Seat No.:_____ No. of pages 02

[A-6-(A)]

SARDAR PATEL UNIVERSTITY
M.Sc (INTEGRATED) BIOTECHNOLOGY (MBT)- IX SEMESTER
FINAL EXAMINATION, October-2016.

PS09CIGMB4: Immunotechnology

Date 24th October. 2016 **TIME: 10:00 am to 1.00pm** **Max. Marks:70**

Q.1 **Attempt all the questions** **1x8=8**

(i) The first antibody class(s) expressed on pre B cell is/are
a. IgG b. IgM c. IgD d. IgM & IgD

(ii) The rearrangement of Ig gene was first shown experimentally by _____
a. Kabat b. Dreyer c. Bennett d. Tonegawa

(iii) Which of the following does not participate in the formation of antigen-antibody complexes?
a. Covalent bonds b. Hydrogen bonds
c. Van der Waals forces d. Electrostatic interactions

(iv) Place the following reactants in their proper order for the indirect ELISA test
1 = enzyme-linked antibody 2 = known antigen
3 = patient serum 4 = substrate
a. 2 4 3 1 b. 2 3 1 4 c. 1 4 3 2 d. 4 3 2 1

(v) Arthus reaction is observed in the following hypersensitivity reaction
a. Type I b. Type II c. Type III d. Type IV

(vi) Auto-antibodies to acetylcholine receptor is formed in
a. Goodpasture's syndrome b. Grave's Disease
c. Rheumatoid Arthritis d. Myasthenia gravis

(vii) The following reactions are involved in graft rejection
a. Cytotoxocity b. ADCC
c. complement activation d. all the three

(viii) The following is not an example of Tumor specific antigen
a. HPV L1 b. HBsAg c. CEA d. SV40 Tag

Q.2 **Attempt <u>any seven</u> questions** **2x7=14**

(i) What is humanized antibody?

(ii) How P and N nucleotide addition contributes to generation of antibody diversity?

(iii) What is precipitation curve?

(iv) Describe patch test.

(v) Give concept of adjuvant with examples.

(vi) Give types of autoimmune diseases and provide symptoms of Grave's disease.

(vii) Why is mice considered best experimental animal?

(viii) Mention the examples where immunosuppression therapy is required.

(ix) What are immune modulators? Give types of immune modulators.

Q.3	A	Describe mechanism of recombination of Immunoglobulin genes for generation of antibody diversity.	06
	B	Explain principle and process of hybridoma technology.	06
		OR	
	B	What is Chimeric antibody? Describe the method for production of Chimeric antibody.	06
Q.4	A	Describe recombinant and DNA vaccines in detail.	06
	B	Explain immunofluorescence and Elispot techniques of immunodiagnosis.	06
		OR	
	B	Explain the following immunohistochemistry tools (i) Immunoelectron microscopy (ii) Avidin-Biotin method	06
Q.5	A	Explain type II hypersensitivity reaction with examples.	06
	B	Define tolerance. Explain the mechanism of central and peripheral tolerance.	06
		OR	
	B	Explain Primary immunodeficiency. Explain Severe Combined Immunodeficiency	06
Q.6	A	Explain "allograft rejection displays memory and specificity".	06
	B	Discuss immune response to bacterial infection. How are bacteria able evade host immune system?	06
		OR	
	B	Describe different techniques of HLA typing.	06

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