



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2015/2016

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

**AFT 3477: POST-HARVEST TECHNOLOGY OF PERISHABLES**

**DATE: NOVEMBER 2015**

**TIME: 2 HOURS**

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**INSTRUCTIONS:** Answer question *one* and any other *two* questions

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### QUESTION ONE (30 MARKS)

- a) Differentiate between the following terms as used in reference to perishable crop produce:
- (i) Chilling injury and freezing injury. (2 Marks)
  - (ii) Intrinsic quality and extrinsic quality. (2 Marks)
  - (iii) Pathological and physiological disorders. (2 Marks)
- b) Mechanical injuries increase rate of quality deterioration. Explain. (4 Marks)
- c) Explain how the following postharvest treatments improve the postharvest life of fruits, eg. mango:
- (i) Hot water treatment. (4 Marks)
  - (ii) Waxing. (4 Marks)
- d) Other postharvest treatments or extension of postharvest life of perishable crop produce are considered as supplements and not substitutes to maintenance of low safe temperatures. Explain. (6 Marks)

- e) Describe postharvest handling practices that minimize water loss from harvested fresh produce. (4 Marks)

**QUESTION TWO (20 MARKS)**

- a) Describe briefly the following methods of storing perishable fresh produce:
- (i) Controlled atmosphere (CA) storage. (4 Marks)
  - (ii) Modified atmosphere packaging (MAP) (4 Marks)
  - (iii) Hypobaric pressure storage. (4 Marks)
- b) Discuss major causes of postharvest losses of fresh produce. (8 Marks)

**QUESTION THREE (20 MARKS)**

- (a) Discuss pre-cooling methods used to remove field heat from harvested fresh produce. (15 Marks)
- (b) Discuss global gap guidelines for the harvesting phase/stage of fresh crop produce. (5 Marks)

**QUESTION FOUR (20 MARKS)**

- a) With the aid of a schematic diagram, discuss the proper design and layout of a packing house. (10 Marks)
- b) Explain any five pack-house operations that a trader in oranges may have to carry out. (10 Marks)