



MAJ-003-038301 Seat No. _____

**B. Voc. (Medical Laboratory & Molecular
Diagnostic Technology) (Sem. III) (CBCS) Examination**
October / November – 2016
MLMDT-3.1 : Immunology & Serology

Faculty Code : 003
Subject Code : 038301

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) Figures on right indicate marks.

1 Answer the following : 20×1=20

- (1) Define adjuvants.
- (2) What is second line of defense system?
- (3) What is innate immunity?
- (4) Define antigen.
- (5) What does Fab in antibody structure stand for?
- (6) What is Bence-Jones protein?
- (7) Give full form of FRs.
- (8) How many polypeptide chains make up MHC class I?
- (9) Which end of the molecule is anchored to the cell membrane, and which end binds to the TCR?
- (10) Where are the major histocompatibility complex molecules located in reference to the cells?
- (11) How granzymes are involved in fragmentation of target cell ?
- (12) What are the substrates for C1s ?
- (13) What is the function of membrane attack complex?

- (14) The C4 and C2 complement components are present in the serum in a functionally inactive proenzyme form. T/F
- (15) Allergies to sea foods and eggs etc. is an example of which type of hypersensitivity?
- (16) Grave's disease is an example of _____ disease.
- (17) Give two names of vaccine preventable diseases.
- (18) What is DNA vaccine?
- (19) Which enzyme is used in ELISA test?
- (20) Define agglutination reaction.

2 (a) Answer in brief : (any 3) 3×2=6

- (1) How antigenicity differs from immunogenicity?
- (2) Why IgE is called as reaginic antibody?
- (3) What are the two phases of Tc immune response?
- (4) What are the characteristics of innate immunity?
- (5) Which factors increases expression of class I MHC molecules?
- (6) Write two points of difference between Humoral and Cell mediated immunity.

(b) Answer in brief : (any 3) 3×3=9

- (1) List the primary lymphoid organs and summarize their functions in the immune response.
- (2) Why Fab arm is always made up of variable region?
- (3) Describe peptide binding groove formed by Class I MHC molecule.
- (4) Describe Alternate pathway of complement activation.
- (5) In humoral immunity, Primary and Secondary Responses Differ Significantly. Justify.
- (6) Explain the immunological functions of spleen?

(c) Answer in brief : (any 2) **2×5=10**

- (1) A note on innate immunity.
- (2) Describe Stages of CTL-mediated killing of target cells.
- (3) Write a giving well labelled diagram explain Structure of Class II MHC molecule.
- (4) An essay on primary structure of immunoglobulin.
- (5) Compare and contrast Endocytic and Cytosolic pathways of antigen presentation.

3 (a) Answer in brief : (any 3) **3×2=6**

- (1) What is the mediator of type I hypersensitivity? Give the examples.
- (2) Enlist the autoimmune disorders.
- (3) What are Recombinant Vaccines?
- (4) Enlist types of vaccines with examples.
- (5) What is prozone effect?
- (6) Enumerate applications of ELISA.

(b) Answer in brief : (any 3) **3×3=9**

- (1) What is transplantation? Give its types.
- (2) Explain immunodeficiency.
- (3) Key points for designing vaccine for active immunization.
- (4) What do you mean by live attenuated vaccine?
- (5) What is agglutination inhibition? Explain its significant application.
- (6) Differentiate between affinity and avidity.

(c) Answer in brief : (any 2)

2×5=10

- (1) Note on Active and Passive Immunization.
- (2) Discuss different types of ELISA.
- (3) Note on Western blotting.
- (4) Discuss hypersensitivity reactions with examples.
- (5) Discuss the role of histocompatibility antigen in organ transplantation.
