

**013307****December 2023****B.Tech. - III SEMESTER****BIOLOGY (BSC-01)**

Time : 3 Hours]

[Max. Marks : 75

*Instructions :*

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*
4. *Make diagram wherever required.*

**PART-A**

1. (a) What are termination codon? (1.5)  
(b) Explain structure of DNA. (1.5)  
(c) Characteristics of biomolecules. (1.5)  
(d) Basic concept of taxonomic hierarchy. (1.5)  
(e) What are Conjugated proteins? (1.5)  
(f) Explain apoenzyme and coenzyme. (1.5)  
(g) What are endergonic reactions? (1.5)  
(h) Structure of ATP and function. (1.5)  
(i) Types of microscopy (Only name). (1.5)

- (j) Name 5 different types of media for isolating microorganisms. (1.5)

### PART-B

2. (a) Explain the pathway of Glycolysis in detail along with the enzymes and end product. (10)  
(b) Classify lipids and explain them with examples. (5)
3. (a) Explain the Kerb cycle in detail. (5)  
(b) What are carbohydrates? Explain its classification. (10)
4. What are various methods of sterilizations? Explain Growth curve of bacteria. (15)
5. (a) Difference between Eye and a Camera. (5)  
(b) Explain model organisms in detail with examples. (10)
6. (a) Explain Mendels law and Genetic code. (10)  
(b) Compare eukaryotic and prokaryotic cell with figures. (5)
7. What are enzymes? Explain its various types and mechanism of actions. (15)