

M. Sc. (Biotechnology) Sem-II / M. Sc. (Medical Biotechnology) Sem- II
(CBCS 2018 Course) : SUMMER - 2019
SUBJECT : IMMUNOLOGY

Day : Saturday
Date : 13/04/2019

S-2019-1429

Time : 02.00 PM TO 05.00 PM
Max. Marks : 60

N. B. :

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.**
- 2) Attempt **ANY TWO** questions from **Q. No. 2, 3, and 4** from Section I and **Q. No. 6, 7 and 8** from Section II.
- 3) Figures to the right indicate **FULL** marks.
- 4) Answers to both the sections should be written in **SAME** answer books.

SECTION – I

- Q. 1** Answer **ANY FIVE** of the following: (10)
- a) State the role of histamine in inflammation
 - b) State two examples of passive immunity
 - c) Define antibody affinity and avidity
 - d) What is ADCC? Name two cells that conduct ADCC
 - e) State the factors that determine the immunogenicity of a molecule
 - f) What are cytokines? State their properties
- Q. 2** Attempt the following: (10)
- a) Describe in detail the difference in the structure and function of Class I and Class II MHC molecules
 - b) Describe the primary structure of a typical antibody molecule
- Q. 3** Attempt the following: (10)
- a) Describe in detail complement activation by lectin pathway
 - b) Describe in detail the stages of B cell development in bone marrow
- Q. 4** Write short notes on **ANY TWO** of the following: (10)
- a) ELISA
 - b) Thymus
 - c) Immunoprecipitation

SECTION – II

- Q. 5** Answer **ANY FIVE** of the following: (10)
- a) State two methods of HLA typing
 - b) Differentiate between central and peripheral tolerance
 - c) State two examples of Type II hypersensitivity
 - d) Give two examples of attenuated vaccines
 - e) Name two cytokines produced by activated macrophages
 - f) Differentiate between allograft and xenograft
- Q. 6** Write short notes on: (10)
- a) Mechanisms involved in graft rejection
 - b) Pathophysiology of any two systemic autoimmune diseases

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- Q. 7** Answer the following: **(10)**
- a)** Explain Type I hypersensitivity with suitable examples
 - b)** Explain the central role of T_H cells in the generation of humoral and cell mediated immunity

- Q. 8** Discuss the primary characteristics, advantages and disadvantages of different types of vaccines

OR

Discuss immune surveillance in cancer

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