

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

P. Pages : 2

Time : Three Hours



**GUG/W/23/11562**

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw diagrams wherever necessary.

**1.** Discuss the contribution of Robert hook and Jan Evangelista in discovery of cell. **10**

**OR**

- a) Write a note on cell theory. **2½**
- b) Draw well labelled diagram of bacterial cell. **2½**
- c) Classify the cell on the basis of cell shape. **2½**
- d) What is prokaryotic cell? Give example. **2½**

**2.** Discuss in detail structure and functions of Nucleus. **10**

**OR**

- a) Describe structure of plant cell wall. **2½**
- b) Write a note on fluid mosaic model of plasma membrane. **2½**
- c) Describe structure of mitochondria. **2½**
- d) Write a note on ribosome and types. **2½**

**3.** Discuss in detail structure and function of Microfilaments. **10**

**OR**

- a) Discuss amoeba type cell locomotion. **2½**
- b) Write a note on Microtubule Motor. **2½**
- c) Write a note on intermediate filaments. **2½**
- d) Describe tubulin synthesis. **2½**

**4.** Describe in detail phases of mitosis with suitable diagram. **10**

**OR**

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|---|----|
| a) Write a note on cell cycle.                          | 2½ |
| b) Discuss cell senescence.                             | 2½ |
| c) Discuss cell differentiation in plant.               | 2½ |
| d) What is Cell Synchronization? Give its applications. | 2½ |

**5.** Solve **any ten** from following.

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|--|---|
| a) What is tissue?                               | 1 |
| b) What is neurolemma?                           | 1 |
| c) What is cytoplasm?                            | 1 |
| d) Give full form of NPC?                        | 1 |
| e) Who discovered nucleolus?                     | 1 |
| f) Which cell organelle called as suicidal bag?  | 1 |
| g) Give two examples of keratin.                 | 1 |
| h) What is pseudopodia?                          | 1 |
| i) Give one example of vimentins.                | 1 |
| j) What is centriole?                            | 1 |
| k) In the cell cycle phases “S” stand for -----. | 1 |
| l) Define meiosis.                               | 1 |

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