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[A-106]

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SARDAR PATEL UNIVERSITY

M.Sc (Integrated) Biotechnology, Sixth Semester Examination

Monday, 28th March 2016

2:30 pm to 5:30 pm

PS06CIGB01: Fundamentals of Immunology

Total Marks- 70

Note: i) Attempt all questions.
ii) Marks are indicated on the right hand side.

Q.1 Answer the following Multiple Choice Questions. All are compulsory **08**

1. T lymphocytes are responsible for _ _____.
a) Producing antibodies b) Cell mediated immunity c) Humoral immunity d) None of these
2. Secondary immune response is more rapid and heightened because of
a) Plasma cells b) Memory B cells c) antigen d) NK cells.
3. The major role of the complement system is to work in conjunction with
a) Antibodies to leys cells via the C8 and C9 components b) The major histocompatibility complex for cell recognition c) Antibodies to opsonise cells d) The T-cell receptor for production of lymphokines
4. All of the following are true with respect to IgE molecules, EXCEPT which one?
a) They are the principal immunoglobulin class involved in allergic reactions. b)They are involved in mediating anti-parasitic immune responses c) They will cross the placenta and fix complement. d) They can affect the release of histamine and other chemical mediators
5. _____ of thymocytes is necessary to produce a T-cell repertoire capable of interacting with self-MHC molecules.
a) Positive selection b) Negative selection c) Apoptosis d) Receptor editing
6. In addition to binding Antigen and signalling the B cell to respond, BCR also triggers
a) Activation of T cells b) Endocytocis c) Cytokine secretion d) IgM production
7. Ring test is performed on
a) Slide b) Agar c) Agarose d) Tube.
8. To estimate immunoglobulin classes in sera _____ is used
a) Double diffusion in one dimension b) Double diffusion in two dimension c) Single diffusion in two dimension d. Single diffusion in one dimension.

Q.2 Attempt *Any Seven* of the following: **14**

1. Give difference between active and passive immunity.
2. List the types and importance of granulocytes.
3. Enlist the applications of monoclonal antibody.
4. Define adjuvants.
5. What are plasma cells and memory cells?
6. What are APC? Enlist them.
7. List the application of Antigen - Antibody reaction.
8. What is precipitation curve?
9. Write about DNA vaccines in brief.

P.T.O

Q.3 A	With the help of the labeled diagram explain thymus -a primary lymphoid organ.	**06**
Q.3 B	Describe inflammatory response in detail.	**06**
	OR	
Q.3 B	Explain primary and secondary immune response.	**06**
Q.4A	Explain the structure of antibody alongwith a labelled diagram.	**06**
Q.4 B	What are polyclonal and monoclonal antibodies? Discuss the method used for the production of monoclonal antibody.	**06**
	OR	
Q.4 B	What is complement? List its function and explain alternative pathway.	**06**
Q.5 A	Discuss humoral and cell mediated immune response.	**06**
Q.5 B	Explain the structure of class I MHC and give the difference between Class I and Class II MHC.	**06**
	OR	
Q.5 B	Diagramatically explain the structure of TCR.	**06**
Q.6 A	List the various types of precipitation reaction in gel and explain any two in detail.	**06**
Q.6 B	Discuss in detail agglutination reactions.	**06**
	OR	
Q.6 B	Write a note on Immunoelectrophoresis.	**06**

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