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S. No. of Question Paper : 1394
Unique Paper Code : 2231503
Name of the Paper : 16, Immunology
Name of the Course : B.Sc. (Hons.) Zoology (Erstwhile FYUP)
Semester : V
Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all.
Question No. 1 is compulsory.

1. (a) Define :

(i) Prozone effect
(ii) Idiotype
(iii) Anaphylatoxin
(iv) Avidity
(v) Bence Jones Proteins

(b) Write the contribution of :

(i) R.R. Porter and G.H. Edelman
(ii) S.A. Berson and Rosalyn Yalow.
(c) Expand the following:

(i) MBL

(ii) BALT

(iii) PAMP

(iv) ADCC

(v) HEL

(d) Give reasons for the following:

(i) Polymers of D-amino acids are poor immunogens

(ii) IgM isotype cannot cross the placental barrier

(iii) High level of diversity in MHC molecules.

(e) Distinguish between:

(i) Active Immunization and Passive Immunization

(ii) Innate Immunity and Adaptive Immunity

(iii) Hypersensitivity I and Hypersensitivity II

(iv) Cytokines and chemokines

(v) Macrophage and Dendritic cell

(vi) Indirect and Sandwich ELISA.

2. (a) Write the steps of inflammatory response when skin as an anatomical barrier is broken.

(b) Explain the role of B cells in eliciting humoral response.
3. (a) Diagrammatically represent the structure of an Antibody.
   (b) Compare IgA and IgE.
   (c) Write the clinical uses of monoclonal antibody.

4. (a) Explain how exogenous antigen is processed and presented.
   (b) Write the functions of complement system.
   (c) How is initiation of classical pathway different from alternate pathway?

5. (a) Define Major Histocompatibility Complex. Differentiate between the structure and function of MHC I and MHC II molecules.
   (b) Describe the structures of Spleen.

6. (a) Discuss in detail different types of vaccines and their immune response.
   (b) Diagrammatically represent hematopoiesis.

7. Write short notes on any three of the following: 3×4=12
   (a) Radioimmunoassay
   (b) Properties of Cytokines
   (c) Non-covalent interactions of Ag-Ab
   (d) Adjuvants.