

October 2025
B.A./B.Sc.
Third Semester
MAJOR – 4
ZOOLOGY
Course Code: ZOM 3.21
(Cell Biology)

Total Mark: 50
Time: 2 hours

Pass Mark: 20

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

UNIT-I

1. Explain the fluid mosaic model of plasma membrane with diagram.
Mention the functions of plasma membrane. 8+4=12
2. Write a note on each of the following: 6×2=12
 - (a) Difference between prokaryotic and eukaryotic cells.
 - (b) Structure of endoplasmic reticulum with diagram.

UNIT-II

3. Explain mitochondrial respiratory chain. 12
4. Describe the structure and functions of microtubules and microfilaments. 6+6=12

UNIT-III

5. Explain the nuclear pore complex and its role in transportation. Add a note on heterochromatin. 8+4=12
6. Write a note on each of the following: 6×2=12
 - (a) Lampbrush chromosome
 - (b) Mitosis

II. Answer any two of the following questions.

7. Explain the structure and function of lysosomes. 7
8. Explain the semi-autonomous nature of mitochondria. 7
9. Explain the cell cycle and its regulation. 7