

112

SEAT No. _____

Total No. of printed pages 2

SARDAR PATEL UNIVERSITY
M.Sc Genetics Semester II
FINAL EXAMINATION, March' 2019

PSO2CGEN23: FUNDAMENTALS OF IMMUNOLOGY

Date: 23-03-2019

TIME: 2.00 to 500 pm

Maximum Marks: 70

Saturday

Q.1

Attempt all the questions

1x8=8

- i. Virus infected cells produce chemical known as ____
(a) Lysozymes (b) Interferons (c) Histamine (d) Interleukins
- ii. The antigens present in blood are presented to B cells in
(a) Lymph nodes (b) spleen (c) thymus (d) MALT
- iii. The following is not an example of anaphylotoxin
(a) C2a (b) C3a (c) C4a (d) C5a
- iv. Immunoglobulin gene rearrangement occurs in a sequential order,
..... rearranges first.
(a) Constant region of Heavy chain (b) Variable region of heavy chain
(c) Variable region κ light chain (d) Variable region λ light chain
- v. Non-peptide antigens are presented by
(a) Classical MHC class I (b) Classical MHC class II (c) CD1 family
(d) all the three
- vi. IL-2, IL-4 and IL-5, all three can cause proliferation of B cell, describes
which of the following property of cytokine
(a) Pleiotropy (b) Redundancy (c) Synergy (d) Antagonism
- vii. Which of the following is also named as Mancini method?
(a) Radioimmunoassay (b) Radial immune diffusion
(c) Rocket immunoelectrophoresis (d) None of the above
- viii. ABO blood groups is an example of ____.
(a) Cross-Reactivity (b) Inter-activity
(c) Cross-activity (d) Inter-Reactivity

Q.2

Attempt any seven questions

2x7=14

- i. List various physical / chemical barriers of host defense.
- ii. What are the differences between 'innate immunity' and 'adaptive immunity'?
- iii. Comment on hinge region and its function.
- iv. Explain TCR-CD3 complex.
- v. What are initiator complement components?
- vi. How are endogenous antigens processed?
- vii. Compare the peptide binding by MHC class I and II molecules.

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(P.T.O)

- viii. Give the concept of cross reactivity.
ix. Define: (i) Neutralization (ii) Opsonization
- Q.3** A Discuss generation of inflammatory response upon pathogen entry and its clearance from the host. 06
B Discuss various cellular components of innate immunity. 06
OR
B Write a note on B and T cell epitopes. 06
- Q.4** A Discuss molecular mechanism for generation of diversity in variable region of heavy chain. 06
B Discuss the formation of membrane attack complex by classical pathway. How is the activation of classical pathway regulated? 06
OR
B Explain Hozumi and Tonegawa's experiment. 06
- Q.5** A Discuss the attributes of MHC genes and their organization. 06
B What do you mean by Self MHC restriction? Explain the experiment showing Self MHC restriction of T_H cells. 06
OR
B Discuss the structure of high affinity IL-2 receptor and signal transduction upon ligand binding. 06
- Q.6** A What is RIA? Discuss RIA in detail with its advantages, disadvantages and applications. 06
B Write a note on immunity to bacterial infections and mechanisms of immune system evasion by bacteria. 06
OR
B Write a note on ADCC. 06

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