

B.Sc. (CBCS Pattern) Semester-I
BIO-01 - Biotechnology-I - Cell & Cell Organelles-I

P. Pages : 2

Time : Three Hours



GUG/S/25/11562

Max. Marks : 50

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- Notes :
1. All questions are compulsory.
 2. All questions carry equal marks.
 3. Draw well labelled diagram wherever necessary.

1. Describe in details Cell as a basic unit of living systems. 10

OR

- a) Write a note on typical structure of prokaryotic cell. **2½**
- b) Write a note on structure and function of Muscle cell. **2½**
- c) Write a note on nerve cell. **2½**
- d) Explain the structure of plant cell. **2½**

2. Describe structure and function of nucleus. 10

OR

- a) Explain fluid mosaic model of plasma membrane. **2½**
- b) Write a note on Endoplasmic Reticulum and its functions. **2½**
- c) Write a note on Bacterial cell wall. **2½**
- d) Explain structure of chloroplast. **2½**

3. Explain in detail flagellar type of cell locomotion. 10

OR

- a) Explain tubulin synthesis. **2½**
- b) Explain intermediate filaments (keratins, lamins). **2½**
- c) Write a note on tubulin synthesis. **2½**
- d) Write a note on microtubule motor. **2½**

4. Describe in detail cell cycle. 10

OR

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| a) Explain stages of Mitosis. | 2½ |
| b) Explain G2 phase of cell cycle. | 2½ |
| c) Write a note on cell senescence. | 2½ |
| d) Write a note on cell synchronization. | 2½ |

5. Solve **any ten** (1 mark each). **10**

- 1) Write any two contribution of Robert Hook on cell discovery.
- 2) Difference between plant and animal cell.
- 3) Write different type of cell shape.
- 4) Explain different type of bacterial cells.
- 5) What type of ribosome present in prokaryotic cell.
- 6) What is the function of chloroplast.
- 7) Write function of actin filaments.
- 8) What is the role of Alpha tubulin.
- 9) What is meant by cell locomotion.
- 10) Define cytokinesis.
- 11) What is evident event of S-phase of cell cycle?
- 12) Write any two features of Metaphase.
