M. SC. (MEDICAL BIOTECHNOLOGY) SEM-II (CHOICE BASED CREDIT SYSTEM) : WINTER - 2017

SUBJECT: IMMUNOLOGY

Day : Monday
Date : 30/10/2017

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

W-2017-1050

N.B.

1) Q.1 and Q.5 **COMPULSORY.**
2) Attempt any **TWO** questions from Q.2, Q.3, Q.4 from section I and Q.6, Q.7 and Q.8 from section II
3) Answers to the both the sections should be written in **SEPARATE** answer book.

SECTION – I

Q.1 Answer in brief (**ANY FIVE**) **(10)**

a) Name two attributes of adaptive immune response.

b) State the closest progenitor cell that give rise to :

i) Dendritic cells **ii)** Neutrophils

c) Name any two cells that use antibodies to recognize their targets.

d) Name two non-covalent interactions involved in antigen antibody interaction.

e) What are Thymus independent antigens?

f) Name two enzymes commonly used in ELISA technique.

Q.2 Answer the following: **(10)**

a) Describe how the following experimental manipulations were used to determine antibody structure

i) Reduction and alkylation of antibody molecule.
ii) Enzymatic digestion of antibody molecule.

b) Explain the alternative pathway of complement activation.

Q.3 Answer the following: **(10)**

a) What are NK cells? Explain how cytotoxic activity of NK cells is restricted to altered self-cells.

b) Explain the role of bone marrow in B cell maturation.

Q.4 Write short notes on **ANY TWO:** **(10)**

a) Mucosa associated lymphoid tissue

b) Immuno-fluorescence

c) Phagocytic barrier of innate immune response

P.T.O.

SECTION – II

Q.5 State the role of the following (**ANY FIVE**) **(10)**

a) ADCC

b) Non-specific immunosuppressive drugs

c) Prostaglandins

d) Transcytosis

e) Langerhans's cells

f) Heparin

Q.6 Answer the following: **(10)**

a) State the role of T_{DTH} cells in Type IV Hypersensitivity.

b) What is Tolerance? Discuss the mechanisms of central and peripheral tolerance in detail.

Q.7 Write short notes on: **(10)**

a) Tumor antigens

b) Chronic rejection of allografts

Q.8 Describe the role of TCR and other accessory molecules of T cells required for T cell interactions with APC, B cells and target cells. **(10)**

OR

Describe any two methods of HLA typing.

* * *