

SARDAR PATEL UNIVERSITY
Programme: BSC (GENETICS)
Semester: V
Syllabus with effect from: June 2013

Paper Code: US05CGEN05	Total Credit: 3
Title Of Paper: Immunogenetics	

Unit	Description in detail	Weighting (%)
1	DIAGNOSTIC IMMUNOLOGY Introduction to Antigen-Antibody, Epitopes, Haptanes, Adjuvant, Immunoglobulin structure and classes, Antigen-Antibody reactions : Agglutination, Precipitation, Complement fixation tests, Radioimmunoassay: Enzyme Linked Immunosorbent assay, Immunofluorescence, Immunoelectrophoresis	
2	GENETICS OF Ab DIVERSITY BCR & TCR, Clonal-selection theory, Genetic basis of Antibody diversity, Theories for Antibody diversity, Means for Antibody diversity, Rearrangement and expression of immunoglobulin genes, Monoclonal antibodies, Hybridoma technology	
3	MHC, CYTOKINES & TRANSPLANTATION Phagocytosis & inflammation, MHC-structure, function & types, Antigen processing & presentation, complement system-Alternative & classical pathway, and their role in immune response, Transplantation and Immunosuppression	
4	IMMUNE SYSTEM IN HEALTH AND DISEASE Hypersensitivities, Autoimmunity and mechanism of generation of auto immune disorders, Immunodeficiencies [Primary and Acquired immunodeficiency] SCID & AIDS, Vaccines: introduction, types [live, attenuated, toxoid, edible, non edible, recombinant] and importance.	

Basic Text & Reference Books:

- Essentials of Immunology - Roitt, Blackwell Scientific Publications
- Immunology - Janis Kuby, W.H. Freeman & Co.
- Immunology and Serology- Philip L. Carpenter. 3rd Ed, Harcourt College Publishers
- Immunology - C.V. Rao, Narosa Publishers.
- A Textbook of Immunology & Immunotechnology - B. Annadurai, S. Chand & Company Ltd.

