

BACHELOR OF SCIENCE (BIOTECHNOLOGY) (CBCS - 2015 COURSE)
S.Y.B.Sc. (Biotech) Sem-III : WINTER :- 2021
SUBJECT: IMMUNOLOGY

Day : Monday
Date 31-01-2022

W-13233-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N.B:

- 1) Q. 1 and Q.5 are **COMPULSORY**.
- 2) Attempt **ANY TWO** from Q. 2, Q.3 and Q. 4 in Section-I and **ANY TWO** from Q.6, Q.7 and Q.8 in Section-II.
- 3) All questions carry **EQUAL** marks.
- 4) Answer the questions of Section-I and Section-II in **SEPARATE** answer books.

SECTION-I

- Q.1** Answer in brief (**ANY FIVE**): **(10)**
- a) Define hapten and carrier.
 - b) Give two examples of artificial acquired immunity.
 - c) Give the names of sets and subsets of T-lymphocytes.
 - d) Enlist biological classes of antigens.
 - e) What are CDRs?
 - f) What is J-chain? What is its function?
- Q.2** Answer the following: **(10)**
- a) Explain the factors influencing immunogenicity of a molecule giving examples.
 - b) What are F_{ab} , $F_{(ab)2}$ and F_c fragments of antibody molecule. What is their role?
- Q.3** Answer the following: **(10)**
- a) Explain the classical pathway of complement activation.
 - b) Describe with the help of a suitable diagram the structure and function of lymph nodes.
- Q.4** Write short notes on **ANY TWO**: **(10)**
- a) Antigen presenting cells
 - b) Active immunity
 - c) Inflammation

SECTION-II

- Q.5** Answer in brief (**ANY FIVE**): **(10)**
- a) Name two cytokines secreted by activated T_H cells.
 - b) Describe Gell and Coombs classification of hypersensitivity.
 - c) Explain the term ligand and binder.
 - d) Enlist any two features of antigen-antibody reaction.
 - e) What is indirect immunofluorescence?
 - f) State the function of plasma cells.
- Q.6** Answer the following: **(10)**
- a) Explain the pathophysiology of organ specific autoimmune diseases.
 - b) With the help of a diagram, explain production of monoclonal antibodies.
- Q.7** Answer the following: **(10)**
- Explain giving a suitable diagram Type I Hypersensitivity reaction.
With the help of a suitable diagram explain how CTL kills its target.
- Q.8** Describe in detail the principle and types of ELISA. **(10)**

OR

Give an account of mechanisms of autoimmunity.

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