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**University Examinations 2016/2017**

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

**AFT 3304: POST-HARVEST TECHNOLOGY OF PERISHABLES AND ROOT CROPS**

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

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

**QUESTION ONE (30 MARKS)**

1. Transportation of fresh produce to market in open pick-up vehicles a common phenomenon in Kenya. Explain why this practice is improper. (4 marks)
2. Physical/mechanical injuries on fresh produce increase rate of their quality deterioration. Explain. (4 marks)
3. Describe the following pack-house operations that a trader in avocadoes may have to carry out;
4. Dumping (4 marks)
5. Sorting (3 marks)
6. Explain the meaning and importance of ‘cold-chain infrastructure’ as used in temperature management of fresh crop produce. (2 marks)
7. Describe forced-air cooling method used in temperature management of fresh crop produce. (6 marks)
8. Outline postharvest factors that affect quality of harvested fresh crop produce. (7 marks)

**QUESTION TWO (20 MARKS)**

1. Discuss use of the following maturity indices to determine maturity and harvest time of fruits and vegetables
2. Skin/peel colour (6 marks)
3. Shape (4 marks)
4. Describe any ten activities/practices that form part of an effective cold-chain infrastructure for fresh crop produce. (10 marks)

**QUESTION THREE (20 MARKS)**

1. Discuss the global gap guidelines during harvesting of fresh crop produce for fresh produce market (10 marks)
2. Discuss major causes of postharvest losses of fresh produce in Kenya. (10 marks)

**QUESTION FOUR (20 MARKS)**

1. Ms. Fatuma, a fresh producer trader, has been contracted to supply pawpaw fruits to a leading chain of supermarket in Kenya.
2. Advice her on preharvest farm practices that she should use as a criteria for choosing farm(s) from which to source her fruits. (8 marks)
3. Since she sells her pawpaw fruits on basis of weight, describe to her postharvest handling practices to use to minimize weight loss of pawpaw fruits from farm gate to the market. (4 marks)
4. Describe ways/means of decreasing the Vapour Pressure Deficit (VPD) between the fresh produce and its storage environment so as to slow rate of water loss. (8 marks)