



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHALOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)

BACHELOR OF EDUCATION (SPECIAL NEEDS EDUCATION)

BACHELOR OF EDUCATION ARTS

HOR 211: PRINCIPLES OF HORTICULTURAL PRODUCTION

DATE: 9/12/2021

TIME: 8.30-10.30 AM

INSTRUCTION TO CANDIDATES: Answer ALL questions from Section A and any other TWO from Section B:

SECTION A: COMPULSORY:

QUESTION ONE (30 MARKS)

- a) Distinguishing between viticulture and arboriculture (2 marks)
- b) Explain TWO factors that lead to hastening of flowering in plants with exposure to supplemental irradiation (4 marks)
- c) Describe FOUR ways of increasing relative humidity in horticultural crops production (4 marks)
- d) Explain FOUR advantages of soil-less media in production of horticultural crops (4 marks)
- e) Describe FOUR sources of carbon iv oxide to the greenhouse crops (4 marks)
- f) Describe TWO distinguishing features between the wick system and drip system of hydroponics (4 marks)
- g) Explain FOUR reasons for the growth of Kenya’s horticultural sector (4marks)
- h) Explain FOUR reasons for landscaping (4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) Discuss climate control in greenhouse horticultural production (10 marks)
- b) Describe the working principle of the Ebb and flow type of hydroponics. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe how rhythm is achieved during landscaping (10 marks)
- b) Explain the effect of FIVE pre-harvest factors on post harvest shelf life of horticultural produce. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain FOUR audit standards in GlobalGAP certification (10 marks)
- b) With the aid of a well labelled diagram, describe FOUR pruning methods in horticultural crops (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe FIVE features of market gardening (10 marks)
- b) Explain different types of peats used in horticultural production (10 marks)