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(Printed Pages 3)

(20426)

Roll No.

B.Sc. (Bio-Tech.) I-Year

**3458**

**B.Sc. (Biotechnology)  
Examination, April-2026**

**MICROBIOLOGY**

**(B-104)**

**(B.Sc. Biotech)**

*Time : Three Hours ]*

*[Maximum Marks : 50*

**Note :** Attempt any **five** questions. Each question carries 10 marks.  $10 \times 5 = 50$

1. What is theory of spontaneous generation? How did Louis Pasteur disprove the theory of spontaneous generation?
2. What is sterilization, and how does it differ from disinfection and sanitization?

**P.T.O.**

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Write about biological and chemical Indicators of the sterilizations.

3. (a) Draw a well labelled diagram of SEM and discuss its uses.  
(b) Classify different Nitrogen fixing microorganisms according to their interaction with host.
4. Discuss the growth curve of microorganisms in detail.
5. (a) Discuss in detail the difference between Gram positive and Gram negative bacteria.  
(b) How do microorganisms adapt to extreme nutrient limitations (oligotrophic environments)?
6. What is the principle behind microbial assays for vitamins and antibiotics? Discuss any 2 methods.

7. Write down in brief about etiology, symptoms and treatment of any 4 major bacterial disease of human.
8. What are thermophilic microbes, and how do they survive extreme heat? What are their biotechnological uses?
9. Define SCP. Discuss advantages and disadvantages of using bacteria, fungi and algae as source of SCP.
10. (a) Define probiotics and discuss their advantages.  
(b) Discuss about replica plating technique with its uses.

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