



TECHNICAL UNIVERSITY OF MOMBASA

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School of Applied and Health Sciences  
DEPARTMENT OF PURE AND APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF TECHNOLOGY IN APPLIED CHEMISTRY

AFS 4411: FOOD PROCESSING

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: MARCH 2025 SERIES**

**TIME: 2 HOURS**

**DATE: MARCH 2024**

**Instructions to Candidates**

You should have the following for this examination

*Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

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

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**Question ONE**

- a) Define Food processing according to the UNESCO Institute of Statistics (UNESCO-IUS, 2015) [2 marks]
- b) Distinguish between Maillard reaction and caramelization in food processing [4 marks]
- c) State the importance of protein denaturation in food processing [4 marks]
- d) State the functions of vitamins in the body [4 marks]
- e) Describe the degradation and stability of vitamin C [4 marks]
- f) State the importance of nitrites in meat processing [4 marks]
- g) Describe the use of chymosin in cheese making [4 marks]

h) Describe starch retrogradation in bread stored at low temperatures [4 marks]

### **Question TWO**

Outline the fundamentals of cheese making [20 marks]

### **Question THREE**

- a) Distinguish between coffee cherry and green coffee [2 marks]
- b) Describe wet processing of coffee [18 marks]

### **Question FOUR**

Describe the following stages in cane sugar processing

- a) Juice extraction by milling [6 marks]
- b) Juice extraction using the diffuser system [9 marks]
- c) Juice Clarification [5 marks]

### **Question FIVE**

Discuss the following stages in Dry milling of maize

- a) Cleaning [4 marks]
- b) Destoning [3 marks]
- c) Conditioning [8 marks]
- d) Tempering [5 marks]