

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(BT) (2011 Onwards) (Sem.-5)**  
**IMMUNOLOGY AND IMMUNOTECHNOLOGY-II**

Subject Code : BTBT-502

Paper ID : [A2074]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION-A****1) Write briefly :**

- a) Receptor editing
- b) Thymus independent B cell activation
- c) Fas pathway of cytotoxic T cell response
- d) Inflammatory mediators
- e) Primary immunodeficiency
- f) Xenograft
- g) Serum sickness
- h) Interleukins
- i) Immunologically privileged sites
- j) Hyperacute rejection

### SECTION-B

- 2) Mention the different properties of cytokines.
- 3) Why AIDS is considered as secondary immunodeficiency? Write about the asymptomatic phase of HIV infection.
- 4) How the activation of classical pathway and alternate pathway of complement system is different? Write the last steps of both pathways.
- 5) How molecular mimicry is associated with the development of autoimmune diseases?
- 6) Diagrammatically, explain the different steps of leukocyte migration.

### SECTION-C

- 7) What are different types of tumor antigens? How immune system prevents the development of cancer?
- 8) Discuss the types of hypersensitive reaction which are caused due to IgG, IgM and IgE.
- 9) Describe sensitization and effector phase of the allograft rejection. How HLA typing is being carried out?