2013

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* of the following choose the correct one : 5×1

(a) High titer of ANA are indicative of :

(i) Parasitic infection;

(ii) Bacterial infection;

(iii) Autoimmune disease.

(b) Which of the following is an autoimune disease ?

(i) Type I Diabetes mellitus;

(ii) Type II Diabetes mellitus;

(iii) Haemophilia A.

(c) Full form of TGF-β is :

(i) Transforming growth factors – β;

(ii) Tumorous growth factor – β;

(iii) Tissue growth factor – β.

(d) CD 40 ligand is seen only on :

(i) Macrophage;

(ii) Cytotoxic T-Cells;

(iii) Antigen Presenting cell.

(e) Which is the first immunoglobulin class to be produced in a primary response to an antigen and also the first immunoglobulin to be synthesized by the neonates :

(i) IgG;

(ii) IgM;

(iii) IgD.

(f) What is a characteristic of early stages of local inflammation :

(i) Fever;

(ii) Anaphylactic shock;

(iii) Release of histamine.

(g) An epitope associates with which part of an antibody :

(i) The heavy chain constant region only;

(ii) The light chain constant only;

(iii) Variable regions of heavy chain and light chain.

(h) Anaphylactic shock :

(i) Type I hypersensitivity;

(ii) Type II hypersensitivity;

(iii) Type III hypersensitivity.

2. (a) Enumerate the advantages of monoclonal antibodies over polyclonal antibodies.

(b) What is hybridoma and what is the advantage of using immortal tumour of lymphocyte in hybridoma technology.

(c) Explain the selection procedure of fittest hybridomas in detail. 2+(1+1)+4

Or

(a) What is zone of equivalence ?

(b) Describe a test pattern by which you can establish the immunological relationship between two antigens.

(c) Write the principle of crossed immuno electrophoresis with its application. 2+3+3

3. (a) Make a comparative statement of precipitation and agglutination reaction with example.

(b) Establish the role of IgI and mast cell in hypersensitivity reaction with diagram. 3+4

Or

(a) Name different types of tumor markers with its involvement in the detection of disease.

(d) What to you mean by tumor products ?

(c) Elaborate the mechanism by which tumor cells escape immune defenses.

$2+1\frac{1}{2}+3\frac{1}{2}$

Module—II

(SEROLOGY)

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

(a) What is flocculation ?

(b) What is RPHA test ?

(c) What is co-agglutination test ?

(d) What is lattice formation ?

(e) Write the full form of NBT.

(f) What is reagin ?

(g) What do you mean by window period ?

(h) Write the name of two fluorescent dyes used in FTA-abs test.

5. (a) What is the use of Sabin-Feldman dye test ?

(b) How do you perform the test and interpret your result ?

(c) How do you know the occurrence of IgG in new born that is transmitted from infected mother (Toxoplasma) or due to toxoplasmosis infection in newborn ?

1+4+3

Or

(a) Enumerate the occurrence of viral antigen in stool, urine and blood at different phases of typhoidal infection.

(b) Describe the assay procedure for the detection of primary and secondary dengue infection.

3+5

6. (a) How anti-CCP is generated in RA patient?

(b) Enumerate the principle of FANA test and mention the utility of this test.

3+4

Or

Write short notes on :

(a) CD_4 detection;

(d) MEIA.

4+3

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