



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

AUGUST SESSION EXAMINATION FOR

BACHELOR OF EDUCATION

KST 401: POST-HARVEST TECHNOLOGY

DATE: SCHOOL BASED

TIME:

INSTRUCTIONS:

Answer **ALL** questions from Section A and **ANY TWO** from Section B

SECTION A: COMPULSORY: (30 MARKS)

QUESTION ONE (30 MARKS)

- a) With specific examples, explain the following terms
 - i) Food wastage (2 marks)
 - ii) Food losses (2 marks)
- b) Differentiate the following terms
 - i) Climacteric and non-climacteric fruits (4 marks)
 - ii) Group (1) and group (2) of fruit-vegetables (4 marks)
- c) Explain **FOUR** types of indices that are used to determine the maturity of farm produce (4 marks)
- d) Describe how post harvest technology contributes to food security (6 marks)
- e) Describe **THREE** postharvest handling principles that are important in minimizing water loss of any fruit or vegetable (3 marks)
- f) Citing examples of specific crops, explain any **TWO** categories of maturity of farm produce (5 marks)

SECTION B: Answer any TWO questions (40 Marks)

QUESTION TWO (20 MARKS)

- a) Describe **FIVE** postharvest treatments used to preserve fruits and vegetables (10 marks)
- b) Discuss the role of packaging in protecting fresh produce (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the steps followed during packing house operations (10 marks)
- b) Describe **FIVE** intrinsic factors that will affect the respiration process hence leading to deterioration of farm produce (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe **FIVE** methods of pre-cooling fruits and vegetables (10 marks)
- b) Citing one example each, discuss how post-harvest stresses would influence the handling and storage processes of fruits and vegetables (10 marks)

QUESTION FIVE (20 MARKS)

- a) Citing one example each, explain how pre-harvest plant nutrition influences the quality and shelf-life of fruits and vegetables (10 marks)
- b) Discuss the significance of storage process in post harvest technology (10 marks)