

2055  
B.E. (Biotechnology) Fourth Semester  
BIO-415: Immunology and Immuno-Technology

Time allowed: 3 Hours

Max. Marks: 50

*NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Define the following terms:-

- a) immunogen
- b) mast cells
- c) memory cells
- d) adjuvants
- e) primary lymphoid organs
- f) polyclonal antibody
- g) agglutination
- h) passive immunization
- i) attenuated vaccine
- j) autoimmunity

(10x1)

**UNIT - I**

II. Give an overview on the following:-

- a) Granulocytes
- b) Lymphatic system

(2x5)

III. a) Draw a comparison between the key features of class I and Class II MHC molecules.  
b) Comment on the exogenous pathway of antigen processing and presentation. (6,4)

IV. a) Draw a schematic diagram of secreted IgG and explain its various features.  
b) Comment on the role of dendritic cells in antigen capture and display. (6,4)

**UNIT - II**

V. a) Explain the salient features of hypersensitivity type-1 and type-III.  
b) Briefly comment on subunit vaccines.

(7,3)

P.T.O.



(2)

- VI. Write a short note on:-
- a) Multiple sclerosis
  - b) Radioimmunoassay
- (2x5)
- VII. a) Explain the alternative pathway of complement activation.
- b) Enumerate the biological consequences of complement activation.
- (6,4)

x-x-x