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SEAT No. _____

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Sardar Patel University
M. Sc. (III Semester) Examination
Friday, 22nd March, 2019
02.00 p.m. to 05.00 p.m.

Biotechnology PS03CBIT02 – Immunology

Q.1 Select the correct/most appropriate answer for the following: (08 marks)

- A) Which of the following is opsonizing agent?
a) C3b b) C4a
c) C5a d) C567
- B) Which of the following is known for use during transplantation? :
a) Azathioprine
b) Methotrexate
c) Cyclosporin A
d) All of the above
- C) Antigen antibody interaction involves all the interactions except-
a) Hydrophobic bonds
b) Covalent bonds
c) Hydrogen bonds
d) Van der Waals interactions
- D) Blood transfusion reaction is :
a) Type I hypersensitivity reaction
b) Type II hypersensitivity reaction
c) Type III hypersensitivity reaction
d) Autoimmune reaction
- E) Which one of the following phagocytose the antigens?
a) Neutrophils b) Macrophage
c) Dendritic cell d) All of the above
- F) Gene rearrangement in antibody production was experimentally demonstrated by-
a) Karl Landsteiner b) Susumu Tonegawa
c) Peter Medawar d) Peter Doherty
- G) TLR 4 recognises :
a) Bacterial LPS
b) Viral RNA
c) Viral DNA
d) None of the above
- H) The following amino acid repeat is present in Toll Like receptors-
a) Lysine b) Leucine
c) Isoleucine d) Both b and c

(1)

(P.T.O.)

Q.2 Answer **any seven** from the following: (14 marks)

- a) Explain affinity maturation of antibody molecules.
- b) What is the role of lysozyme?
- c) Explain thymic selection process.
- d) What is the role of C9 complement protein?
- e) Explain Anergy.
- f) Draw and label class II MHC molecule.
- g) Explain ADCC.
- h) What is isograft?
- i) Explain autocrine action of cytokines?

Q.3 A. Explain structure and function of lymph node. (06marks)

B. Explain classical pathway of complement activation. (06marks)

OR

B. Explain classical events leading to inflammation. (06marks)

Q.4 A. Explain mechanism and role of various proteins during IG gene rearrangement. (06marks)

B. Discuss role of various Immunoglobulin molecules in immune system. (06marks)

OR

B. Explain different ELISA. (06marks)

Q.5 A. Explain Self MHC restriction of Tc cells and experiment demonstrating the same. (06marks)

B. Write a note on processing and presentation of endogenous antigens. (06marks)

OR

B. Discuss T cell activation. (06marks)

Q.6 A. Explain the basis and mechanism for transplantation rejection. (06marks)

B. Discuss any two autoimmune diseases. (06marks)

OR

B. Explain Type I hypersensitivity reaction in detail. (06marks)

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