

Fifth Semester Examination – 2009

IMMUNOLOGY

Full Marks – 70

Time – 3 Hours

*Answer Question No. 1 which is compulsory
and any **five** from the rest.*

*The figures in the right-hand margin
indicate marks.*

1. Answer all the questions : 2×10
- (a) What do you mean by haptens ? What is its significance ?
 - (b) Differentiate between acquired immunity and innate immunity.
 - (c) Define prophylaxis.

P.T.O.

- (d) Name two primary and secondary lymphoid organ present in human.
- (e) "AIDS is an immunodeficiency syndrome" – Justify.
- (f) Which cells are involved in antigen presentation ?
- (g) What is the polypeptide composition of immunoglobulin -G ?
- (h) Which Cells are called granulocytes ? What are the main functions of granulocytes ?
- (i) What is RIA ? What is its significance ?
- (j) Define abzyme. Cite one example.
2. What are monoclonal antibodies ? Discuss the principle utilized and the methods followed in the preparation of monoclonal antibodies.

2+8

3. (a) Define Phagocytosis. Explain the Mechanisms of Phagocytosis. 2+4
- (b) Write down about the structure and function of Ig-G. 4
4. Differentiate Between : 5×2
- (a) ELISA and EMIT
- (b) Humoral and Cell mediated Immunity.
- 5.. What is Antibody diversity ? Briefly explain the techniques utilized to study genetic basis of antibody diversity. Add a note on antigen-antibody interaction. 3+7
6. How are the lymphoid organs classified ? Explain the functional anatomy of lymph node with suitable sketches ? 3+7

7. Write notes on : 5×2
- (a) Hypersensitivity
 - (b) Major Histocompatibility complex.
8. Describe various causes of autoimmune diseases. Give two example of systemic autoimmune diseases. 4+6

Fifth Semester Examination – 2009**ENGINEERING THERMODYNAMICS****Full Marks – 70****Time – 3 Hours**

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

(Use of stem table permissible)

1. Answer the following questions : 2×10
- (a) Define clearance ratio in a reciprocating air compressor.
 - (b) Draw (P-V) diagram of a two stage reciprocating air compressor showing perfect intercooling.