



Seat No. : \_\_\_\_\_

# DR-104

December-2025

B.Sc., Sem.-III

MI-201 : Microbiology  
(Microbial Physiology)

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :**
- (1) All questions are compulsory.
  - (2) Figures on the right indicates marks.
  - (3) Mention correct question number against the answer.
  - (4) Draw figures wherever necessary.

1. Write a note on chemical structure, classification and biological significance of lipids. 14

**OR**

1. (A) Describe biological significance of proteins. 7
- (B) Discuss the chemical structure of carbohydrates. 7

2. Explain mechanism of enzyme action and factors affecting enzyme activity. 14

**OR**

2. (A) Discuss the structure of enzymes. 7
- (B) Write a short note on inhibition of enzyme activity. 7

3. Write a note on the classification of bacteria on the basis of oxygen and temperature. 14

**OR**

3. (A) Discuss the entry of nutrients in cells by active transport mechanism. 7
- (B) Discuss the role of energy rich compounds in cell metabolism. 7

4. What is growth ? Discuss the methods of obtaining continuous growth in detail. 14

**OR**

4. (A) Discuss the mode of action of sulfonamides group of antibiotics. 7
- (B) Write a short note on the normal growth curve of bacteria. 7

5. Give short and specific answers in **1-2** lines only : (any **seven**)

**14**

- (1) Define PUFA with one example.
  - (2) Write two biological significance of nucleic acid.
  - (3) Write two examples of monosaccharides.
  - (4) Define : Apoenzyme.
  - (5) Write the full form and one role of IUB.
  - (6) Define extracellular enzymes and write one example.
  - (7) Give any two roles of reducing power in bacteria.
  - (8) Write two examples of thermophilic organisms.
  - (9) What is anabolism and catabolism ?
  - (10) Write names of any two broad spectrum antibiotics.
  - (11) What is synchronous growth ?
  - (12) Write two examples of chemotherapeutic agents.
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