



PBM-1603220001030400 Seat No. _____

B. Sc. (Bioinformatics) (Sem. III) (CBCS) Examination

November / December - 2018

BI - 304 : Immunology and Immunotechnology
(New Course)

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

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) The right side figure indicates total marks of the question.

- 1 The following questions from Unit - 1 14
- (a) Attempt the following objective questions. 4
- (1) Acute inflammation can be initiated by which type of specific cells ?
- (2) Large vesicle containing ingested particulate material by phagocytic cell is known as _____.
- (3) A plasma cell secretes antibody of a single specificity related to that on the surface of the parent B cell (True or false) ?
- (4) White blood cells that migrate to tissue and play an important role in the development of allergies ?
- (b) Attempt any **one** out of two from the following : 2
- (1) Define Immunity.
- (2) Germinal centre
- (c) Attempt any **one** out of two from the following : 3
- (1) Write barriers of innate immunity.
- (2) Write characteristics of Immune response.
- (d) Attempt any **one** out of two from the following : 5
- (1) Give a note on secondary lymphoid organ, and explain in detail any one of them.
- (2) Give details of cells of immune response

- 2 The following questions from Unit - 2 14
- (a) Attempt the following objective questions. 4
- (1) Avidity is a measure of the strength of the binding of antigen to antibody. (True or False) ?
 - (2) Cleavage of IgG by pepsin produces _____ and 1 Fc fragment.
 - (3) Which antibody is present in milk and saliva ?
 - (4) Which antigen decides positive or negative type of blood ?
- (b) Attempt any one **out** of two from the following : 2
- (1) Blood grouping.
 - (2) Description of antigen.
- (c) Attempt any one **out** of two from the following : 3
- (1) Give details on Immunodiffusion techniques.
 - (2) Sequencing of immunoglobulins polypeptide chains.
- (d) Attempt any **one** out of two from the following : 5
- (1) Factors affecting immunogenicity by immunogen.
 - (2) Give details on precipitation reaction.
- 3 The following questions from Unit - 3 : 14
- (a) Attempt the following objective questions : 4
- (1) CD8 molecules bind with type _____ MHC molecules and are found on (expressed by) _____ cells.
 - (2) MHC class II molecules are made up of two chains called _____, whose function is to bind peptides and present them to _____ T cells.
 - (3) Comparing the arrangement of TCR genes and BCR genes, the _____ chain is analogous to the heavy (H) chain and the _____ chain is analogous to the light (L) Chain.
 - (4) The majority of T cells have receptors with $\gamma:\delta$ chains. (True or False) ?

- (b) Attempt any **one** out of two from the following : **2**
- (1) Stromal cell.
 - (2) Structure of BCR and TCR.
- (c) Attempt any **one** out of two from the following : **3**
- (1) B cell receptor.
 - (2) Write about B-cell activation.
- (d) Attempt any **one** out of two from the following : **5**
- (1) MHC classification and function.
 - (2) Explain in detail Maturation process of T-cell.
- 4 The following questions from Unit 4 **14**
- (a) Attempt the following objective questions. **4**
- (1) Hypothyroidism is due to blocking of _____ and _____ protein of thyroid.
 - (2) SLE is organ specific autoimmune disease. (True of False) ?
 - (3) Type I hypersensitive reaction is induced by certain types of antigens referred to as _____
 - (4) Activation of the alternative and lectin pathways is _____ independent.
- (b) Attempt any **one** out of two from the following : **2**
- (1) What is opsonisation ?
 - (2) Allergy
- (c) Attempt any **one** out of two from the following : **3**
- (1) GVHR
 - (2) Explain systematic autoimmune disease with one example.
- (d) Attempt any **one** out of two from the following : **5**
- (1) Give notes on HLA typing and complication in Transplantation.
 - (2) Write functions of complement system with explanation of Classical pathway.

- 5 The following questions from Unit - 5 14
- (a) Attempt the following objective questions : 4
- (1) A blood test done to diagnose typhoid is _____
 - (2) TB can be transmitted from person to person through touching or sharing plates/cups (True or False) ?
 - (3) The first vaccine was developed by _____.
 - (4) Plasmodium vivax is most common of the human infecting malarial parasite (True or False) ?
- (b) Attempt any **one** out of two from the following : 2
- (1) HGPRT
 - (2) Attenuation
- (c) Attempt any **one** out of two from the following : 3
- (1) Explain toxoid and polysaccharide vaccine.
 - (2) Draw the life cycle of malarial causative agent, and write the curing measures.
- (d) Attempt any **one** out of two from the following : 5
- (1) Explain types of vaccine and give details on recombinant and DNA vaccine.
 - (2) Write about causative agent, symptoms, precautions and cure of Rabis.
-