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**University Examinations 2016/2017**

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

**AFT 3100: INTRODUCTION TO FOOD NUTRITIONAL SCIENCES**

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

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

**QUESTION ONE (30 MARKS)**

1. Explain the importance of Agro-food industry to the Kenya Economy. (2 marks)
2. Fruits and vegetables are ‘living’ structures. Describe the path or response a harvested plant part or organ can follow physiologically. (4 marks)
3. Classify postharvest losses and give examples. (6 marks)
4. Explain the following terms;
5. Essential Fatty Acids (EFAs). (2 marks)
6. Protein Biological Value (BV). (2 marks)
7. Discuss the factors which influence the length of time required to sterilise a food. (5 marks)
8. List four major types of heat-sterilisable container. (4 marks)
9. Name and explain five factors which influence rate of heat penetration into a food during heat processing. (5 marks)

**QUESTION TWO (20 MARKS)**

By use of examples describe the positive and negative effects of processing on nutritional value of food. (20 marks)

**QUESTION THREE (20 MARKS)**

1. Extrusion has gained in popularity for several following reasons. State the reasons and explain. (10 marks)
2. Outline the main advantages and problems of irradiation as a food preservation method. (10 marks)

**QUESTION FOUR (20 MARKS)**

1. Name and explain the application of any ten food additives. (10 marks)
2. Discuss the pre-harvest factors that affect quality of commodities. (10 marks)