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SEAT No. _____

No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY
BACHELOR OF SCIENCE (B.SC.)
VTH SEMESTER EXAMINATION NOVEMBER 2019
FRIDAY, 15TH NOVEMBER 2019
10:00 AM TO 1:00 PM
SUBJECT: BIOINFORMATICS
COURSE: US05CBNF03
(Basics of Immunology)

TOTAL MARKS: 70

Figures to the right indicate marks:

Q1. Multiple Choice questions:

(1 x 10 = 10)

i) The substances that possess antigenicity but lack immunogenicity are known as ?

- A) Adjuvants B) Haptens C) Superantigens D) Avidins

ii) The part/region of antigen that binds to antibody is:

- A) Paratope B) Epitope C) Agreptope D) Variable domain

iii) Which of the antibody molecules can cross the placenta?

- A) IgA B) IgE C) IgG D) IgM

iv) Major histocompatibility locus in human beings is known as :

- A) H-2 complex B) HLA complex C) Ig complex D) ABO complex

v) Which of these antigens would be processed by phagocytic pathway:

- A) Endogenous B) Exogenous C) Haptens D) Super antigens

vi) Which of these features are true for Monoclonal antibodies :

- A) Possess identical antigenic specificity B) Generated by single clone of B cells
C) Different types of antibodies D) Both A & B

vii) The function of NK cells is to kill:

- A) Bacteria B) Cancerous cell C) Virus infected cells D) Both B and C

viii) Which antibody class is present in maximum amounts during secondary immune response?

- A) IgD B) IgM C) IgG D) IgE

ix) Hybridoma technology was developed by?

- A) Kohler and Milestein B) Watson and Crick
C) Jacob and Monod D) Mullis and Branson

x) Antigen Antibody interactions are important because of:

- A) Specificity B) Sensitivity C) Non-ambiguity D) All of these



Please Turn Over

Q2. Short Answer type questions (Attempt any TEN)

(10 x 2 = 20 marks)

- I) Define immunity and Immunogen.
- II) Mention various components of Innate immunity.
- III) Define Phagocytosis. Enumerate various phagocytic cells in our immune system.
- IV) Define primary and secondary lymphoid organs.
- V) What is the difference between agglutination and precipitation reaction.
- VI) Define Radio Immuno Assay. What is its limitation.
- VII) What is the significance of natural killer cells in our body.
- VIII) What are the various functions of antibody molecule.
- IX) What is the difference between single and double immunodiffusion?
- X) Define Monoclonal antibodies. Mention two features of monoclonal antibodies.
- XI) What are the various functions of MHC?
- XII) Define Antigen processing. What is its importance?

Q.3.A) Briefly explain various kinds of immunity. (05)

Q.3.B) Give a Comparative account of Primary and secondary Immune response (05)

OR

Q.3.A) Give a comparative account of humoral and cell mediated Immunity (05)

Q.3.B) Briefly explain various features and components of acquired immunity. (05)

Q.4.A) With the help of labelled diagram explain the role of spleen as lymphoid organ. (05)

Q.4.B) Explain structure of antibody molecule with labelled diagram. (05)

OR

Q.4.A) Briefly explain various immune cells and their functions in brief. (05)

Q.4.A. Explain the function and properties of IgG and IgM. (05)

Q.5.A) Write an comparative account of RIA & ELISA (05)

Q.5.B) Briefly explain precipitation reaction and its types. (05)

OR

Q.5.A) Explain CFT with neat and labelled diagram. (05)

Q.5.B) Explain Sandwich ELISA with a diagram. (05)

Q6.A. Briefly explain processing of exogenous antigens. (05)

Q6.B. Briefly explain Hybridoma technology with diagram. (05)

OR

Q6.A. Mention various applications of Monoclonal antibodies. (05)

Q6.B. Give a comparative account MHC Class-I and Class-II molecules. (05)

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