

**D 51932**

**Name.....**

**Reg. No.....**

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2009**

General Biotechnology  
GBT 101—CELL BIOLOGY

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer any **two** questions.*

1. Give an account of SEM and TEM and their applications in biological process.
2. Discuss about the molecular organization of the cell membrane.
3. Critically comment on **cytosol**, **cytoskeleton** and **microtubules**.

(2 x 10 = 20 marks)

**Section B**

*Answer any **ten** questions.*

4. Write about the types of staining method for **subcellular** organelle detection.
5. What is reduction division ? Explain it.
6. Differentiate Tight junction from GAP junction.
7. **Heterochromatin** is genetically inactive—why ?
8. How the ionic transport occurs through charged pores in membrane ?
9. Explain the Fluid mosaic model of membrane with diagram.
10. Write about condensation and **decondensation** cycle of chromatin.
11. Discuss the structure of t-RNA.
12. Give an account of initiation elongation in protein synthesis.
13. Discuss briefly the Lac **operon**.
14. What is **amoeboid** motion ? Discuss its function.
15. How the intracellular **traffic** occurs by the coated vesicle ?

(10 x 5 = 50 marks)

**Section C**

*Answer **all** questions.*

16. What are the functions of **IF1** **IF2** and **IF3** in protein synthesis ?
17. Why does the **acrosome** of sperm function as a specialized **lysosome** ?
18. Distinguish between 80s and 70s ribosome.
19. How the mitochondrion is known as cell respiratory system ?
20. What is the significance of **cappin** during **mRNA** synthesis ?

(5 x 2 = 10 marks)