

**SARDAR PATEL UNIVERSITY**  
**Programme: BSC (BIOTECHNOLOGY)**  
**Semester: V**  
**Syllabus with effect from: June 2012**

|                                   |                      |
|-----------------------------------|----------------------|
| <b>Paper Code:</b> US05CBIT04     | <b>Total Credit:</b> |
| <b>Title Of Paper:</b> Immunology |                      |

| Unit     | Description in detail   | Weighting (%) |
|----------|---|---------------|
| <b>1</b> | Antigen - Antibody interactions - Agglutination, precipitations, immunodiffusion, immuno electrophoresis, CFT, ELISA- Introduction, principle and types. Radio immuno assay, comparative account of RIA and ELISA.  |               |
| <b>2</b> | B and T lymphocytes, Development, activation and differentiation of B and T cell. Cell mediated immunity - NK cells mechanism of Action & importance. Cytokines (IL-2, TNF- $\alpha$ and $\beta$ , chemokines and Interferons) introduction and role of cytokines in immune response. |               |
| <b>3</b> | Complement system - function, components and activation of different pathways. Immunodeficiency- primary and secondary.   |               |
| <b>4</b> | Major Histocompatibility complex structure, types, and functions. Transplantation - introduction, Graft rejection, hyper sensitivity. Autoimmunity, Introduction and types. Vaccines- introduction and types.   |               |

**Basic Text & Reference Books :**

- Genes - Levin.
- Essential Immunology - Roit
- Immunology - Kuby
- Molecular biology of the gene - Watson

