

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**FOURTH YEAR SECOND SEMESTER EXAMINATION FOR THE AWARD OF  
DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

**FOST 211: FOOD MICROBIOLOGY 1**

**STREAMS: BSC. HORT Y3S1**

**TIME: 2 HOURS**

**DAY/DATE: TUESDAY 04/12/2018**

**8.30 A.M. – 10.30 A.M.**

**INSTRUCTIONS:**

- **Answer all questions in section A and any other two in section B**

**SECTION A (30 MARKS)**

**QUESTION ONE**

- (a) Explain the major difference between Gram positive and gram positive bacteria. (4 marks)
- (b) Briefly explain the major causes of food spoilage and give examples in each case. (6 marks)

**QUESTION TWO**

- (a) Outline four major characteristics that microbes have that make them true cells and give the role for each. (4 marks)
- (b) Explain the possible sources of microbes in food and give 2 examples of microbes present in each source. (4 marks)

**QUESTION THREE**

- (a) Explain the precautions that should be put in consideration during media preparation. (2 marks)
- (b) Briefly describe the growth curve of microbes and clearly indicate what happens at each stage. (4 marks)

**QUESTION FOUR**

- (a) Describe the adaptive features of microbes that facilitate food spoilage and food infection. (3 marks)
- (b) Explain 3 types of cultures commonly used in the laboratory for inoculation. (3 marks)

**SECTION B (40 MARKS)**

**QUESTION FIVE**

- (a) Discuss the importance of microorganisms in today's life. Give specific microbial species. (15 marks)
- (b) Clearly differentiate between eukaryotic and prokaryotic microbes. (5 marks)

**QUESTION SIX**

With respect to growth curve, discuss factors (both intrinsic and extrinsic) that influence growth of microbes in food. (20 marks)

**QUESTION SEVEN**

- (a) Explain various ways in which microbial spoilage of food may be controlled in food industries. (15 marks)
  - (b) Discuss four major ways in which microorganisms are classified in food microbiology. (5 marks)
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