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**M.Tech.(Bio Tech.) (Sem.-2)****APPLIED IMMUNOLOGY****Subject Code : MTBT-102****M.Code : 23002****Time : 3 Hrs.****Max. Marks : 100****INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q.1 a) Summarize the adaptive immune reactions that takes place in controlling bacterial infections.
- b) Write about the immunological privileged sites.
- c) Discuss the graft versus host reactions.
- Q.2 a) Describe the important steps of western blotting. Write the application of western blotting.
- b) Discuss the biosensor assay which is used to assess the interaction of ligand and receptor?
- Q.3 a) Explain the hypersensitive reaction which is associated with serum sickness.
- b) Discuss **any two** cancer immunotherapy approaches.
- Q.4 a) There is recent trend in peptides based vaccines. How these vaccine are prepared? Write the role of HLA in consideration of peptide vaccine.
- b) With examples, explain the role of adjuvants.
- c) How conjugate vaccines are prepared?
- Q.5 a) Discuss the different basis of graft rejection.
- b) Describe the different phenomenon by which tumor gets evaded from immune system?





- Q.6 a) Write the role of different interleukins.
- b) Mention the role of different molecular chaperons in class I MHC stabilization.
- c) How super-antigen works? Also give examples.
- d) Write on hapten carrier system.
- Q.7 a) Describe the different steps involved in ELISA. Also explain competitive ELISA.
- b) Differentiate between active and passive immunization.
- c) How chimeric antibody is generated?
- Q.8 a) How T helper is associated with B cell activation? Also write about ADCC.
- b) Write about the affinity maturation.
- c) Discuss the Tonegawa and Nozumi's contribution in antibody diversity.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**

