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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April / May – 2017**

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|  |  |  |  |
| **Code :** | **14BT2017** | **Duration :** | **3hrs** |
| **Sub. Name :** | **IMMUNOLOGY** | **Max. marks :** | **100** |

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

**Draw suitable diagrams wherever necessary.**

|  |  |  |  |  |
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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Describe in detail the role, structure and immunological function of bone marrow and thymus. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Describe in detail the role, structure and immunological function secondary lymphoid organs. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain hematopoisis with regard to the immune system. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Explain the process of extravasation of immune cells to the site of infection. | CO1 | 10 |
|  | b. | Describe the structure and function of the types granulocytes. | CO1 | 10 |
|  |  |  |  |  |
| 5. |  | Dissect and describe in detail the structure of the prototype immunoglobulin. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Explain the structure and functions of the various classes of antibodies. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Explain antigen processing and presentation via the endogenous pathway. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Explain antigen processing and presentation via the MHC class II pathway. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain the classical pathway of the complement system. | CO2 | 10 |
|  | b. | Explain the immunotechnique ELISA. | CO3 | 10 |