

Exam. Code : 107404

Subject Code : 2144

B.Sc. (Bio-Technology) 4th Semester

CELL BIOLOGY—B

Paper—BT-4

Time Allowed—3 Hours]

[Maximum Marks—40

Note :— Attempt ALL the Sections.

SECTION—A

Note :— Attempt ALL the parts. Answer to any part should not exceed 1/3 of a page. $8 \times 1 = 8$

1. Define :

- (a) Actin filaments
- (b) Amoeboid locomotion
- (c) Multipotent cell
- (d) Nucleolus
- (e) Microtubules
- (f) Cell cycle
- (g) Apoptosis
- (h) Nucleoplasm.

SECTION—B

Note :— Attempt any **FIVE** questions. Answer to any question should not exceed **2** pages. $5 \times 4 = 20$

1. Differentiate between Apoptosis and Necrosis.
2. Describe the various stages of meiosis with well labelled diagrams.
3. Discuss the various modes of cell locomotion.
4. Differentiate between RER and SER.
5. Discuss the structure and function of nucleus.
6. Why mitochondria and chloroplasts are called semi-autonomous organelles ?
7. Give an account of cytoskeletal structures in animals.
8. Write a short note on artificial creation of "cells".

SECTION—C

Note :— Attempt any **TWO** questions. Answer to any question should not exceed **5** pages. $2 \times 6 = 12$

1. Describe in detail the process of mitosis with the help of diagrams. Discuss its significance.
2. Discuss the cell differentiation in plants and animals.
3. Describe the structure of ribosomes and their functions.
4. What are peroxysomes ? Describe their structure and functions.