

**Exam. Code : 107403**

**Subject Code : 2204**

**B.Sc. (Biotechnology) 3<sup>rd</sup> Semester**

**CELL BIOLOGY—A**

**Paper : BT—4**

Time Allowed—3 Hours]

[Maximum Marks—40

**SECTION—A**

**Note :—** All questions are compulsory. Each question carries 1 mark.

1. Explain the function of cholesterol in plasma membrane.
2. What are eubacteria and archaebacteria ?
3. What do you understand from tissue and an organ ?
4. What is the role of sulphur in hot water springs ?
5. Differentiate arctic and arid environments.
6. What are triglycerides ?
7. Give differences between DNA and RNA.
8. What do you understand from biological membrane ?

**SECTION—B**

**Note :—** Attempt any FIVE questions. Each question carries 4 marks.

1. Describe the fluid mosaic model of membrane transport.
2. Describe the characteristics of eukaryotic microbes.
3. Cell is a basic unit of living systems. Justify.

4. Describe the ecological amplitude of brackish extremophytes.
5. Hot water springs are the good source for isolation of thermophilic microbes ? Justify.
6. What are nitrogen bases ? What types of nitrogen bases are present in the nucleic acids ? Which of them is only found in DNA ?
7. Explain the supramolecular architecture of biological membranes.
8. What are liposomes ? Explain their role in biological membranes.

### SECTION—C

**Note** :— Attempt any **TWO** questions. Each question carries 6 marks.

1. Describe the characteristics of eubacteria, archaebacteria and PPLOs.
2. Discuss the ecological amplitude of cells in sediments and arid environments.
3. Describe the primary, secondary and tertiary structure of proteins.
4. Write a comparative account of active or passive transport of solutes across the membranes.