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SEAT No. _____

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Sardar Patel University
M. Sc. (III Semester) Examination (NC)
Thursday, 12th April, 2018
2.00 p.m. to 5.00 p.m.
Biotechnology
PS03CBIT02 – Immunology

Total marks: 70

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

- A. Which antibody can come to fetus from mother's circulation?
 a. IgA c. IgM
 b. IgD d. IgG
- B. Screening of blood borne antigens takes place in
 a. Lymph nodes c. Spleen
 b. Thymus d. MALT
- C. Hypersensitivity to hapten molecules can be
 a. Type I hypersensitivity c. Type III hypersensitivity
 b. Type II hypersensitivity d. Type IV hypersensitivity
- D. Role of phagocytosis in host defense was first reported by
 a. Jules Bordet c. Louis Pasteur
 b. Elie Metchnikoff d. Susumu Tonegawa
- E. When cytokine acts on the producing cell the action is called
 a. Autocrine c. Synergistic
 b. Endocrine d. Paracrine
- F. P nucleotide addition is because of
 a. TdT activation c. Somatic hyper mutation
 b. Hairpin loop formation d. All of the above
- G. Which of the following binds to C5b67?
 a. Soluble vitronectin c. Both a and b
 b. Membrane bound protectin d. None of the above
- H. Tc cell can mediate target cell lysis using
 a. Perforins and granzyme c. Both a and b
 b. Fas-FasL interaction d. None of the above

(P.T.O.)

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

- a) Explain the structure of TLR.
- b) What is endocytic pathway of antigen processing?
- c) Write on role of eosinophil.
- d) What is the role of TdT?
- e) What is light chain editing during B cell maturation?
- f) How C3 convertase of alternative pathway is formed?
- g) How animal model for multiple sclerosis is developed?
- h) Explain BCR complex.
- i) What are isografts?

Q.3 A. Discuss how MBL can lead to cell lysis using complement system. (06 marks)

B. Discuss in detail TLRs and their role in innate immune system. (06 marks)

OR

B. Discuss spleen as primary lymphoid organ. (06 marks)

Q.4 A. Discuss effector functions of different Ig molecules. (06 marks)

B. Give an account of different precipitation reactions. (06 marks)

OR

B. Discuss steps leading to variable region (V-(D)-J) formation. (06 marks)

Q.5 A. Discuss cytosolic pathway of antigen processing. (06 marks)

B. Discuss process of B cell maturation in bone marrow. (06 marks)

OR

B. Discuss cell mediated cytotoxicity. (06 marks)

Q.6 A. Discuss Type III hypersensitivity reaction. (06 marks)

B. Write on mechanism involved in allograft rejection. (06 marks)

OR

B. Discuss in detail mechanisms leading to immune tolerance. (06 marks)

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