

M.Sc. Examination, 2017
Semester-II
Biotechnology
Course –VII
(Immunology)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer **any four** of the followings.

1. a) Why is the lymph node considered as a highly specialized lymphoid organ? Explain the difference between Monocyte and Macrophage.
b) Discuss how the innate immunity collaborate with adaptive immunity in vertebrates as defence. (3+2)+5=10
 2. a) What are the differences between active and passive immunization? Jenner's vaccine for smallpox is considered superior to the earlier methods for conferring resistance - Why? What are attenuated vaccines?
b) What are primary and secondary immunodeficiencies? (2+3+1)+4=10
 3. Mention the modes of junctional diversities attained during the somatic recombination events of BCR and TCR genes. What are the roles of CD4 and CD8 costimulatory molecules? 6+4=10
 4. What is cross presentation of antigens? Draw diagrams illustrating the general structure, including the domains of class I MHC molecules, class II MHC molecules and membrane bound antibody on B cells. 3+7=10
 5. What do you mean by Central and Peripheral Tolerance? Explain why all self-reactive lymphocytes are not eliminated in the thymus or bone marrow. How are the surviving self reactors prevented from harming the host? 4+3+3=10
 6. Write short notes on **any four** 2.5×4=10
 - a) Self MHC-restriction
 - b) Membrane attack complex
 - c) Multiple sclerosis
 - d) Delayed type hypersensitivity
 - e) Pleiotropy of cytokines
 - f) GVHD
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