

(i) Printed Pages : 4]

Roll No. ....

(ii) Questions : 9]

Sub. Code : 

0	9	7	4
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Exam. Code : 

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**B.Sc. (Hon's.) Biotechnology 3rd Semester  
Examination**

**1127**

**IMMUNOLOGY-I**

**Paper : BIOT-Sem-III-III-T**

**Time : 3 Hours]**

**[Max. Marks : 67**

**Note :-** Attempt *five* questions in all, of which question No. 1 is compulsory. Students are required to attempt at least *two* questions from each Section. Each question carries equal marks.

**(Compulsory Question)**

1. Explain :

- |                                    |   |
|------------------------------------|---|
| (i) Plasma cells                   | 2 |
| (ii) Antigenic determinant site    | 2 |
| (iii) Rocket immunoelectrophoresis | 2 |

- (iv) Prozone effect 2
- (v) Follicular dendritic cells 2
- (vi) Extravasation 2
- (vii) Define Antigen. Explain immunological properties of antigen. 2
- (viii) Enlist Antibodies involved in complement activation. 1

### Section-I

2. Give differences between the following :
  - (a) Exogenous and endogenous antigens.
  - (b) Innate and acquired immune system
  - (c) Explain clonal nature of immune response. 4,4,5
3. (a) Write in detail about the activation and significance of cell mediated and humoral immune response.
- (b) Explain the functions of macro-phages in immune response. 6½×2

### Section-II

4. (a) Describe the structure and function of Thymus.

- (b) How do cells of the innate immune system recognize pathogens ? Explain in detail.  $6\frac{1}{2}\times 2$
5. (a) Illustrate the structure of lymph node.
- (b) Explain various cell adhesion molecules and role in lymphocyte trafficking.  $6\frac{1}{2}\times 2$

### **Section-III**

6. Write notes on the following :
- (a) Structure of an immunoglobulin giving a well labelled diagram.
- (b) Peptide binding by MHC molecules.  $7,6$
7. (a) Write in detail about antibody classes and their biological activities.
- (b) Compare the structure and function of Class I and Class II MHC molecules in detail.  $8,5$

### **Section-IV**

8. Write notes on the following :
- (a) Radioimmunoassay
- (b) Role of HAT medium in Hybridoma Technology.

(c) Precipitation reactions and its various types used in disease diagnosis. 4,4,5

9. (a) Explain the significance of ELISA as immunotechnique.

(b) Describe Passive Agglutination and Agglutination Inhibition.  $6\frac{1}{2} \times 2$