

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 typeⁿ 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/supreyer;
- (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 Lattice 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 ?

 $4+1\frac{1}{2}+1\frac{1}{2}$

Module — II

(Serology)

4. Answer any five questions from the following : 5×1

- (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 same 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 AIDS 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 partial sample suspected for AIDS ?

2+4+2

Or

- (a) Show the principle of MEIA diagrammatically.
- (b) Briefly state the different aspects of serological test for SLE.
- (c) What is Kauffmann white classification ?

4+2+2

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

2+2+3

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.

6+1