2014

M.Sc.

3rd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM–301 (UNIT–17)

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.

Module — I

(Immunology)

1. Answer any five questions of the following: 5×1

(a) Antibody is _______ in nature
   (A) Protein;
   (B) Lipoprotein;
   (C) Polysacharides;
   (D) Glycoprotein.

(Turn Over)
(b) the immunogenicity of an antigen depends greatly on:
    (A) Its biochemical composition;
    (B) Being structurally unstable;
    (C) Its degree of foreigners;
    (D) Marking low molecular weight.

(c) Bonding of antigen to antibody consists of
    (A) Hydrogen bonding;
    (B) Van der Waals forces;
    (C) Electrostatic forces;
    (D) Noncovalent forces.

(d) Sensitization :
    (A) 2nd phase agglutination;
    (B) Physical attachment Ab to Ag at RBC surface;
    (C) One type of flocculation;
    (D) None of the above.

(e) IgM is more efficient at agglutination because:
    (A) Small size and tetravalency permit more effective bridging of the space;
    (B) Large size and multivalency permit more effective bridging;
    (C) Cannot overcome electrostatic force;
    (D) All of the above.
(f) Which of the following characteristics of T-lymphocytes is false?

(A) Can form a cytonic subset/suprener;

(B) Can be helpers/inducers;

(C) Can be CO4⁻ or CO8⁺;

(D) Can synthesize and secrete immunoglobulin.

(g) Most Cells :

(A) Helps in cytotoxicity;

(B) Helps in hypersensitivity;

(C) Helps in sensitization;

(D) All of the above.

(h) Hemolysin correlates with :

(A) CFT;

(B) Prozone phenomenon;

(C) RIA;

(D) Both B and C.

2. (a) What is immunological basis of Latice formation?

(b) Show the difference between agglutination and flocculation.

(c) Diagrammatically show complement fixation test.

2+2+4

Or
(a) What is Himalayan Fantasy?

(b) Describe the immunological basis of an immunosuppressive disorder related to the generation of RF with special reference to self associated immunoglobulin.

2+6

3. (a) What is anaphylactic shock?

(b) Describe the mechanism of action of delayed type of hypersensitivity.

2+5

Or

(a) Elaborate how tumor cells escape themselves from immune defense system.

(b) What is monoclonal antibody?

(c) Why tumour cells (myeloma) are used in hybridoma technology?

4+1 1/2 +1 1/2

(Continued)
4. Answer any five questions from the following:  

(a) Write the full form of HGPRT.

(b) What is tachyzoites?

(c) What is sorbent?

(d) Write the full form of MEIA.

(e) Write the name of one acute phase protein.

(f) What is heat in activation of serum?

(g) What is FANA test?

(h) What is dengue shock syndrome?

5. (a) Why blocking is essential during Western blot of a patient’s sample.

(b) Describe briefly different genes of HIV related to disease pathogenesis.

(c) How do you interpret the result of Western blot of a partial sample suspected for AIDS?
(a) Show the principle of MEIA diagrammatically.
(b) Briefly state the different aspects of serological test for S.I.E.
(c) What is Kauffmann white classification?

6. (a) What is Montoux test?
(b) How Tab Vaccination influence the result of typhoid?
(c) State briefly the difference between VDRL and TRUST.

Or

(a) Describe CRP with special reference to its molecular set up and mechanism of action along with its synthetic procedure.
(b) What is hs-CRP? State the clinical significance.

C/15/M.Sc./3rd Seme./BLM-301(U-17)