

October 2025
B.A./B.Sc.
Third Semester
MINOR – 3
ZOOLOGY
Course Code: ZON 3.11
(Cell Biology)

Total Mark: 50
Time: 2 hours

Pass Mark: 20

I. Answer three questions, taking one from each unit.

UNIT-I

1. Describe the ultrastructure and functions of endoplasmic reticulum.
8+4=12
2. What is the plasma membrane? Explain fluid mosaic model of plasma membrane with a labelled diagram. 2+10=12

UNIT-II

3. Explain the semi-autonomous nature of mitochondria. Add a note on the endosymbiosis hypothesis. 8+4=12
4. Define the cytoskeleton. Explain the structure and function of various types of cytoskeletons. 2+10=12

UNIT-III

5. What is the cell cycle? Explain in detail the stages of mitosis with diagrams. 2+10=12
6. Write a note on each of the following: 6×2=12
 - (a) Nuclear envelope
 - (b) Polytene chromosome

II. Answer any two of the following questions.

7. Differentiate between tight and gap junctions. 7
8. Describe the structure and functions of peroxisome. 7
9. Explain GPCR and role of second messenger. 7