

# DE-106

December-2021

B.Sc., Sem.-III

## 201 : Microbiology (Microbial Physiology)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :** (1) All Questions in Section – I carry equal marks.  
(2) Attempt any Three questions in Section – I.  
(3) Question – 9 in Section – II is Compulsory.

### Section – I

1. (A) Write a short note on classification of carbohydrates with examples. 7  
(B) Enlist various types of lipids and write their significance. 7
2. (A) Write an account of chemical structure and significance of DNA. 7  
(B) Describe biological significance of proteins. 7
3. (A) Discuss in brief various factors affecting enzyme activity. 7  
(B) Write a short note on general properties of enzymes. 7
4. (A) Explain mechanism of enzyme action. 7  
(B) Write an account of inhibition of enzyme activity. 7
5. (A) Write a short note on requirements of molecular oxygen. 7  
(B) Briefly explain entry of nutrients by active transport mechanism. 7
6. (A) Discuss the role of energy rich compounds in metabolism. 7  
(B) Explain in brief structure and functions of NADH. 7



7. (A) What is growth? Write a short note on normal growth curve of bacteria. 7  
(B) Briefly explain the methods of obtaining continuous culture. 7
8. (A) Write a note on measurement of microbial growth on the basis of cell numbers. 7  
(B) General mode of action of chemotherapeutic agents. 7

### SECTION – II

9. Answer in short : (Any eight) 8
- (1) Name any two broad-spectrum antibiotics.
  - (2) Define : Extracellular enzymes.
  - (3) Name the enzyme which can degrade starch.
  - (4) Write full form of NAD.
  - (5) What is a coenzyme ?
  - (6) Name any two examples of aromatic amino acids.
  - (7) Active cell division process is observed in which phase of normal growth curve of bacteria ?
  - (8) Write the name of scientist who discovered Penicillin.
  - (9) Define : Microaerophilic bacteria.
  - (10) Enlist the methods of reproduction in bacteria.
  - (11) Write two examples of carbohydrate polymers.
  - (12) Write the chemical components present in a deoxyribonucleotide.
  - (13) Write the full form of IUB.
  - (14) Define : Active site.
  - (15) What are precursor metabolites ?
  - (16) Name any two monosaccharides.
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