

2054

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. a) Define the following terms:-

- i) Epitope
- ii) Granulocytes
- iii) Memory cells
- iv) Adjuvants
- v) Passive immunization
- vi) Monoclonal antibody
- vii) Plasma cells
- viii) Treg cells
- ix) Hygiene hypothesis

(9x1)

b) Fill in the blanks:

Myasthenia gravis is caused by binding of auto-antibodies to the _____. (1)

UNIT - I

II. Give an overview on the following:-

- a) Lymphoid cells
- b) Dendritic cells

(2x5)

III. a) Describe the structure and function of class I MHC molecules.

b) Comment on the chemical composition of the antigen.

(7,3)

IV. Elaborate on the basic features of antibody structure and discuss the different classes of heavy chains.

(10)

UNIT - II

V. a) Describe the role of costimulators in the activation of T-cells.

b) Briefly comment on the role of IL2 in T cell responses.

(7,3)

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(2)

VI. Discuss briefly about the following autoimmune diseases:-

a) Systemic lupus erythematosus

b) Rheumatoid arthritis

(2x5)

VII. a) Explain the classical pathway of complement activation.

b) Briefly explain the basic functions of complement system.

(7,3)

x-x-x