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

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**End Semester Examination – Nov/Dec – 2018**

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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. | Draw a neat sketch of prokaryotic and eukaryotic cell structure. | CO1 | 5 |
| b. | Enumerate the differences between animal cell and plant cell. | CO1 | 5 |
| c. | Brief on the structure of endoplasmic reticulum and golgi bodies with a neat diagram. Add a note on its functions. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Name the phases of cell cycle with its major features of each phase and molecules that control cell cycle. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Define active transport. Describe in detail about the small and large molecules are transported through plasma membrane. | CO1 | 15 |
| b. | Distinguish between symport and antiport with examples. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | Define action potential. With a neat illustration, explain the process of nerve impulse transmission in neurons through voltage gated ion channel. | CO2 | 15 |
| b. | Write a note on plasmodesmata communication in plant cell. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | Draw the structure of G-protein coupled receptor and brief about G-protein activation. | CO2 | 6 |
| b. | Substantiate the role of cAMP as second messenger with suitable explanation. | CO2 | 14 |
| (OR) | | | | |
| 6. | a. | How spontaneous generation theory was disproved? | CO3 | 12 |
| b. | Outline the significance of Koch’s Postulate. Elaborate the four narrations of Koch postulates. | CO3 | 8 |
|  |  |  |  |  |
| 7. | a. | Comment on binomial nomenclature with appropriate examples. | CO3 | 5 |
| b. | Elaborate on chemical agents that are used for control of microorganism’s growth. | CO4 | 15 |
| (OR) | | | | |
| 8. | a. | Enumerate the working mechanism of phase contrast microscope. | CO4 | 6 |
| b. | Categories the nutrients required by microorganism with specific examples. | CO4 | 8 |
| c. | Outline the multiplication of bacteria with a neat schematic representation. | CO3 | 6 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Illustrate the structure and chemical composition of Gram negative bacterial cell wall. | CO3 | 12 |
| b. | Enlist the different phases of bacterial growth curve with a neat diagram and mention the process occurring in each phase. | CO4 | 8 |