDUCATION (SCIENCE)

HOR 211: PRINCIPLES AND PRACTICES OF HORTICULTURE

DATE: 27/5/2022

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer *ALL* questions from Section A and any other *TWO* from Section B:

SECTION A: COMPULSORY: (30 MARKS)

QUESTION ONE

- a) Distinguish between landscape horticulture and interior scaping. (2 marks)
- b) Explain two ways in which light quality affects production of horticultural crops. (4 marks)
- c) Explain two reasons why reverse osmosis (RO) water is most preferred by growers of foliage and flowering plants. (4 marks)
- d)
 - i. Explain four disadvantages in the use of soil-less media in production of horticultural crops. (4 marks)
 - ii. Describe TWO distinguishing features between aeroponics and drip system of hydroponics. (4 marks)
- e) Explain four advantages of polycarbonate as a glazing material in a greenhouse. (4 marks)
- f) Explain four objectives of the British Retail Consortium (BRC). (4 marks)
- g) Explain four architectural uses of landscaping (4 marks)

SECTION B: Answer any TWO Questions (40 Marks)

QUESTION TWO (20 MARKS)

- a) Discuss four methods of regulating temperature in a greenhouse. (10 marks)
- b) With the aid of a well labelled diagram, describe the working principle of the Nutrient film technique (NFT) hydroponic type. (10 marks)

QUESTION THREE (20 MARKS)

- a)
 - i. Define harmony/unity as a principle in landscaping. (1 mark)
 - ii. Explain three ways in which harmony/unity is achieved during landscaping. (9 marks)
- b) Describe the properties of any two types of peats used in horticultural production. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain FOUR audit standards in GlobalGAP certification. (10 marks)
- b) Explain five greenhouse structural requirements for geraniums destined to the USA market. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe two types of greenhouses based on the number of spans. (10 marks)
- b) Explain five factors considered when pruning fruit trees. (10 marks)