

NAN-003-001637 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination March / April - 2017 Biochemistry: 602 (Immunology)

Faculty Code : 003 Subject Code : 001637

Time : $2\frac{1}{2}$ Hours] [Total Marks : 70]

SECTION-I

- 1 Write all the answers very briefly: $1\times20=20$
 - (1) Define the term Immunogen and immunogenicity.
 - (2) Write the difference between agglutinin and agglutinogen.
 - (3) What you understand by the term haptens?
 - (4) Write the name of complements which participate in alternative pathway.
 - (5) Write the difference between endoeneous and exogeneous antigen.
 - (6) Which immunoglobulins does not have hinge region?
 - (7) Write the disadvantages of RIA technique.
 - (8) Full form of AIDS is _____.
 - (9) Type -IV hypersensitive reaction is also known as ______.
 - (10) How many $J_{\lambda}, V_{\lambda}, J_{\lambda}$ gene segments are present in k-Chain Multigene Family in mouse ?
 - (11) Write the characteristics of adaptive immunity.
 - (12) Write the functional role of TAP.
 - (13) Write the significance of HLA-DM.
 - (14) Write the types of macrophages on the basis of their locations.

- (15) How NK cells differ from Tc cells?
- (16) What do you understand by the term stimulatory antibodies?
- (17) Write the names of the products of HLA gene complex.
- (18) Define passive immunity.
- (19) What do you understand by inactivated vaccine?
- (20) What is the role of anatomical barrier?

SECTION - II

- 2 (a) Answer any three from the following: $3\times2=6$
 - (i) Explain the adjuvants and write any two examples.
 - (ii) Differentiate BCR and TCR.
 - (iii) Write the properties of immunoglobulin.
 - (iv) Write about pernicious anemia.
 - (v) Why ELISA is better than RIA?
 - (vi) Write briefly about cytokines.
 - (b) Answer any three from the following: $3\times3=9$
 - (i) Explain briefly with diagram Helper T cells.
 - (ii) Explain the enzymatic digestion of immunoglobulin.
 - (iii) Write a note on : SLE.
 - (iv) Explain Opsonization with diagram.
 - (v) Write a note on MALT.
 - (vi) Write the principle of precipitation reaction and explain the various zone of Precipitation reaction.
 - (c) Answer any two from the following: $2\times5=10$
 - (i) How will you define complements? Explain classical pathway of complement system.
 - (ii) Explain endocytic pathway of antigen processing and presentation only by using diagram.
 - (iii) Write a detailed note on type-I Hypersensitive reaction.
 - (iv) Explain multi valent vaccine.
 - (v) Explain the various types of ELISA.

- 3 (a) Answer any three from the following: $3\times2=6$
 - (i) Define the term partial-identity with diagram in antigen antibody reaction.
 - (ii) Explain the term: Naturally acquired passive immunity.
 - (iii) Write the importance of ${\bf C}_3$ complements in complement system.
 - (iv) Write the role of Anchor residue in antigen presentation.
 - (v) Write the various mode of HIV transmission.
 - (vi) Define self antigen.
 - (b) Answer any **three** from the following: 3×3=9
 - (i) Explain Grave's disease.
 - (ii) Explain Immune Complex-Mediated hypersensitive reaction with any one example.
 - (iii) Write the differences between attenuated and inactivated vaccine.
 - (iv) Write a detailed note on RID.
 - (v) Write a note on toxoid vaccine.
 - (vi) Explain the term affinity and avidity in antigen antibody reaction.
 - (c) Answer any two from the following: $2\times5=10$
 - (i) Explain multigene organization of Ig genes in human.
 - (ii) Explain inflammation with diagram.
 - (iii) Write a note on processing of intracellular protein with illustration.
 - (iv) Write a note on Clonal expansion.
 - (v) Explain complement fixation test in detail.