

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

**Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** [**info@must.ac.ke**](mailto:info@must.ac.ke)

**University Examinations 2016/2017**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF FOOD SCIENCE AND MANAGEMENT

**AFT 3308: POST-HARVEST TECHNOLOGY**

**DATE: DECEMBER, 2016 TIME: 2 HOURS**

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

**QUESTION ONE (30 MARKS)**

1. Explain the main objectives of drying grains before storage. (2 marks)
2. Explain the physiological and biochemical processes of chilling injury as observed when fruits of tropical origin are stored at temperatures below 100C. (6 marks)
3. Highlight advantages of using fumigants to control grain insects. (7 marks)
4. Elucidate on use of total soluble (TSS) as a method of measuring fruit quality. (5 marks)
5. Describe monitoring of temperature during grain storage. (5 marks)
6. Outline good hygienic practices for grain storage. (5 marks)

**QUESTION TWO (20 MARKS)**

1. Describe natural drying system for grains. (10 marks)
2. With the aid of a schematic diagram, discus the proper design and layout of a packhouse. (10 marks)

**QUESTION THREE (20 MARKS)**

1. Exposure of harvested perishable crop produce to exogenous ethylene can be desirable of undesirable. Explain. (8 marks)
2. Discuss use of bags for grains storage. (12 marks)

**QUESTION FOUR (20 MARKS)**

1. Discuss the following pre-cooling methods used to remove field heat from harvested fresh produce.
2. Hydro-cooling (4 marks)
3. Contact icing (4 marks)
4. Explain how grain insects get into stored grains. (12 marks)