

**AS-2051**  
**CELL BIOLOGY -I**  
**SEMESTER -II**

**TIME :3 HOURS**

**M:M: 40**  
**5175/MH**

Note: Candidates are required to attempt two questions each from section A and B and the entire section C.

**Section – A**

1. Discuss the ultra-structure and functions of nuclear membrane. (6)
2. What are mitochondria? Describe the structure and functions of mitochondria. (6)
3. a. Write a note on structure and functions of nucleolus and (4)  
b. List the functions of Golgi body.
4. Define ribosomes. Discuss the types, ultra-structure and functions of Ribosomes. (6)

**Section – B**

5. What is translocation? Discuss its types and effects. (6)
6. Write a detailed note on structure and functions of sex chromosomes. (6)
7. Discuss the structure of plasma membrane in plant cell. (6)
8. a. What are duplications? Comment on its effects. (3)  
b. Comment on the composition of cell wall in bacteria. (3)

**Section – C**

9. Give brief answers to the following questions.
  - a. Differentiate between grana and thylakoids.
  - b. List the functions of vacuole.
  - c. Differentiate between prokaryotic and eukaryotic cell.
  - d. What do you mean by extra nuclear genome?
  - e. Differentiate between paracentric and pericentric inversions.
  - f. Define the term centromere and telomere.
  - g. What is Aneuploidy? Comment on its significance.
  - h. Comment on the composition of fungal cell wall.

(2×8 = 16)