

- (b) Canning is a reliable method to extend the shelf life of food products, yet canned foods also undergo spoilage. Highlight the types of spoilage and the associated organisms. (9)

[This question paper contains 4 printed pages.]

**Your Roll No.....**

**Sr. No. of Question Paper: 1060**

**I**

Unique Paper Code : 2202033501

Name of the Paper : Food Microbiology

Name of the Course : **B.Sc. (H) Food Technology  
(NEP-UGCF)**

Semester : V, Core

Duration : 3 Hours

Maximum Marks : 90

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions.
3. **All** questions carry equal marks.

1. (a) Explain the various stages of a bacterial growth curve. (8)

- (b) Discuss the role of the intrinsic factors on microbial growth in a food substrate. (10)
2. (a) Briefly explain the role of High Hydrostatic Pressure in food preservation. (8)
- (b) Describe the sources and types of microorganisms responsible for spoilage in fruits and vegetables. (10)
3. Differentiate between **(any three)** (3×6)
- (i) Lytic cycle vs. lysogenic cycle
- (ii) Gram positive vs. Gram negative cell wall
- (iii) Irradiation vs. Freezing
- (iv) Prokaryotes vs Eukaryotes
4. (a) Explain only using diagram/flow diagram **(any two)** (2×4)
- (i) Structure of a bacteriophage

- (ii) Sporulation cycle
- (iii) Impact of radiation on microorganisms
- (iv) Hurdle Technology
- (b) What is a Thermal Death Time Curve? Explain briefly along with the role of D and F values in thermobacteriology. (10)
5. (a) What are the various methods used to isolate and enumerate microorganisms from food samples? (9)
- (b) State the differences between food intoxication and food infection, providing relevant examples of organisms and associated symptoms. (9)
6. (a) Describe the pure culture technique and its significance in identifying and studying specific microorganisms in food microbiology. (9)