2012

M.Sc.

3rd Semester Examination

BIO-MEDICAL LABORATORY SCIENCE & 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.

(Clinical Immunology)

Module-I

1. Answer any *five* : 5×1

(a) When the Ag-Ab complex formation occurs, agglutiation takes place only if the antigen :

(i) is a particle such as a bacterium or blood cell ;

(ii) is soluble ;

(iii) Both of the above.

(b) Name the Ig from the following which is typically found in external secretions such as saliva and tears :

(i) IgA ;

(ii) IgF ;

(iii) IgG.

(c) Which of the following is true about Ig :

(i) produced by T lymphocytes ;

(ii) produced by B lymphocytes ;

(iii) purified from a single ancestral cell.

(d) Write the full form of TGF-β.

(e) T-lymphocyte function is characterized by all the following except :

(i) produce and secrete immunoglobulin ;

(ii) A subset develops killer cells to produce cytokine ;

(iii) A subset suppresses the immune response.

(f) Give the examples of two cytokines.

(g) What do you mean by flocculation ?

(h) Give an example of Reserve passive Haemaglutination Test.

2. (a) What are the merits and demerits of the polyclonal antibodies ?

(b) Discuss about the production of MAb using hybridoma technology.

(c) Why tumerous cells are required in this process ? 2+5+1

Or

(a) What is Zeta potential ?

(b) Why IgM is more efficient at agglutination reaction ?

(c) Describe complement fixation test with suitable diagram. 2+2+4

3. (a) Describe type-I and type-II hypersensitivity reaction with suitable example. 6+1

(b) What is postzone phenomenon ?

Or

(a) Discuss different possible ways of escaping immunity by tumor cells.

(b) What is the principle of counter-immuno-electrophoresis ?

(c) What do you mean by Hemalayan Fantasy ? 3+2+2

(Serology)

Module-II

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

(a) What do you know about the gender variation of RA ?

(b) The RA-factor most often associated with :

(i) IgA ;

(ii) IgG ;

(iii) IgM.

(c) Write an example of DNA and RNA virus.

(d) Write the full form of CCP.

(e) Write the names of two SLE associated antibodies.

(f) What is titer ?

(g) How you can avoid heat inactivation of serum ?

(h) What would be the status of IgG & IgM in secondary dengue ?

5. (a) How HIV destroy the T-hoper cells after invasion in the body?

(b) What would be the possible pattern of result of Western Bolt analysis in case of HIV detection?

(c) Write the clinical significance of CD_4^+ detection.

4+2+2

Or

(a) Describe the immunological basis of generation of RA.

(b) How do you detect the possibility of bone degeneration in RA? Write the principle of the test? 5+(1+2)

6. (a) Describe the ELISA technique briefly for Taxoplasma IgG detection by flow chart.

(b) What is the basic difference in the principle of IgG & IgM detection by ELISA in case of toxoplasmosis detection?

(c) How do you interpret the result of the taxoplasma detection in newborn baby?

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

Or

(a) What is the meaning of the term of 'non-specific' test in case of syphulis detection?

(b) Write the principle of FTA-abs test in syphilis detection.

(c) Write the clinical significance of HS-CRP test.

(d) Write the name of different tests for secondary syphilis.

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

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