

[A-12]

SARDAR PATEL UNIVERSITY
M.Sc (INTEGRATED) BIOTECHNOLOGY (GBT)- IX SEMESTER

EXTERNAL EXAMINATION (AT-KT), April 2018

PS09CIGGB4: Immunotechnology

Date 28th April 2018

TIME: 2.00 to 5.00 pm

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 & IgG (d) IgM & IgD
- (ii) The following is an example of lymphoid specific protein
(a) XRCC 4 (b) RAG 1-2 (c) DNA ligase (d) HMG $\frac{1}{2}$ proteins
- (iii) Which of the following does not participate in the formation of antigen-antibody complexes?
(a) Covalent bonds (b) Hydrogen bonds
(c) Van der Waal forces (d) Electrostatic interactions
- (iv) Organisms suitable for use in modified live vaccine is produced by
(a) Inactivation (b) genetic recombination (c) hybridization (d) attenuation
- (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) Tissue transferred between genetically different members of the same species is called as
(a) Autograft (b) Allograft (c) Isograft (d) xenograft
- (viii) The attachment of bacteria to mucosal surfaces is prevented byclass of antibody
(a) IgG (b) IgM (c) IgD (d) IgA

Q.2

Attempt any seven questions

2x7=14

- (i) Mention various routes for injection of antigen to raise antisera.
- (ii) What is HAMA response?
- (iii) Explain variants of ELISA.
- (iv) Describe patch test.
- (v) Explain antibody microarray.
- (vi) Write symptoms of Systemic Lupus Erythematosus.
- (vii) Why is mice considered best experimental animal?

(1)

[P.T.O.]

- (viii) Mention characteristics of cytokines.
- (ix) What are immune modulators? Give types of immune modulators.
- Q.3** A Explain generation of diversity in the variable region of light chain of immunoglobulins. 06
- B Explain principle and process of Hybridoma Technology. 06
- OR**
- B Explain steps in the production of polyclonal antibody. 06
- Q.4** A Describe recombinant and DNA vaccines in detail. 06
- B Explain the following immunohistochemistry tools 06
- (i) Immunoelectron microscopy (ii) Avidin-Biotin method
- OR**
- B Write a note on Immunofluorescence techniques. 06
- Q.5** A Explain Delayed type hypersensitivity reaction with example. 06
- B Define tolerance. Explain the mechanism of central and peripheral tolerance. 06
- OR**
- B Write a note on organ specific autoimmune disease. 06
- Q.6** A Discuss immune rejection of graft and generation of memory. 06
- B Discuss immune response to bacterial infection. How bacteria are able to evade host immune system? 06
- OR**
- B Write a note on tumor antigens. 06

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