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



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

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| **Code :** | **14BT2059** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CELL BIOLOGY AND MICROBIOLOGY** | **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. | Enumerate the differences between animal cell and plant cell. | CO1 | 5 |
| b. | Draw a neat sketch of fluid mosaic model of plasma membrane and Justify why is it the most accepted model. | CO1 | 10 |
| c. | Brief on the organization of mitochondria with a neat diagram. Add a note on its functions. | CO2 | 5 |
| **(OR)** | | | | |
| 2. |  | Differentiate between Prokaryotic cell and Eukaryotic cell with diagrammatic representation. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | With a neat diagram, explain the function of Na+K+ pump. How does the pump help to maintain the osmotic balance of the cell? | CO3 | 10 |
| b. | Narrate plasmodesmata communicate with its adjacent cell in plants and cell junction in animals with neat sketch. | CO3 | 10 |
| **(OR)** | | | | |
| 4. |  | Define action potential. With a neat illustration, explain the process of nerve impulse transmission in neurons through voltage gated ion channel. | CO4 | 20 |
|  |  |  |  |  |
| 5. |  | Draw the structure of cAMP. Substantiate the role of cAMP as second messenger with suitable explanation. | CO4 | 20 |
| **(OR)** | | | | |
| 6. | a. | How spontaneous generation theory was disproved? | CO3 | 10 |
| b. | Write the significance of Koch’s Postulate. Elaborate the four narrations of the Koch postulates. | CO3 | 10 |
|  |  |  |  |  |
| 7. |  | What is differential staining? Explain with a neat flow chart, role of dyes and steps involved in Gram staining. | CO2 | 20 |
| **(OR)** | | | | |
| 8. | a. | Give a brief note on lytic and lysogeny cycle of bacteriophages. | CO4 | 10 |
| b. | Physical agents are used for control of microorganism’s growth- Discuss. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. |  | Mention the different phases of bacterial growth curve with a neat diagram and mention the process occurring in each phase. | CO3 | 20 |