Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech

PCBT 4301

Fifth Semester Examination – 2013

IMMUNOLOGY AND IMMUNOTECHNOLOGY

BRANCH : BIOTECH

QUESTION CODE : C-375

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 the following questions : 2×10

   (a) What is APCs ? Write its important function.

   (b) What are memory cells and how do they participate in immune response ?

   (c) What is agretopes ? Differentiate between agretope and epitope.

   (d) How is MHC polymorphism thought to be generated ?

   (e) How does class switching occurs and what is its importance ?

   (f) Draw a schematic diagram of a typical IgG molecule and label each of the following parts : H chains, L chains, interchain disulfide bonds, inra chain disulfide bunds, hinge region, Fab region and Fc and all the domains.

   (g) Name two autoimmune diseases of human.

   (h) What do you mean by attenuated vaccine ? Give its examples.

   (i) What is ADCC ?

   (j) What is super antigens ? Give two examples.

2. Write short notes on :

   (a) Antibody diversity 5+5

   (b) Immune tolerance.

P.T.O.

3. (a) Explain the classical pathway of complement activation. 5

(b) Write short notes on DNA vaccine. 5

4. What is Hypersensitivity ? Explain the Gell and Coombs classification of hypersensitivity. 10

5. Write short notes on : 5+5

(a) Structure and function of class-I and class-II MHC molecules

(b) Immunodeficiency diseases.

6. (a) What is innate immunity ? Describe about different types of defense barrier of human body. 5

(b) Briefly explain the structure and function of secondary lymphoid organs. 5

7. (a) What do you mean by hypo function of immune system ? Briefly explain their modulation in mamalian system. 5

(b) Antigen and antibody reaction. 5

8. Differentiate between (any **two**) : 5×2

(a) T-helper and T- cytotoxic cell

(b) Primary and Secondary immune response

(c) Humoral and cell mediated immunity

(d) Polyclonal and monoclonal antibody.