

**2022**  
**M.Sc.**  
**Second Semester**  
CORE – 05  
**ZOOLOGY**  
*Course Code: MZOC 2.11*  
(Cell and Molecular Biology)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. Discuss the fluid mosaic model in plasma membrane. Add a note on the chemical composition of plasma membrane. 8+6=14
2. What is protein sorting? Describe the mechanism involved in the transport of proteins in cells. 4+10=14

**UNIT-II**

3. Write short notes on: 7×2=14
  - (a) Molecular organization of nucleosome.
  - (b) Histone modification.
4. Describe the types, significance and salient features of cell death. 14

**UNIT-III**

5. What is DNA replication? Describe the mechanism involved in eukaryotes. 14
6. Discuss in detail the mechanism involved in DNA transcription. 14

## UNIT-IV

7. What is protein synthesis? Distinguish between prokaryotic and eukaryotic protein synthesis. 14
8. Write a short note on the following: 7×2=14
- (a) Lac operon
  - (b) Gene expression

## UNIT-V

9. What is recombinant DNA technology? Describe the various tools used in RDT? 14
10. Write a note on the following: 7×2=14
- (a) Transgenic animals
  - (b) Transformation
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