

# B. M. S. College of Engineering, Bengaluru - 560019

Autonomous Institute Affiliated to VTU

## August 2024 Supplementary Examinations

**Programme: B.E.**

**Branch: Biotechnology**

**Course Code: 19BT5DE1IMM**

**Course: Immunotechnology**

**Semester: V**

**Duration: 3 hrs.**

**Max Marks: 100**

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
Revealing of identification, appeal to evaluator will be treated as malpractice.

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

1. a) Give an overview on types of immune responses and highlight on role of the organs involved in immune system. **12**  
b) Explain the types of cells which play a role in defence mechanism of our body. **08**

### UNIT - II

2. a) Discuss the types, structure and functions of immunoglobulins with neat labelled diagram. **10**  
b) Investigate on genetic organization of Immunoglobulin genes and their expression. **10**

### OR

3. a) Enumerate the process of B lymphocyte maturation and activation. **10**  
b) Define Major Histocompatibility Complex (MHC). Give different classes of MHC and their functions. **10**

### UNIT - III

4. a) Write in detail about the Immune response mediated through complement system. **10**  
b) What is graft rejection? Write a note on mechanism of graft rejection. **10**

### OR

5. a) Summarize on different types of hypersensitivity reactions – Type I, II, III, and IV. **10**  
b) What is autoimmune disorder? Explain different types and their mechanisms. **10**

### UNIT - IV

6. a) Elaborate on Monoclonal antibody production by hybridoma technology. **10**  
b) Explain different types of vaccines used for Immunization. **10**

## **UNIT - V**

7. a) Discuss on the Principle and types of ELISA and add a note on agglutination **12**  
reaction.

b) Give a critical account of **08**  
i. Western blot  
ii. Immuno-electron microscope

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SUPPLEMENTARY EXAMS 2024