

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-Vth Examination December 2010****Subject code: 150402****Date: 15 /12 /2010****Subject Name: Immunology****Time: 03.00 pm - 05.30 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) List the primary lymphoid organs and summarize their functions in the immune response with neat diagram of each. **07**

(b) Explain the type of hypersensitivity response mediated by IgG and IgM. **07**

Q.2 (a) Outline the principle, procedure and modifications of ELISA. **07**

(b) Draw a schematic diagram of a typical IgG molecule and label each of the following parts: H chains, L chains, interchain disulfide bonds, intrachain disulfide bonds, hinge, Fab, Fc, and all the domains. Indicate functions of any three domains. **07**

OR

(b) Indicate the basic features of a substance to qualify as an immunogen. Indicate with yes/no whether genetic constitution of a recipient can be responsible for the immunogenicity. **07**

Q.3 (a) Innate and adaptive immunity act in cooperative and interdependent ways to protect the host. Discuss the collaboration of these two forms of immunity. **05**

(b) Distinguish between (a) antigen (b) immunogen (c) allergen **03**

(c) Differentiate between different hypersensitivity response. **06**

OR

Q.3 (a) Write a short note on Apoptosis. **05**

(b) Distinguish between (a) allotype (b) idiotype (c) isotype **03**

(c) Differentiate between precipitation and agglutination reaction between immune complexes. **06**

Q.4 (a) What are the advantages and disadvantages of using attenuated organisms as vaccines? **04**

(b) Draw Hematopoietic chart and enlist functions of all the cells of immune system in detail. **05**

(c) Describe the events of the late stage common to both the classical and alternate pathways, starting from formation of C5 convertase. **05**

OR

Q.4 (a) Write a short note on Recombinant vector vaccine with an example. **04**

(b) Explain hybridoma technology in detail with significance of each and every component. **05**

(c) Give a comparative account of the initial step in complement activation through classical and alternative pathways. **05**

Q.5 (a) Write a short note on sexually transmitted disease. **05**

(b) State principle of radioimmunoassay. **06**

(c) Explain briefly paratope and epitope **03**

OR

Q.5 (a) Write a short note on airborne disease. **05**

(b) Write a short note on Transplantation technology **06**

(c) Explain briefly affinity and avidity. **03**
