

Exam. Code : 107404

Subject Code : 2304

**B.Sc. (Bio-Technology) 4<sup>th</sup> Semester**

**BT-4 : CELL BIOLOGY—B**

Time Allowed—3 Hours] [Maximum Marks—40

**SECTION—A**

**Note** :— Attempt **ALL** the questions. Answer to any question should not exceed **1/3** of a page.

1. Define actin filaments.
2. What are dictyosomes ?
3. Define nucleolus.
4. Give the functions of peroxysomes.
5. What do you understand by amitosis ?
6. Define cilia.
7. Define a pluripotent cell.
8. What do you understand by necrosis ?  $8 \times 1 = 8$

**SECTION—B**

**Note** :— Attempt any **five** questions. Answer to any question should not exceed **2** pages.

1. Write a short note on rough endoplasmic reticulum.
2. Describe the structure and functions of ribosomes.
3. What are the characteristic structural features of mitochondria that aid in their identification ?

4. What are the functions of chloroplasts ?
5. Define mitosis. Give the significance of mitosis.
6. Write a note on flagellar locomotion.
7. Briefly describe artificial creation of 'cells'.
8. Describe apoptosis and its significance.  $5 \times 4 = 20$

### SECTION—C

**Note :—** Attempt any *two* questions. Answer to any question should not exceed 5 pages.

1. With the help of a labelled diagram, describe the ultrastructure of cell membrane. Discuss its important functions.
2. Describe in detail the ultrastructure of nucleus. Discuss its significance.
3. Describe in detail the process of meiosis with the help of diagrams. What is the significance of this process ?
4. Describe cell differentiation in plants and animals.  $2 \times 6 = 12$