

Code: 9A23605

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

**IMMUNOLOGY**

(Biotechnology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Define immunity and explain the types of immunity in an organism.  
(b) What are immunogens? Explain what makes them as an antigen and the type of reaction they invoke.
- 2 (a) What is cell mediated immunity? Explain the process by which this system functions in humans.  
(b) Using a labeled diagram, explain the structure and functions of eosinophils and neutrophils.
- 3 (a) What is the role of the lymphatic system in the innate immune defense? Explain.  
(b) Give brief note on: (i) CALT. (ii) SALT.
- 4 (a) Describe how the Humoral immunity is activated in a mammalian system.  
(b) Illustrate the structure of an immunoglobulin and describe how different types of immunoglobulins are produced by the body.
- 5 (a) Explain in detail the initiation and the other process that will end in dealing with an infectious agent by the activation of the humoral immune response.  
(b) What is an hybridoma? Explain the use of this technology in commercial production of vaccines.
- 6 (a) Write brief notes on:  
(i) MHC region and role in immunity.  
(ii) Macrophage in antigen presentation.  
(b) How do the T-cell lines get activated? Explain in detail the activation of various T-cells in the system.
- 7 (a) What is hypersensitivity, how does it manifest in an organism? Explain the processes.  
(b) Why has the human society come to adopt organ transplantation procedure? Explain the role of immune system in accepting or rejecting a transplanted tissue.
- 8 (a) Elaborate on any one experimental model of auto immune disease and mode of action in its treatment.  
(b) Discuss how immunology can help in controlling cancers wherein the tumors despite mutations hide from immune system.

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