M. Sc. (Medical Biotechnology) Sem-II (Choice Based Credit System)
WINTER - 2018
SUBJECT: IMMUNOLOGY

Day : Monday
Date : 22/10/2018

W-2018-1294

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

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 Define (**ANY FIVE**) of the following: **(10)**

a) Tolerance
b) Innate immunity
c) Hypersensitivity
d) Antibody affinity
e) Adjuvants
f) Tumor specific antigens

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

a) Discuss in detail the processing and presentation of endogenous antigens

b) Discuss the terms pleiotropy, synergy, redundancy, antagonism and cascade induction as they apply to cytokine action

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

a) Describe three ways in which the complement acts to protect the host during an infection

b) Justify: The MHC complex is polygenic and polymorphic

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

a) B cell receptor
b) ELISA
c) Inflammation

P.T.O.

SECTION – II

Q.5 Answer the following (**ANY FIVE**): **(10)**

a) Name two non-specific immune-suppressive drugs and their mode of action

b) Name two cytokines produced by activated T_H2 cells

c) Name one primary and one secondary mediator of Type-I Hypersensitivity

d) What is an immunologically privileged site?

e) What is polyclonal antibody response?

f) State the role of Peyer's Patches

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

a) Justify: Transfusion reactions are a manifestation of Type-II Hypersensitivity reactions

b) Discuss the mechanisms of allograft rejection

Q.7 Answer the following: **(10)**

a) Explain the pathophysiology of any two autoimmune diseases that target specific organs

b) Briefly discuss immunotherapeutic strategies used in cancer

Q.8 Describe the activation of cytotoxic T lymphocytes and the process of CTL mediated cytotoxicity **(10)**

OR

Describe the hybridoma technology for the production of monoclonal antibodies and briefly discuss the methods to humanize monoclonal antibodies

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