



# MACHAKOS UNIVERSITY

University Examinations for 2016/2017 Academic Year

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF

AGRICULTURAL EDUCATION AND EXTENSION

**KST 401: POST HARVEST TECHNOLOGY**

DATE: 27/7/2017

TIME: 2:00 – 4:00 PM

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## INSTRUCTIONS

Answer ALL questions in section A and ANY TWO questions in section B

### QUESTION ONE (COMPULSORY) (30 MARKS)

- (a) Explain SIX reasons of importance of food security in Kenya. (6 marks)
- (b) Describe and explain FIVE pre-harvest factors which lead to food products spoilage (5 marks)
- (c) Explain importance of post-harvest physiology of agriculture products in packaging for the market. (7 marks)
- (d) Explain THREE causes of post-harvest loss of most crop products. (6 marks)
- (e) Explain the meaning and importance of senescence delaying techniques in crop product post-handling of export products. (6 marks)

### SECTION B: ANSWER ANY OTHER TWO QUESTIONS (40 MARKS)

#### QUESTION TWO (20 MARKS)

- (a) Explain briefly SIX non-chemical methods of controlling post-harvest spoilage in crop products. (12 marks)
- (b) Describe FOUR reasons for cleaning and sorting of newly harvested produce. (8 marks)

**QUESTION THREE (20 MARKS)**

- (a) State and explain FIVE procedures of preparing fruit and vegetable produce for market. (10 marks)
- (b) Explain FIVE grain products and indicate their equilibrium moisture content (%) levels required to deter spoilage. (10 marks)

**QUESTION FOUR (20 MARKS)**

- (a) Explain physiological disorder prevention and management on crop produce (10 marks)
- (b) Explain the THREE major causes of spoilage of banana fruit. (3 marks)
- (c) Explain SEVEN techniques of preventing spoilage of onion for export market. (7 marks)

**QUESTION FIVE (20 MARKS)**

- (a) With the help of a graph (s) distinguish between climacteric and non-climacteric fruits. (6 marks)
- (b) For each of the SEVEN crops indicated in the table below state the product and the post-harvest handling technique farmers carry out before delivery of produce to market (a) (14 marks)

<b>Crop type</b>	<b>product</b>	<b>Post-harvest handling before marketing</b>
1. Sisal		
2. Orange		
3. Ground nuts		
4. Tea		
5. Sorghum		
6. Mango		
7. Cabbage		