

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2025/2026 ACADEMIC YEAR

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

AGED 414: VEGETABLE CROPS

STREAM: BSC(AGED)

TIME: 2 HRS

DAY: THURSDAY (8.30-10.30AM)

DATE: 5/2/2026

THIS QUESTION PAPER CONSISTS OF THREE (4 PAGES)

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS:

Answer question **ONE** compulsory and any other **TWO**

QUESTION ONE (30 MARKS)

- a) Name the causal organism and give one distinguishing field symptoms for each of the following diseases
- i. Late blight (2 marks)
 - ii. Bacterial wilt (2 marks)
- b) A farmer in central Kenya has a tomato block showing blossom-end rot on many fruits. Explain the
- i) Physiological cause. (1 mark)
 - ii) Two field risk factors (2 marks)
 - iii) One management action (1 mark)
- c) i) Explain **THREE** pre-plant treatments or practices used to break dormancy in Irish potato. (3 marks)
- ii) Give two importance of breaking dormancy in Irish potato. (2 marks)
- d) Describe **FOUR** packing practices that maintain export quality of vegetable crops. (4 marks)
- e) As an extension officer, advice on powdery mildew disease management on Snow peas foliage during a cool, humid season based on following options.
- i. Cultural (1 mark)
 - ii. varietal (1 mark)
 - iii. chemical (1 mark)
- f) Describe **FOUR** key differences in planting or crop habit between Determinate and Indeterminate Tomato cultivars that affect crop management. (4 marks)
- g) Discuss **FOUR** quality parameters buyers use to grade French beans. (4 marks)
- h) Explain **TWO** post-harvest handling practices that help maintain freshness and market quality of Spinach leaves. (2 marks)

QUESTION TWO (20 MARKS)

- a) Describe the sequence of cultural practices from two weeks after transplanting up to harvest that prevent thick necks and ensure good curing in Onions **(8 marks)**
- b) A farmer in Nandi County reports that her Cauliflower crop is showing distorted leaves and small, poorly formed curds.
 - i) Identify **TWO** physiological disorders likely affecting the crop and explain the underlying causes of each. **(2 marks)**
 - ii) Explain two underlying causes of each disorder identified in (bi). **(4 marks)**
- c) Describe **THREE** maturity indices used in the field to assess harvest readiness of Watermelon and explain why each is useful **(6 marks)**

QUESTION THREE (20 MARKS)

- a) Propose a minimal spray schedule (timing and product class) and two non-chemical measures to reduce pesticide residues for vegetable growers **(6 marks)**
- b) Compare Downy mildew and Powdery mildew on Lettuce under three headings
 - i) Causal agent **(2 marks)**
 - ii) Typical environmental conditions **(2 marks)**
 - iii) Effective cultural control **(2 marks)**
- c) Describe **FOUR** desirable varietal traits a commercial Capsicum grower should prioritize when selecting cultivars for the export market. **(8 marks)**

QUESTION FOUR (20 MARKS)

- a) Define the following principles of vegetable production and give one example of how each is applied on a commercial farm
 - i) Crop rotation **(2 marks)**
 - ii) Intercropping **(2 marks)**
 - iii) Integrated pest management **(2 marks)**
- b) Explain why nutrient and water management for Melon production on a light sandy loam soil include time and rates. **(6 marks)**
- c) Develop a stepwise plan to establish a small demonstration plot (20 m × 10 m) for Garden peas, include land preparation, planting, fertilization and irrigation schedule **(8 marks)**

QUESTION FIVE (20 MARKS)

- a) Describe packaging options that extend shelf life and marketability for
 - i) Baby corn (3 marks)
 - ii) Sweet corn (3 marks)
- b) A newly established Asparagus bed is showing reduced spear yields in year three. Describe **FOUR** possible management causes and for each give one corrective action the farmer should take. (8 marks)
- c) Describe the Establishment of Carrot crop (*Daucus carota*) under the following
 - i) Field establishment (2 marks)
 - ii) Harvesting indices (2 marks)
 - iii) Harvesting (2 marks)