

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
FOOD SCIENCE AND TECHNOLOGY**

FOST 212: FOOD MICROBIOLOGY II

STREAMS: BSC FOST

TIME: 2 HOURS

DAY/DATE: MONDAY 05/07/2021

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- **Answer ALL questions in section A and any other TWO questions in section B.**

SECTION A (30 MARKS)

1. Briefly describe characteristics of a good sanitary index in the food industry. (6 marks)
2. Explain the elements of a comprehensive sampling plan in a microbiology laboratory. (5 marks)
3. (a) Explain general approaches used to reduce the rate of or inhibit microbial food spoilage? (6 marks)
- (b) Explain the measures that the food industry should implement to prevent or reduce the spread of COVID 19. (3 marks)
4. (a) Explain using specific examples the relevance of classifying foods based on their pH in the food industry. 4 marks)
- (b) Briefly describe disease triangle with respect to food poisoning. (6 marks)

SECTION B (40 MARKS)

5. (a) With clear illustrations. Explain the major types of sampling plan in food microbiology. (6 marks)
- (b) Describe the major sanitary indicators used to assess safety in the food industry. (5 marks)
- (c) Discuss public health risks associated with food borne parasites. (9 marks)
6. (a) Discuss various biochemical tests used in identification of bacteria in food. (9 marks)
- (b) With reference to the ecology and characteristics of *Clostridium botulinum*,
- (i) Describe a typical sequence of events that may lead to cases of food poisoning by *Clostridium botulinum*. (6 marks)
- (ii) What measures can contribute to the prevention of food poisoning by *Clostridium botulinum*. (4 marks)
7. (a) What kinds and concentrations of microbes would you find in the following foods? Give reasons for your predictions. (2 marks each)
- (i) Minced pork
- (ii) Freshly cooked green leafy vegetables
- (iii) Freshly prepared mango juice
- (iv) Cheese
- (b) Discuss the importance and relevance of toxigenic fungi in food industries. (12 marks)
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