

Unit-I**(14 h)**

Concepts, general structure of Immunoglobulins, antibody classes, functions, antigenic determinants (epitopes) on Igs, monoclonal and polyclonal antibodies, hybridoma technology for monoclonal antibody productions and applications, humanized monoclonal antibodies, **Immunological methods** for the preparation of serum and plasma, preparation of antigens from pathogenic bacteria, flagellar antigens, capsular antigens,

Unit-II**(14 h)**

Purification of Immunoglobulins, enzyme tagging to Igs, purification of antigens and antibodies by affinity chromatography Immunoprecipitation techniques-ring test, flocculation test, Immunodiffusion in gel-ouchterlony double diffusion, radial diffusion, Immuno-electrophoresis-Laurell's rocket immuno-electrophoresis, western blotting techniques, Immunofluorescence –direct and indirect ,cell staining for immunofluorescence,

Unit-III**(12 h)**

Immunoassay techniques-ELISA, RIA, Isolation methods of lymphocytes-antibody coated magnetic beads, flow cytometry, isolation of dendritic cells, culture of macrophages, cell viability-trypan-blue method, Fluorescein method, Immunologic Basis of Graft Rejection_ **Clinical Manifestations of Graft Rejection**, Immunosuppressive Therapy, Immune Tolerance to Allografts