(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 1 7 9 7 3

Exam. Code : 0 0 3 5

B.Sc. (Hons.) Biotechnology 3rd Semester

(2124)

IMMUNOLOGY–I

Paper : BIOT-303-T

Time Allowed : Three Hours] **[Maximum Marks : 67**

Note :—Attempt **FIVE** questions in all, including Q. No. 1 which is compulsory and selecting **ONE** question from each unit. All questions carry equal marks except compulsory question.

1. Explain the following :

   (a) Immunoglobulin superfamily.

   (b) Lysozyme and Interferon.

   (c) Adjuvants.

   (d) MHC-III.

   (e) Immunogenicity and antigenicity.

   (f) Contribution of Edward Jenner to immunology.

   (g) Immunogenicity and antigenicity.

(h) M cell and NK cell.

(i) Peripheral T-cell.

(j) Cutaneous-associated lymphoid tissue. $1\frac{1}{2} \times 10 = 15$

UNIT—I

2. (a) Give an account on different barriers of innate immune system.

(b) Explain various characteristic attributes of adaptive immunity. 7,6

3. (a) Elaborate the clonal nature of immune response.

(b) Describe the process of hematopoiesis and differentiation. 7,6

UNIT—II

4. (a) What are secondary lymphoid organs ? Describe the structure and functions of spleen.

(b) What are immunogens ? Discuss various types of factors of immunogens that influence immunogenicity. 7,6

5. (a) What are primary lymphoid organs ? Explain the structure of thymus gland.

(b) Define epitopes. Discuss properties of B cell epitopes. 7,6

UNIT—III

6. (a) Describe the structure of immunoglobulin molecule with suitable diagrams.

(b) What are antigenic determinants ? Discuss different types of antigenic determinants on immunoglobulins. 7,6

7. (a) Explain transduction of activation signal during B-cell activation.

(b) Discuss thymus-dependent and thymus-independent antigens. 7,6

UNIT—IV

8. (a) Explain the structure of MHC-I & MHC-II molecule.

(b) Discuss the regulation of MHC expression. 7,6

9. (a) Describe the structure of T-cell receptor complex with suitable diagram.

(b) Explain peripheral T-cell distribution and its functions. 7,6