M.Sc.

2017

3rd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-301

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.

Answer *Q. No. 1* and any *three* from the rest.

1. Answer any *ten* questions of the following : 10×1

(i) Which type of immunity develops during cenvalascant period of a disease.

(a) Natural active ; (b) Natural passive ;

(c) Artificial drug induced ;

(d) Artificial passive.

(ii) MHC molecules are associated with which of the following ?

(a) Graft rejection ; (b) Autoimmune diseases ;

(c) Determining to which agents an individual responds ;

(d) All of the above.

(iii) The purpose of serum inactivation is —

(a) To destroy the native complement ;

(b) To remove heat labile anti complementary substances ;

(c) To stabilize the serologic properties of the serum.

(d) All of the above

(iv) TRUST is related to —

(a) Nonspecific test of a STD ;

(b) Specific test of a STD ;

(c) Specific test of a WBD ;

(d) Nonspecific test of a WBD.

(v) How much diluent need to be added to 0.2 ml of serum to make a 1 : 20 dilution.

(a) 3.8 ml. (b) 4.0 ml.

(c) 18.6 ml. (d) 19.8 ml.

(vi) In an agglutination reaction, if cells are not centrifuged long enough, which of the following occurs.

(a) False positive result;

(b) False negative result;

(c) No effect;

(d) Slight but can be ignored.

(vii) Secondary immune response is —

(a) Booster response; (b) Anamnestic response;

(c) Both of the above; (d) None of the above.

(viii) The first HIV protein that can be measured is —

(a) gp-120; (b) P_{24};

(c) gp-41; (d) Both (a) and (c).

(ix) The period between exposure to an infection and appearance of the first symptoms is known as —

(a) Window period ; (b) Incubation period ;

(c) Latent period ; (d) None of the above.

(x) Good immunogene has the characters except

(a) Internal complexity ;

(b) Large molecular weight ;

(c) Found in host cells ;

(d) Presence of numerous epitopes.

2. (a) Elaborately define zone of equivalence with its significance in immunological reaction.

(b) Diagramatically represent the principle of crossed immunoelectrophoresis.

(c) Discuss briefly a immunoprecipltation reaction where spur formation takes place. 5+3+2

3. (a) What is floceculation reaction ?

(b) Discuss different types of nonspecific tests for Dyphilis detection.

(c) Mention the consequences of false positive results in Syphilis.

(d) Why some detection tests of syphilis is known as known trepanomal tests ? 2+5+1+2

4. (a) Diagrammatically discuss complement fixation tests.

(b) How do you prepare monoclonal antibodies ?

(c) Why hybridoma technology extensively requires the use of cancerous cells ? 4+4+2

5. (a) Discuss the immunological reaction following tumor formation and also state how malignant cells escapes themselves from immuno-defence system.

(b) 'Self associated immunoglobulins are formed in RA'— Justify in a precise way.

(c) How do you calculate cut off value using positive and negative control in ELISA ? 4+4+2

6. Write short notes (any *two*) :

(a) HIV virus with Ag required for Western blot.

(b) WIDAL Test and its interpretation.

(c) SLE and its detection. 5+5