

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**

- 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.

- 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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