

**LMDE/D-23**  
**MICROBIOLOGY**  
Paper : BT-102

Time : Three Hours]

[Maximum Marks : 80

**Note :** Attempt *five* questions in all, selecting *one* question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

**Compulsory Question**

1. Define/Answer very briefly :

- (a) Microbial Taxonomy.
- (b) How water is disinfected before it is supplied for drinking purpose?
- (c) How aerobic microorganisms protect themselves from the toxic forms of oxygen?
- (d) Cold sterilization.
- (e) Function of fimbriae .
- (f) Function of Leghemoglobin.
- (g) Ecosystem.
- (h) Prion. (2×8=16)

## UNIT-I

2. (a) Mention the contribution of Louis Pasteur in the field of Microbiology.
- (b) Discuss briefly the methods for the measurement of bacterial growth. (8,8)
3. (a) Discuss briefly the Enrichment culture techniques for the isolation of microorganisms.
- (b) Enumerate the differences between cell walls of Gram (+) and Gram (-) bacteria. (8,8)

## UNIT-II

4. Write short notes on :
- (a) Industrial importance of algae.
- (b) Taxonomic ranks. (12,4)
5. (a) How can we identify an unknown microbial isolate? Discuss in brief.
- (b) Write short note on Mycobacterium. (10,6)

## UNIT-III

6. (a) Mention the factors which affect the efficacy of antimicrobial agents.

- (b) Mention the mode of action of following compounds
- (i) Ethylene oxide.
  - (ii) Dry heat.
  - (iii) Streptomycin
  - (iv) Tyrocidine. (8,8)

7. (a) Describe the various methods to check the potency of tetracycline.
- (b) Mention the characteristics of an ideal antimicrobial chemical agent. (12,4)

#### UNIT-IV

8. Write short notes on :
- (a) Discuss briefly the relationship between rhizobium and its legume host.
  - (b) Food borne diseases. (8,8)
9. Write short notes on :
- (a) Methods to control food spoilage.
  - (b) Ecosystem. (8,8)
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