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Total number of printed pages – 2

B. Tech
PCBT 4301

Fifth Semester Back Examination – 2014
IMMUNOLOGY AND IMMUNOTECHNOLOGY

BRANCH : BIOTECH

QUESTION CODE : L 226

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
- What is adaptive immunity ? Give one example of adaptive immunity.
 - Name two autoimmune diseases of human.
 - How many HLA haplotypes are there within a human family ?
 - What is CDR ? How many CDR's are there in the paratope ?
 - What is polyclonal antibody ?
 - In the electrophoresis of human serum, which is the most electronegative and thus migrates farthest toward the positive electrode ?
 - What are memory cells and how do they participate in immune response ?
 - What is agretopes ? Differentiate between agretope and epitope.
 - What is phagocytosis ? Name the cells which involved in phagocytosis.
 - What is an adjuvant ? Write the name of two commonly used adjuvants.
2. What is an antibody molecule ? How does typical antibody function in terms of variable and constant domains ? Discuss the roles of different classes of antibodies. 10

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3. What do you mean by dysfunction of the immune system ? How the dysfunction is modulated in human ? Explain the approaches used for correcting immune dysfunction. 10
4. Write notes on :
- (a) T-cell receptors 5
 - (b) Antigen processing 5
5. (a) Discuss the principle utilised and the methods followed in the preparation of monoclonal antibody. 5
- (b) Write short notes on Molecular basis of antibody diversity. 5
6. (a) Cells of immune system 5
- (b) Immunological tolerance 5
7. (a) Classical pathway of Complement System 5
- (b) Regulation of immune response 5
8. Write short notes on any **two** of the following : 5 × 2
- (a) Attenuated vaccine
 - (b) Passive immunity
 - (c) Secondary lymphoid organ
 - (d) Type-I hypersensitivity.

