

(44/A-11)

SEAT No. _____

No of printed pages: 02

SARDAR PATEL UNIVERSITY

B.Sc. V Semester Examination 2018

Subject: Biotechnology (Title-Immunology)

Course: US05CBIT04

Date: 29th October 2018, Monday

Time: 10:00am to 1:00pm

Total Marks: 70

Q.1 Multiple Choice Questions

[10]

- i) CDRs is _____.
- a) Complementarity determining region b) Complex DNA region
c) Complementarity determining receptor d) Complementarity DNA region
- ii) Sandwich ELISA can be used to detect _____.
- a) Antibody b) Antibody & Antigen
c) Antigen d) DNA
- iii) Which of the following B cell differentiation events take place in germinal centers?
- a) Affinity maturation b) Class switching
c) Formation of plasma cells d) All of these
- iv) A cytokine that has different biological effects on different target cells has a _____.
- a) Synergism b) Antagonism
c) Cascade induction d) Pleiotrophic action
- v) _____ are the first line of defense against virus infection.
- a) Cytokinins b) Natural killer cells
c) Mast cells d) Dendritic cells
- vi) Primary immunodeficiencies can affect _____.
- a) Humoral immunity b) Phagocytic cells
c) Complement System d) All of these
- vii) The classical & alternate pathway meet at complement component _____.
- a) C3 b) C4
c) C5 d) C4b
- viii) Allergens are capable of stimulating _____ hypersensitive responses in allergic individuals.
- a) Type I b) Type II
c) Type III d) Type IV
- ix) MHC class _____ does not play a role in antigen presentation.
- a) I b) II
c) III d) IV
- x) Graves' disease results in the overproduction of _____.
- a) Thyroid b) Estrogen
c) Adrenaline d) Progesteron

P.T.O

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- Q.2 Answer the following questions in short. (Attempt any 10)** **[20]**
- a) Define Antibody affinity & Antibody avidity.
 - b) Give the advantages of ELISA.
 - c) Write in brief about RIA.
 - d) What is class switching?
 - e) Give the biological functions of cytokinins.
 - f) What are interferon & chemokine?
 - g) Write the basic functions conducted by complement system.
 - h) What is secondary immunodeficiency?
 - i) Write a brief note on X-linked hyper-IgM syndrome.
 - j) Enumerate the various functions of MHC.
 - k) Define the terms: Isograft & Xenograft
 - l) Write in brief about attenuated vaccines with example.
- Q.3** a) Give an account on CFT. **[05]**
 b) What is precipitation reaction? Write in detail single & double diffusion. **[05]**
- OR**
- Q.3** a) What is the principle of ELISA? Explain in detail indirect & competitive ELISA. **[06]**
 b) Give an explanatory note on agglutination. **[04]**
- Q.4** Describe the maturation & activation of T lymphocyte with relevant diagram. **[10]**
- OR**
- Q.4** a) Explain in detail activation & proliferation of B cells. **[06]**
 b) Write in detail properties of Cytokines. **[04]**
- Q.5** a) Discuss in detail classical pathway of complement system with diagram. **[06]**
 b) Explain in detail primary immunodeficiency with example. **[04]**
- OR**
- Q.5** a) Discuss in detail alternative pathway of complement system with diagram. **[06]**
 b) Write in detail AIDS as secondary immunodeficiency disease. **[04]**
- Q.6** a) What is hypersensitivity? Give a detail note on type II hypersensitivity. **[06]**
 b) Give a detail structure of class II MHC molecule. **[04]**
- OR**
- Q.6** a) Define Autoimmunity. Discuss the various proposed mechanism for generation of autoimmunity. **[06]**
 b) Write a short note on graft rejection reaction. **[04]**

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