AR – 621

Sixth Semester B. Sc. (Part – III) Examination

6S : BIOCHEMISTRY

(Immunology and Clinical Biochemistry)

P. Pages : 5

Time : Three Hours] [Max. Marks : 80

Note : (1) All questions are compulsory and carry equal marks except question no.1 which carries **8** marks.

(2) Draw neat labelled diagrams wherever necessary.

1. (A) Fill in the blanks.

(i) The cells responsible for humoral immunity are ———.

(ii) The immunoglobulins that can bind with mast cells and release histamine ———

(iii) The immunougloblin that can cross the placenta and transfer the mother's immunity to developing Fetus ———.

(iv) ——— hour Urine collections are employed for quantitative estimation of certain urinary constituents. 2

(B) Choose correct alternative.

(i) Acquired immunity is

(a) Non specific

(b) Specific

(c) Both of above

(d) None of above.

(ii) The cells that initiate immune response ——

(a) Inducer T-cells

(b) Cytotoxic T-cells

(c) Helper T-cells

(d) Supressor T-cells.

(iii) The complement system brings about ——

(a) Antibody dependent classical pathway

(b) Antibody independent alternative pathway

(c) Both of above

(d) None of above.

(iv) Interleukin-2 (IL-2) is used in ——

(a) Cancer immunotherapy.

(b) The treatment of immunodeficiency diseases.

(c) Both of above.

(d) None of above. 2

(C) Answer in one sentence.

(i) What is complement fixation ?

(ii) What is agglutination ?

(iii) What is immunopotency ?

(iv) What are antigens ? 4

2. Describe structure and classification of Immunoglobulins.

OR

Discuss innate immunity and adaptive or acquired immunity in detail. 12

3. Explain in detail mechanism of precipitation and agglutination.

OR

Describe principle and application of ELISA and RIA immunology. 12

4. Write on the following :—

(a) Type-III hypersensivity. 4

(b) Classical pathway of complement system. 4

(c) Polyclonal antibodies. 4

OR

(p) Monoclonal antibodies. 4

(q) Alternative pathway of complement. 4

(r) Type-IV hypersensivity. 4

5. Discuss the following :—

(a) Scope of clinical Biochemistry in diagnosis. 4

(b) Enlist instruments required in clinical laboratory. 4

(c) Use of semi and auto analyser. 4

OR

(p) Units and abbreviation used expressing concentration. 4

(q) Manual versus automation in clinical Biochemistry. 4

(r) Basic requirements of clinical Biochemistry. 4

6. Write on the following :—

(a) Anticoagulants in collection of blood. 4

(b) Preservatives in collection of Urine. 4

(c) Collection of CSF. 4

OR

(p) Clearance test for Urea. 4

(q) Normal values of Urinary Constituents. 4

(r) Normal values of Constituents of CSF. 4

7. Describe the following :—

(a) Diagnostic application of LDH. 4

(b) Enzyme pattern of SGOT and SGPT in health and diseases. 4

(c) Clinical significance of amylase. 4

OR

(p) Hyperglycemia. 4

(q) Albinism. 4

(r) Lipid malabsorption. 4