

(i) Printed Pages : 2 Roll No. ....

(ii) Questions : 9 Sub. Code : 

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Exam. Code : 

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B.A. /B.Sc. (General) 2<sup>nd</sup> Semester  
(2054)

**INDUSTRIAL MICROBIOLOGY (Elective)**  
**Paper : IMB-201 Fundamentals of Microbiology-II**

**Time Allowed : Three Hours]**

**[Maximum Marks : 33**

**Note :—** Question 1 is compulsory. Attempt **five** questions in all, selecting **one** question from each unit.

1. (a) Which characteristics of actinomycetes share with bacteria ?
- (b) How you can describe fermentation ?
- (c) What is selective media ? Give an example.
- (d) What are halophiles ? Give an example of the halophile.
- (e) How you can describe symbiotic relationship between microorganisms ?
- (f) Why there is need of preservation of microorganisms ?
- (g) Kreb's Cycle occurs in which organelle of cell ?  $7 \times 1 = 7$

**UNIT—I**

2. (a) Compare the features of bacteria, mycoplasma and viruses. 3
- (b) Describe immobilized cell bioreactor in detail. 3.5

3. (a) What is downstream processing ? Name the various processes used in downstream processing. 3
- (b) Describe the classical techniques used for determination of microbial taxonomy. 3.5

### UNIT—II

4. (a) How microorganism can be classified on the basis of temperature ? 3.5
- (b) Describe the composition and role of each component in nutrient agar. 3
5. (a) How microorganism can be classified on the basis of pH ? 3.5
- (b) Differentiate between selective media and enrichment media with example. 3

### UNIT—III

6. How can you preserve industrially important microorganism ? How can you check for their stability ? 6.5
7. Describe various techniques to preserve the microorganism at low temperature. 6.5

### UNIT—IV

8. (a) Explain substrate level phosphorylation with example. 3.5
- (b) What is gluconeogenesis ? Discuss its significance. 3
9. Discuss the Nitrogen cycle in detail. 6.5