

**B.Sc. Semester - 2 (NEP-2020) Examination****MARCH/APRIL-2025****BOT: Cell Biology (Multidisciplinary Course)****Time: 2.00 Hours****Mark: 50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

|     |                                                                                                                                                                                                        |      |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Q-1 | Answer in detail.<br>1) What are the exceptions of cell theory.<br>2) Describe different stages of Mitosis.                                                                                            | (10) |
|     | OR                                                                                                                                                                                                     |      |
| Q-1 | Answer in detail.<br>1) Describe major difference in the structure and function of Prokaryotic and eukaryotic cell.<br>2) Describe different stages of meiosis with particular emphasis on prophase-I. | (10) |
| Q-2 | Answer in detail.<br>1) Briefly Describe the structure of cell wall in higher plants.<br>2) Write short note on: Fluid mosaic model.                                                                   | (10) |
|     | OR                                                                                                                                                                                                     |      |
| Q-2 | Answer in detail.<br>1) Describe briefly the ATP driven active transport system with suitable examples.<br>2) Describe the various functions of cell wall in plants.                                   | (10) |
| Q-3 | Answer in detail.<br>1) Describe the structure of Golgi Apparatus.<br>2) Describe the various functions of chloroplast.                                                                                | (10) |
|     | OR                                                                                                                                                                                                     |      |
| Q-3 | Answer in detail.<br>1) Write short note on: of Lysosome.<br>2) Briefly describe the structure of mitochondria.                                                                                        | (10) |
| Q-4 | Answer in detail.<br>1) Describe the structure of the Nuclear pore complex (NPC).<br>2) Give a brief account of the structure of a nucleus.                                                            | (10) |
|     | OR                                                                                                                                                                                                     |      |
| Q-4 | Answer in detail.<br>1) Describe the importance of nucleus within a eukaryotic cell.<br>2) Write note on: Molecular organization of chromatin.                                                         | (10) |
| Q-5 | Answer in detail.<br>1) Describe the structure of a plant cell with diagram.<br>2) Describe Ultra structure and chemical composition of cell wall.                                                     | (10) |
|     | OR                                                                                                                                                                                                     |      |
| Q-5 | Answer in detail.<br>1) Write short note on: Endoplasmic Reticulum.(E.R.)<br>2) Write short note on: Nuclear envelope.                                                                                 | (10) |

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