



# TECHNICAL UNIVERSITY OF MOMBASA

---

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

**BACHELOR OF SCIENCE FOOD TECHNOLOGY AND QUALITY**

**ASSURANCE**

(BSFQ14S & BSFQ15S2)

AFS 4206 : PRINCIPLES OF FOOD PROCESSING AND PRESERVATION

END OF SEMESTER EXAMINATION

**SERIES:** APRIL 2016

**TIME:** 2 HOURS

**DATE:** Pick Date Select Month Pick Year

## Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

---

## Question ONE

- 1a) Discuss **FIVE** purposes of food processing (**5 marks**)
- b) Using examples, explain the different classifications of food preservation techniques (**6 marks**)
- c) Discuss the significance of *Clostridium botulinum* as the reference organism during heat treatment (**5 marks**)
- d) Discuss the effects of chilling on long term preservation of foods (**5 marks**)
- e) Discuss the secondary objectives of a dehydration process (**6 marks**)
- f) Explain the following term as applied to food irradiation;
  - i. Radurization (**1 marks**)
  - ii. Radicidation (**1 marks**)

**iii. Radappertization (1 marks)**

### **Question TWO**

**i. Discuss functions of the small scale food processor (10 marks)**

**ii. Explain TWO benefits of fermented foods (4 marks)**

**iii. Explain THREE ways in which sodium chloride acts as a preservative (6 marks)**

### **Question THREE**

**i. Distinguish between Pasteurization and sterilization (2 marks)**

**ii. Outline other preservation methods used in conjunction with pasteurization (3 marks)**

**iii. Discuss the factors causing food deterioration (15 marks)**

### **Question FOUR**

Use a drying curve to explain the following;

**i. Constant rate period (3 marks)**

**ii. Falling rate period (3 marks)**

**iii. Critical moisture content (2 marks)**

**iv. Discuss the sources of heat losses during drying (6 marks)**

**v. Outline the factors to be considered before selection of a drying process (6 marks)**

### **Question FIVE**

**i. Discuss the limitations of modified atmosphere packaging (6 marks)**

**ii. Discuss the mechanism of smoking as a preservative (6 marks)**

**iii. Discuss the food safety concerns of irradiated foods as outlined by WHO (8 marks)**