

SEAT No. _____

No. of Printed Pages : 2

[118]

SARDAR PATEL UNIVERSITY
Integrated M. Sc in Biotechnology Examination-Semester 6
PS06CIGB01: Fundamentals of Immunology
9th April, 2018; Monday
2.00 pm to 5.00 pm

Total marks:70

- Note: 1. Figures to the right indicates marks
2. Draw neat and labeled diagram, wherever necessary

- Q.1 Multiple choice questions (08)
- Which cells are progenitors of platelets?
a) Lymphoid progenitors b) Megakaryocytes
c) Dendritic cells d) Monocytes
 - Which of the following is an example of passive immunity?
a) Viral infection b) Antivenom containing serum transfer
c) Placental transfer of antibodies d) Both (b) and (c)
 - _____ is the predominant class of antibody present within body secretions like Saliva and tears.
a) IgE b) IgG
c) IgA d) IgM
 - The isotypes of antibodies are produced by.....
a)VDJ recombination b) N & P addition
c) Somatic hypermutation d) Class switching
 - Which cations are involved in activation of lymphocytes?
a) Mg⁺² b) Ca⁺²
c) Mn⁺² d) Zn⁺²
 - Which of the following is responsible for down regulation of T cell activation?
a) CD28 b) CTLA4
c) B7 protein d) CD25
 - is utilized for detection of *S. typhi*?
a) Complement fixation b) Diffusion
c) ELISA d) Agglutination
 - Which type of vaccine comprising disabled microbes whose pathogenicity is destroyed but they can grow within inoculated host?
a) Live/attenuated vaccine b) Killed vaccines
c) Subunit vaccine d) Recombinant vaccine.

- Q.2 Answer in brief: Attempt any seven (14)
- Differentiate between active and passive immune response.
 - What do you mean by Opsonization, Clonal anergy, Clonal expansion and Adjuvants?
 - Give basic properties of adaptive immunity.
 - Briefly discuss basic functions of complement proteins.
 - What do you mean by anti-isotypic, anti-allotypic and anti-idiotypic antibodies?
 - Briefly discuss positive selection of T lymphocytes.
 - Give a brief account of functions of T_H, T_c, plasma and memory cells.

C.P.O.)

8. Give basic principle of RIA.
9. Discuss types of ELISA in brief.
- Q.3 (a) Describe structure and function of thymus in detail. (06)
 (b) What do you mean by Hematopoiesis? Describe Natural killer cells in detail. (06)
 [OR]
 (b) Write a note on Inflammatory response. (06)
- Q.4 (a) What do you mean by monoclonal and polyclonal antibodies? Explain hybridoma technique of monoclonal antibody production. (06)
 (b) Enlist different pathways of complement activation. Explain classical pathway of complement activation. (06)
 [OR]
 (b) Describe structure and biological functions of IgM and IgG. (06)
- Q.5 (a) Explain T_H cell activation with diagram. (06)
 (b) Write a note on MHC molecules. (06)
 [OR]
 (b) Describe T-dependent and T-independent antigens in detail. (06)
- Q.6 (a) Describe complement fixation and Coomb's test. (06)
 (b) Write a note on Precipitation reaction in detail. (06)
 [OR]
 (b) Explain inactivated and subunit vaccines in detail. (06)

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