



MACHAKOS UNIVERSITY
University Examinations for 2022/2023 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES
DEPARTMENT OF AGRICULTURAL SCIENCES
THIRD YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE AGRICULTURAL EDUCATION AND EXTENSION
BACHELOR OF EDUCATION (SCIENCE)
BACHELOR OF EDUCATION (SPECIAL NEEDS)
HOR 441: VEGETABLE PRODUCTION

DATE:

TIME:

INSTRUCTIONS: Answer **Question ONE (Compulsory)** and Any other **Two** Questions.

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Distinguish between hot beds and cold frames (2 marks)
- b) Explain four ways of maintaining quality of vegetables during storage (4 marks)
- c) Explain FOUR methods of direct sowing of vegetables (4 marks)
- d) Explain four anti-nutritional factors in vegetables (4 marks)
- e) Describe FOUR physiological changes that occur in a seedling during hardening off (4 marks)
- f) Describe four classifications of cabbage varieties based on shape of the head. (4 marks)
- g) Explain four agronomic advantages of growing African indigenous vegetables (4 marks)
- h) Describe four characteristics of detroit dark red variety of beetroot (4 marks)

QUESTION TWO (20 MARKS)

- a) Describe the ecological requirements in production of onion (10 marks)
- b) Discuss five management practices in control of *Tuta absoluta* in tomatoes (10 marks)

QUESTION THREE (20 MARKS)

- a) Discuss five production challenges facing potato farmers in Kenya (10 marks)
- b) Describe the establishment of swiss chards in the nursery bed. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain the fertigation regime in greenhouse pepper production (10 marks)
- b) Describe the ecological requirements in production of frenchbean (10 marks)

QUESTION FIVE (20 MARKS)

- a) Explain five ways in which beetroots can be utilised (10 marks)
- b) Describe the characteristics of four varieties of kales in Kenya (10 marks)