2013
M.Sc.
3rd Semester Examination
BIOCHEMISTRY
PAPER—BIC-302
Full Marks : 40
Time : 2 Hours

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

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

IMMUNOLOGY

Group—A

1. Answer any five questions from the following : 2 × 5
   (a) What do you mean by framework regions of antibody?
   (b) What are the forces involved in the antigen-antibody interactions?
   (c) What are the functions of lymph node?
   (d) Differentiate between adjuvant & hapten.
   (e) Compare between paratope & agreetope.
   (f) What is Benee-Jones protein?
   (g) Write the function of toll-like receptors in innate immunity.
   (h) What is Opsonization?
Group—B

Answer any two questions from the following: 5x2

2. Describe the immunological functions of immunoglobulin G (IgG). 5

3. How cytotoxic T-lymphocyte kill the infected cell? 5

4. Draw the surface markers present on the surface of the B-lymphocytes mentioning their ligand and functions. 2+3

5. Give a comparative account of structure and peptide binding properties of Class I and Class II MHC molecule. 10

Group—C

Answer any two questions from the following: 10x2

6. (a) What do you mean by immunological synapse?
   (b) Write down the signal transduction mechanism of T-lymphocyte. 3+7

7. Discuss the structure and importance of MHC-I and MHC-II molecules. 5+5

8. (a) What is class switching?
   (b) Describe the primary and secondary immune response. 5+5

9. Discuss the roles of stromal cell in B-cell maturation. What are T₁ and TD antigen? What is pre-B cell receptor. 4+4+2