



UNIVERSITY EXAMINATIONS

**THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN AGRICULTURE
SECOND SEMESTER 2024/2025
[JANUARY – APRIL, 2025]**

HORT 333: VEGETABLE PRODUCTION

STREAM: Y3 S2

TIME: 2 HOURS

DAY: MONDAY, 9:00 - 11:00 A.M.

DATE: 07/04/2025

INSTRUCTIONS:

- 1. Do not write anything on this question paper.**
- 2. Attempt ALL questions in section A and any TWO in section B.**

SECTION A. (30 MARKS)

1. Explain three operational horticultural vegetable classifications of part consumed. Give the family and botanical name of each example. (6 marks)

2. Describe the following routine vegetable crop management practices

- i. Thinning (2 marks)
- ii. Gapping (2 marks)
- iii. Blanching (2 marks)
- iv. Earthing up (2 marks)
- v. Irrigation (2 marks)

3. Elaborate the following

- i. Ways of avoiding pest and disease problems in vegetable production. (3 marks)
- ii. Antinutritional factors in indigenous vegetables (4 marks)
- iii. Characteristics of the vegetable industry (3 marks)
- iv. Successional cropping (2 marks)
- v. Indirect planting (2 marks)

SECTION B; (40 MARKS)

4. i). Describe Black nightshade productivity by the harvesting practice (6 marks)
- ii). Late Blight is a common disease in solanaceous crops. Prepare a clear guide for a grower on management of the disease in tomato production. (8 marks)
- iii). Discuss head and curd formation in Cole crops. (6 marks).
5. Discuss the ecological requirements, the maturity, harvesting and post-harvest handling of onions. (20 marks)
6. i). The price going price of a potato bag at KSH4000. It is likely to drop to Ksh 2800 in about three weeks' time. In view of the foregoing, advice the farmer on how to realise higher profits. (10 marks)
- ii). Discuss cracking in vegetables giving appropriate examples. (10 marks)
7. You have been posted to Kisii County as an extension officer. The farmers in the area would like to grow vegetables using well planned rotational programs. Several farmers with an average farm holding of 4 ha have approached you to assist them in establishing a rotation program that includes Tomatoes, Onions, Maize, and French beans.

The maize crop would take nine months and would not receive irrigation during the growing season.

If the farmers would like to plant every two months, on the basis of the foregoing information, do the following:

- i. Establish the rotational program for these farmers. (5 marks)
- ii. Determine the planting sequence and the period the rotational program would take if it commenced in January 2015. (13 marks)
- iii. Why are root crops recommended for the rotational program? (2 marks)