



## M.Sc. II Semester Degree Examination Sept./Oct. - 2024

### BIOTECHNOLOGY

#### Immunology and Immunodiagnostics

#### (NEP)

Time : 3 Hours

Maximum Marks : 70

**Note :** (i) Answer **any five** of the following questions with Question No.1 (Q.1) **compulsory**, each question carries **equal** marks.

(ii) Draw neat diagrams wherever necessary.

1. Explain in detail on the primary and secondary lymphoid organs of immune system. **14**
2. What is humoral immune response ? Explain in detail. **14**
3. Comment in detail on the activation and differentiation of T cells. **14**
4. Elaborate in detail on the mechanism of immune response against bacterial infection specifying any two bacteria. **14**
5. Write in detail on RIA and ELISA. Mention their applications in diagnostics. **14**
6. Write in detail on the B-cell maturation. **14**
7. Explain the role of MHC and TCR in autoimmunity. **14**
8. Write a short note on the following :
  - (a) Membrane Attack Complex (MAC) **5**
  - (b) Primary immunodeficiencies **5**
  - (c) Cytotoxic T Cells. **4**

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