



TECHNICAL UNIVERSITY OF MOMBASA

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

UNIVERSITY EXAMINATION FOR:

BACHELOR OF FOOD TECHNOLOGY AND QUALITY ASSURANCE

AFS 4302: MICROBIOLOGICAL FOOD QUALITY CONTROL

ORDINARY END YEAR EXAMINATION

SERIES: DECEMBER 2024 SERIES

TIME: 2 HOURS

DATE: DECEMBER 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.

Question ONE

- a Differentiate between food safety and food quality (4 Marks)
- b. Identify four microbial metabolites used as indicators of quality in food processing, stating examples of the relevant food products where applied. (4 Marks)
- b. State four important uses of a Microbiological criterion (4 Marks)
- c. Differentiate between a standard and a specification as microbiological criteria (4 Marks)

- d. Explain the codex general principles of food hygiene. (6 Marks)
- e. Explain the importance of food safety procedures in food industry. (4 Marks)
- f. Explain four criteria that are normally established in the critical control step of a hazard analysis (HACCP) program. (4mks)

Question TWO

- a. Outline the seven principles of hazard analysis critical control points HACCP (8 Marks)
- b. Explain four limitations of Hazard Analysis Critical Control Points. (12 Marks)

Question THREE

- a. Describe the following tests as used in the isolation of Coliforms from water:
 - i. Presumptive test (5 Marks)
 - ii Confirmatory test (5 Marks)
- b. Explain a three-class sampling plan as important tools in microbiological criteria for quality control, defining the meaning of the specification used. (10 Marks)

Question FOUR

Describe the Codex principle of hygiene in regard to the facilities used in the food industry. (20 Marks)

Question FIVE

- a. Describe how the following are applied as indicators of quality control in food industry:
 - i. Total aerobic count (5 Marks)
 - ii. Enterobacteriaceae (5 Marks)
- b. Explain any five important considerations used for indicator organisms. (10 Marks)

