



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BSc. FOOD SCIENCE AND QUALITY ASSURANCE

AFS 4302 : MICROBIOLOGICAL FOOD QUALITY CONTROL

SPECIAL/ SUPPLIMENTARY EXAMINATIONS

SERIES: SEPTEMBER 2018

TIME: 2 HOURS

DATE: Pick Date Sep 2018

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 Identify four microbial metabolites used as indicators of quality in food processing, stating examples of the relevant food products where applied. (4mks)
- b. Explain the use *Bacillus cereus* as an indicator organism. (5mks)
- c. Differentiate between a standard and a specification as microbiological criteria (4mks)
- d. Explain the codex general principles of food hygiene. (5mks)
- e. Explain the importance of food safety procedures in food industry. (4mks)
- f. Explain the two components of a hazard analysis critical control points (HACCP) system. (4mks)
- g. Describe GHP/GMPs as safety activities within a quality programme in the food industry (4mks)

Question TWO

- a. Outline the seven principles of hazard analysis critical control points HACCP (7mks)
- b. Explain four limitations of Hazard Analysis Critical Control Points. (12mks)

Question THREE

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

Question FOUR

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

Question FIVE

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