



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

**BACHELOR OF SCIENCE IN FOOD TECHNOLOGY AND
QUALITY ASSURANCE (BSFQ14S &BSFQ15S2)**

YEAR 2 SEMESTER 2

**AFS 4206 : PRINCIPLES OF FOOD PROCESSING AND
PRESERVATION**

END OF SEMESTER EXAMINATION PAPER I

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.

QUESTION ONE

- a) 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 world health organization (WHO) **(8 marks)**

