Seat No. : _____

FE-124

February-2025

B.Sc., Sem.-I

DSC-C-BT-111T Biotechnology (Major)

(Introduction to Biotechnology and Molecules of Life)

Time : 2:00 Hours] **[Max. Marks : 50**

1. Write a detailed account of the major divisions of biotechnology along with its various applications described briefly. **10**

OR

1. (A) Describe the various types of RNA with their structure. **5**
   (B) Explain the various types of nitrogenous bases with their structure. **5**

2. Elaborate and explain the various structures of proteins with diagrams. **10**

OR

2. (A) Write a short note on Myoglobin with a diagram. **5**
   (B) Write a few biological functions of proteins. **5**

3. Elaborate on the structure and function of lactose, sucrose and maltose. **10**

OR

3. (A) Write a few chemical properties of carbohydrates. **5**
   (B) Explain the structure and function of ribose and de-oxy ribose. **5**

4. Write in detail an account of Saturated and Unsaturated Fatty Acids. **10**

OR

4. (A) Enlist the functions and structure of cholesterol. **5**
   (B) Write the biological function of lipids. **5**

5. Answer the following : (any **ten** out of **twelve**) **10**
   (1) Name three areas of Biotechnology.
   (2) Write the function of rRNA.
   (3) What is the denaturation of proteins ?
   (4) Define the term 'Zwitterion' in terms of amino acids.
   (5) Differentiate between aldose and ketose forms of sugar.
   (6) What are the sugar units that make-up starch ?
   (7) Explain the structure of triacylglycerol in short.
   (8) What are complex lipids ?
   (9) What is Z-DNA ?
   (10) What is yellow biotechnology ?
   (11) What is the difference between purines and pyrimidines ?
   (12) What is rancidity ?

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