

**BOWEN UNIVERSITY IWO**  
**COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE**  
**MICROBIOLOGY PROGRAMME**  
**2022/2023 FIRST SEMESTER EXAMINATIONS**  
**MCB 409: FOOD AND DAIRY MICROBIOLOGY**

**Instruction: Answer THREE questions**

**Time: 2hr 15min**

1.
  - a. Discuss the characteristics of **five (5)** food borne-infections in terms of the incubation period, symptoms, mode of transmission, and disease caused. (20 marks)
  - b. How does a food-borne intoxication differ from a food-borne infection? (3 marks)
  - c. List **two (2)** bacterial genera involved in food-borne intoxications. (2 marks)
  
2.
  - (a). Describe a typical HACCP chart for milk production (10 marks)
  - (b). Enumerate **two (2)** Good Manufacturing Practices (GMP) in a food industry (2 marks)
  - (c) Describe in detail, **two (2)** methods of food preservation (13marks)
  
3.
  - (a) Discuss **five (5)** benefits of food fermentations (7½ marks)
  - (b) write on the production process and microorganisms involved in a **named** root-tuber-based fermented food. (17½ marks)
  
4.
  - (a) Write on **two (2)** sources of food microorganisms (10 marks)
  - (b) Discuss **five (5)** factors in food that may encourage microbial growth (15 marks)
  
5.
  - (a) List **5 (five)** factors which cause changes in food as a result of food spoilage (5 marks)
  - (b) Describe extensively the groups of spoilage organisms (20marks)