

**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**

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

**QUESTION ONE (30 MARKS)**

1. Differentiate between the following terms as used in reference to perishable crop produce:
2. Chilling injury and freezing injury. (2 Marks)
3. Intrinsic quality and extrinsic quality. (2 Marks)
4. Pathological and physiological disorders. (2 Marks)
5. Mechanical injuries increase rate of quality deterioration. Explain. (4 Marks)
6. Explain how the following postharvest treatments improve the postharvest life of fruits, eg. mango:
7. Hot water treatment. (4 Marks)
8. Waxing. (4 Marks)
9. 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)
10. Describe postharvest handling practices that minimize water loss from harvested fresh produce. (4 Marks)

**QUESTION TWO (20 MARKS)**

1. Describe briefly the following methods of storing perishable fresh produce:
2. Controlled atmosphere (CA) storage. (4 Marks)
3. Modified atmosphere packaging (MAP) (4 Marks)
4. Hypobaric pressure storage. (4 Marks)
5. Discuss major causes of postharvest losses of fresh produce. (8 Marks)

**QUESTION THREE (20 MARKS)**

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

**QUESTION FOUR (20 MARKS)**

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