2012

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) State the function of adjuvants to induce immune system.

(b) Differentiate between antigen and immunogen.

(c) Write the role of M-cell in immune response.

(d) What is type-I hypersensitivity ?

(e) Which immunoglobulin can cross through planeenta and why ?

(f) What are super antigen ? Explain with example.

(g) What is isotype switching ?

(h) What do you mean by scavenger receptor ? Where it can be found ?

Group—B

Answer any *two* questions from the following : 5×2

2. What do you mean by antibody diversity ? How the most possible numbers of Ig gene generated—explain mathematically. 1+4

3. Draw the receptors present on the surface of the T-lymphocytes metiontioning their ligand and functions.

4. Describe the bidirectional molecular interaction between B and T-lymphocytes.

5. Write the function of primary and secondary lymphoid organ.

Group—C

Answer any *two* questions from the following : 10×2

6. Describe the signal transduction mechanism of B-lymphocytes.

7. Discuss the CD_4^+ T-cell, CD_8^+ T-cell and macrophage in cell mediated immunity.

8. Write down the cytosolic pathway with suitable diagram. What is the significance of antigen presentation?

9. Sequentially describe the experimental approaches through which the structure of antibody was deduced. Describe the basic structure of immunoglobulin molecule with suitable diagram.

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