

B.Sc. Sem.-1 Examination

DSC-C-111

Bio-Chemistry

January-2024

Time : 2-00 Hours]

[Max. Marks : 50

- Q1. a) Define cell & state any three differences between Prokaryotic & Eukaryotic cells (04)
- b) Define with one example: (06)
1. Vitamin 2. Hormone 3. Enzyme 4. H-Bond 5. Metabolism 6. Ribozyme
- OR
- Q1. a) Draw, label & briefly explain the Central Dogma of life. (05)
- b) Write two important postulates of RNA world. Explain the Miller-Urey experiment for evolution. (05)
- Q2. a) Define lipids. Draw the structure of Linoleic acid. State two roles of lipids. (04)
- b) Write the structure of : (06)
1. Alanine 2. Leucine 3. Aspartic acid 4. Lysine 5. Cysteine 6. Serine
- OR
- Q2. a) Write the structure of: D- Glucose & D- Fructose. Outline the classification of Carbohydrates. (04)
- b) Discuss the functions of Protein. (06)
- Q3. a) Write the structure & source of : Lactose & Sucrose. (06)
- b) Define with an example for each of : Epimer and Anomer (04)
- OR
- Q3. a) Explain the reactions of fatty acids for: (05)
1. Soap Formation
2. Conversion of liquid fats to solid fats
- b) Write a note on rancidity of fats. (05)
- Q4. a) Discuss Decarboxylation reaction of amino acids. (04)
- b) Describe Ampholytic property of amino acids. (06)
- OR
- Q4. a) Define Isoelectric pH for amino acids .Discuss titration curve for Alanine. (10)
- Q5 Attempt any 10 out of the following: (10)
- 1 Define Mutation.
 - 2 List any two applications of biochemistry.
 - 3 List any two axioms of living matter.
 - 4 Write the full form of MUFA with an example.
 - 5 What are proteins made up of? Give an example of a protein.
 - 6 What is a Nucleotide? What is the full form of ATP?
 - 7 Name any two chemical constants for fats.
 - 8 Name any two examples of waxes
 - 9 What are oligosaccharides? Give one example.
 - 10 What are essential amino acids? Give one example.
 - 11 Define Non-protein Amino acids with an example.
 - 12 Give one role of Insulin.