



PA-003-1016037 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March / April - 2020

Biochemistry : Paper - 602
(Immunology)

Faculty Code : 003

Subject Code : 1016037

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

[Total Marks : 70]

1 (A) Answer the following questions very briefly or in a one word or in a line : 4

- (1) Write the types of acquired immunity.
- (2) Define the term immune response.
- (3) Write the full form of MHC.
- (4) Write the characteristics of adaptive immunity.

(B) Answer the following question in brief : (Any One) 2

- (1) Briefly explain Artificially Acquired Immunity.
- (2) Explain the process of phagocytosis.

(C) Answer the following question in detail : (Any One) 3

- (1) Draw the diagram showing the activation of T_H cell.
- (2) Write a brief note on Cell-Mediated response.

(D) Answer the following question : (Any One) 5

- (1) Explain the structure of MHC class II and its interaction with the antigenic peptide.
- (2) Write a detail note on innate immunity.

2 (A) Answer the following questions very briefly or in a one word or in a line : 4

- (1) Write the three important areas of lymph node.
- (2) Write the factors affecting antigenicity of immunogen.
- (3) Write the difference between primary and secondary lymphoid organs.
- (4) Define the term Hinge region.

(B) Answer the following question in brief : (Any One) 2

- (1) Write the difference between epitopes and paratopes
- (2) Write the examples of generative lymphoid organs.

(C) Answer the following question in detail : (Any One) 3

- (1) Draw the well labelled diagram of immunoglobulin.
- (2) Write a brief note on dendritic cell.

(D) Answer the following question : (Any One) 5

- (1) Write a detail note on immunoglobulin IgG.
- (2) Write a note on Thymus with appropriate illustration.

3 (A) Answer the following questions very briefly or in a one word or in a line : 4

- (1) Two separate rearrangement events in heavy chain is
 - (a) D-J joining then V-DJ joining
 - (b) D-V joining then V-DJ joining
 - (c) J-V joining then V-DJ joining
 - (d) V-DJ joining then D-J joining
- (2) Write the difference between classical and alternative pathway.
- (3) _____ is the full form of ELISA.
- (4) What do you understand by avidity and affinity of antigen antibody reaction?

(B) Answer the following question in brief : (Any **One**) **2**
(1) Write the difference between agglutinin and precipitin.
(2) Why ELISA is better than RIA ?

(C) Answer the following question in detail : (Any **One**) **3**
(1) Explain double diffusion in two dimensions.
(2) Write the various factors affecting antigen-antibody reaction.

(D) Answer the following question : (Any **One**) **5**
(1) Write a note on Activation of complement system by Alternate pathway.
(2) Explain the gene rearrangement in kappa type light chain.

4 (A) Answer the following questions very briefly or in a one word or in a line : **4**
(1) Antibodies against the DNA are the characteristic feature of _____.
(a) SLE
(b) Hashimotoe's thiroiditis
(c) IDDM
(d) All
(2) Hemolytic disease of newborn is the example of which type of hypersensitivity?
(3) Define : Degranulation of mast cell
(4) Define tumor antigens.

(B) Answer the following question in brief : (Any **One**) **2**
(1) Write names of cells which can kill the tumor cells effectively.
(2) Write the difference between type-I and type-II hypersensitive reaction.

(C) Answer the following question in detail : (Any **One**) **3**

- (1) What is Autoimmunity? Write the differences between systemic and organ specific autoimmune diseases.
- (2) Write a note on Hashimoto's Thyroiditis

(D) Answer the following question : (Any **One**) **5**

- (1) Write any two clinical conditions associated with Type I hypersensitive reactions.
- (2) Write a detail note on Multiple Sclerosis.

5 (A) Answer the following questions very briefly or in a one word or in a line : **4**

- (1) Write the full form of TAP.
- (2) The process of weakening of antigen for vaccine preparation is called _____
- (3) Which test is used to diagnose the HIV positive?
- (4) Write the full form of BCG.

(B) Answer the following question in brief : (Any **One**) **2**

- (1) What do you mean by recombinant Vector vaccine?
- (2) Which surface molecules are present on HIV?

(C) Answer the following question in detail : (Any **One**) **3**

- (1) Draw the diagram showing the maturation of MHC Class I molecule
- (2) Write a note on Attenuated vaccine..

(D) Answer the following question : (Any **One**) **5**

- (1) Explain endocytic pathway of antigen processing and presentation using the labelled diagram.
- (2) Write the modes of infection of HIV.