



JAR-1603220001030400 Seat No. _____

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

December - 2019

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 are from Unit-1 14
- (A) Attempt the following objective Questions : 4
- (1) What is Immunity?
- (2) Give the name of granulocytic cells .
- (3) Cell mediated immunity carried out by _____ while humoral immunity is carried out by _____
- (4) Role of Antigen Presenting Cell (APC) in immunity
- (B) Attempt any **one** out of two from the following : 2
- (1) Define Adjuvants, with example.
- (2) Structure of lymph node
- (C) Attempt any **one** out of two from the following : 3
- (1) Explain cell mediated immunity
- (2) Explain lymphoid lineage
- (D) Attempt any **one** out of two from the following : 5
- (1) Give a note on primary lymphoid organs, and explain with neat diagram.
- (2) Barriers of innate immunity

- 2** The following questions are from Unit-2 : **14**
- (A) Attempt the following objective Questions : **4**
- (1) Full form of SCID
 - (2) Full form of ELISA
 - (3) Immunoglobulin are produced by _____ cell
 - (4) Immunoglobulin _____ can cross the placenta
- (B) Attempt any **one** out of two from the following : **2**
- (1) Differentiate between Antigenicity and Immunogenicity
 - (2) Explain affinity and avidity
- (C) Attempt any **one** out of two from the following : **3**
- (1) Explain Lattice hypothesis
 - (2) Structure of Immunoglobulin
- (D) Attempt any **one** out of two from the following : **5**
- (1) Write an account on various modes of ELISA method
 - (2) Explain the diversity of antibody associated with immune response gene
- 3** The following questions are from Unit-3 : **14**
- (A) Attempt the following objective Questions : **4**
- (1) Full form of MHC molecule
 - (2) CD4 molecules bind with _____ MHC molecules and are found on (expressed by) _____ cells.
 - (3) During the negative selection of T-cells in the thymus T-cells that recognize 'self' antigens undergo apoptosis (True or false)
 - (4) Where TCR rearrangement occurs in body?

- (B) Attempt any **one** out of two from the following : 2
- (1) What is Thymic selection
 - (2) T-independent B cell
- (C) Attempt any **one** out of two from the following : 3
- (1) B cell receptor and co-receptor
 - (2) Affinity of Tc cell for MHC I molecule
- (D) Attempt any **one** out of two from the following : 5
- (1) Explain in detail Maturation and Class-switch process of B-Cell
 - (2) MHC classification and function
- 4 The following questions are from Unit-4 : 14
- (A) Attempt the following objective Questions : 4
- (1) What is Graft?
 - (2) Type I hypersensitive reaction is induced by certain types of antigens referred to as?
 - (3) What is ADCC?
 - (4) Rheumatoid arthritis is _____ disease
- (B) Attempt any **one** out of two from the following : 2
- (1) What are opsonins?
 - (2) Define Apoptosis
- (C) Attempt any **one** out of two from the following : 3
- (1) Explain Grave's disease
 - (2) What is Graft rejection mechanism?
- (D) Attempt any **one** out of two from the following : 5
- (1) Write functions of complement system with explanation of Alternative pathway.
 - (2) Write notes on IgE Mediated hypersensitivity.

- 5 The following questions are from Unit -5 : 14
- (A) Attempt the following objective Questions : 4
- (1) Full form of HIV
 - (2) Typhoid vaccine can be administered orally as capsules (True or False)
 - (3) The family of rabies is _____ the genus is _____
 - (4) Tuberculosis is caused by _____
- (B) Attempt any **one** out of two from the following : 2
- (1) Symptoms of typhoid
 - (2) Characteristics of vaccines
- (C) Attempt any **one** out of two from the following : 3
- (1) DNA vaccine
 - (2) Explain the mechanism of rabies virus spread from wound to brain
- (D) Attempt any **one** out of two from the following : 5
- (1) Write about causative agent, symptoms, diagnosis, precautions and cure of Tuberculosis.
 - (2) Explain hybridoma technology of monoclonal antibody production. Write applications of monoclonal antibody.
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