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M.Sc. (Bio-Informatics) Second Semester

MBIN-8010: Immunology and Cell Biology

Time allowed: 3 Hours   Max. Marks: 60

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting atleast one question from each Unit.*

x-x-x

I.   Answer the following briefly:

   a) Granulocytes

   b) IL-2

   c) Class switch

   d) RAS

   e) Plasma cell

   f) Vesicular budding

   g) T-Suppressor cell

   h) Immune tolerance   (8x1½)

UNIT – I

II.   a) Give details of types and origin of lymphocytes along with their differentiation process.

   b) Write a note on the generation of antibody diversity.   (7,5)

III. a) What do you know about thymus derived cells and their classification.

   b) Describe the structure and characteristics of IgG and IgM immune-globulins. (7,5)

UNIT – II

IV.   a) How the generation of humoral and cell mediated response takes place.

   b) Define Hypersensitivity. Give a comparison of the types of hypersensitivities. (6,6)

V.   a) Describe the production and applications of monoclonal antibodies.

   b) What are the types of transplantation? Which factors are responsible for rejection of graft?   (6,6)

P.T.O.

UNIT – III

VI. a) How does nutrients move across the membrane? Explain the methods involved with examples.

  b) How cell cycle is regulated? Explain.   (6,6)

VII. Write note on the following:-

  a) Protein targeting to the mitochondria

  b) Signal transduction GPCR mechanism   (6,6)

x-x-x