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**M.Tech. (Bio Tech) (2018 Batch) (Sem.-2)****APPLIED IMMUNOLOGY****Subject Code : MTBT-201-18****M.Code : 76047****Time : 3 Hrs.****Max. Marks : 60****INSTRUCTIONS TO CANDIDATES :****1. Attempt any FIVE questions out of EIGHT questions.****2. Each question carries TWELVE marks.**

1. What are cytokines? Discuss the properties of different types of cytokines. Describe the role of cytokines in therapy.
2. What is flow cytometry? Describe the construction and working of a flow cytometer. What is FACS?
3. What is active and passive immunization? Describe the different types of vaccines with suitable examples.
4. What are tumors? Describe the different types of tumors. What are the major changes in surface antigens associated with development of tumors?
5. What is the significance of complement system? Write a note on complement activation and regulation.
6. Describe the structure of an immunoglobulin. What is the role of different classes of immunoglobulins? What is the basis of antibody diversity for antigen recognition? Explain.
7. (a) Define autoimmunity. What are the major factors contributing to autoimmune disorders?  
(b) Briefly describe the mechanism of cell-mediated immune response.
8. Write short notes on :  
(a) Surface Plasmon Resonance Imaging in immunodiagnostics.  
(b) Chimeric monoclonal antibodies

**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.**

