

**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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