



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE AND APPLIED SCIENCE

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN FOOD TECHNOLOGY AND QUALITY ASSURANCE

AFS 4204: Food Microbiology.

END OF SEMESTER EXAMINATION

SERIES: APRIL/2016

TIME: 2 HOURS

DATE: MAY/2016

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 and any other TWO.

Do not write on the question paper.

Question ONE

- a) Briefly explain the roles of microorganisms in foods. (6mks)
- b) Describe the following groups of foods in relation to water activity, giving two example of spoilage organism involved in each case.
 - i) High moisture foods (a_w 0.99 - 0.95) (2mks)
 - ii) Intermediate moisture foods (a_w 0.95 - 0.61) (2mks)
- c) Explain the influence of pH on food preservation (4mks)
- d) Describe the characteristics of exotoxins and endotoxins produced by disease causing microorganisms. (6mks)
- e) Explain how nutrient content influence the spoilage of meat. (5mks)

F) Define the term preservative, giving three examples of organic acid used as preservatives in food processing. (5mks)

Question TWO

- a) State and explain any five factors that affect the activity of sanitizers. (10mks)
- b) Describe five groups of microorganisms that can grow and spoil foods with low water activity. (10mks)

Question THREE

- a) State and explain any five factors that affect the activity of sanitizers. (10mks)
- b) Describe five groups of microorganisms that can grow and spoil foods with low water activity. (10mks)

Question FOUR

Discuss mycotoxins produced by various groups of fungi together with the specific disease caused by each and their prevention. (20mks)

Question FIVE

Describe food poisoning by the following organisms; stating two symptoms in each case.

- a) *Salmonella typhi* and *paratyphi* (5mks)
- b) *Listeria monocytogenes* (5mks)
- c) *Staphylococcus aureus* (5mks)
- d) *Clostridium perfringens* (5mks)