



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY
BACHELOR OF SCIENCE HONOURS DEGREE IN APPLIED BIOLOGY AND
BIOCHEMISTRY
FOOD MICROBIOLOGY (SBB2206)

Main Examination Paper

MARCH 2025

This examination paper consists of 3 pages

Time Allowed : 3 hours
Total Marks : 100
Special Requirements : NONE
Examiner's Name : DR N. NLEYA

INSTRUCTIONS

1. Answer **Four (4)** questions. Each question carries 25 marks.
2. Where a question contains subdivisions, the mark value for each subdivision is given in brackets.
3. Illustrate your answer where appropriate with large, clearly labelled diagrams.

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
TOTAL	100

1. Discuss on the statement; 'Intrinsic factors of foods may promote or inhibit microbial growth.'
- 2.(a) Highlight the major differences between slow freezing and quick freezing in food preservation. (5 marks)
 - (b) (i) Identify the microbe associated with infected poultry ovaries that may lead to spoilage in eggs. (1 mark)
 - (ii) Describe how the organism named in b(i) can be isolated from a named food commodity and presumptively identified in the laboratory. (5 marks)
 - (c) Describe the attributes of ideal chemical food preservatives. (8 marks)
 - (d) Giving examples and causative agents, explain the different types of food-borne diseases. (6 marks)
- 3.(a) Explain why personal hygiene is of public health importance for food production personnel. (10 marks)
 - (b) Define the following terms with regards to good manufacturing practices in food producing establishments.
 - (i) Cleaning. (2 marks)
 - (ii) Sanitising. (2 marks)
 - (c) Give an outline of the steps for proper cleaning and sanitation. (6 marks)
 - (d) List symptoms of food-borne botulism. (5 marks)
4. Discuss the major contaminating microbes of cereal and cereal products and their economic importance in food safety.
- 5.(a) (i) Define the term 'Indicator organisms'. (2 marks)
 - (ii) State the major analyses used to measure levels of sanitation in food processing establishments. (2 marks)
 - (iii) Describe the selection criteria for ideal indicators of pathogenic microorganisms in food. (6 marks)
- (b) Discuss the significance of the coliform group in foods as indicators of enteric food-borne pathogens. (15 marks)

- 6.(a) Explain how viruses frequently cause food-borne illnesses despite them being unable to survive outside a living host. (5 marks)
- (b) Describe the etiology, pathogenesis, signs and symptoms of hepatitis food-borne illnesses, highlighting the associated foods. (15 marks)
- (c) Highlight five health benefits of consuming probiotics. (5 marks)

END OF EXAMINATION