Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17BT2004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CELL BIOLOGY** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Highlight the role of Mitochondria in Oxidative Phosphorylation. Add a note on its structure and unique features. | CO1 | 12 |
| b. | Explain the different phases of cell cycle and comment on the molecules regulating the cycle. | CO1 | 8 |
| **(OR)** | | | | |
| 2. | a. | Give an illustrated account of the molecular models of Plasma Membrane. Mention the significance of the membrane proteins. | CO1 | 12 |
| b. | Describe the structure of Nuclear envelope and its role in transport. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Compare and contrast the different types of cytoskeletal filaments. | CO2 | 14 |
| b. | Differentiate between gap and tight junctions in cell membrane. | CO2 | 6 |
| **(OR)** | | | | |
| 4. | a. | Tabulate the functions of cell junctions. | CO2 | 14 |
| b. | Appraise the composition and functions of basal lamina. | CO2 | 6 |
|  |  |  |  |  |
| 5. |  | Give a descriptive account of transport mechanisms in Plasma Membrane. | CO3 | 20 |
| **(OR)** | | | | |
| 6. | a. | Outline the mechanism of endocytosis and exocytosis with examples. | CO3 | 8 |
| b. | Explain glycosylation in eukaryotic cells. | CO3 | 12 |
|  |  |  |  |  |
| 7. | a. | Compare the three modes of cell signaling and classify ligands with examples. | CO4 | 15 |
| b. | Although steroid hormones and prostaglandins are lipid based signaling molecules, they differ in their mode of action – Explain. | CO4 | 5 |
| **(OR)** | | | | |
| 8. | a. | Discuss the mechanism of cell signaling through different types of cytosolic, nuclear and membrane bound receptors. | CO4 | 16 |
| b. | Nitroglycerine is used in congestive heart failure. Justify the reasons. | CO4 | 4 |
|  | | **Compulsory**: |  |  |
| 9. |  | ‘Second messengers play a significant role in signal transduction’- Justify. | CO5 | 20 |