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



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

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **15BT2007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CELL BIOLOGY AND IMMUNOLOGY** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss in detail about the phases in cell cycle. | CO1 | 10 |
| b. | Describe about cell cycle check point and MPF regulation. | CO1 | 10 |
| **(OR)** | | | | |
| 2. |  | Write in detail about cytoskeleton system in Eukaryotic cell and discuss about the microtubules associated proteins. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Illustrate the mechanism involved in active transport in cell to cell communication. | CO2 | 10 |
|  | b. | Demostrate the mechanism involved in the movement of ion gradiant and the resting potential of giant squid axon. | CO2 | 10 |
| **(OR)** | | | | |
| 4. |  | Disscuss in detail about protein glycosylation in eukaryotes. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Describe the types of lymphoid organs and discuss the structure of different types of antibodies with illustrations. | CO3 | 20 |
| **(OR)** | | | | |
| 6. | a. | Discuss about the production of antigen using recombinant technology. | CO3 | 10 |
|  | b. | Illustrate the steps involved in the immunization of antigen in rabbits. | CO3 | 10 |
|  |  |  |  |  |
| 7. |  | Describe the principle and methods involved in different types of ELISA and its applications. | CO3 | 10 |
| **(OR)** | | | | |
| 8. | a. | Elucidate the role of class I and class II MHC molecules involved in antigen presenting. | CO3 | 10 |
|  | b. | Discuss about hypersensitivity. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Illustrate about the steps involved for the production of monoclonal antibodies through hybridoma technology. | CO3 | 10 |
|  | b. | Discuss the blotting technique used for the identification of specific proteins. | CO3 | 10 |