

Girraj government college ,(autonomous),nizamabad

B.ScIII year syllabus

Semester: v

Subject: biochemistry

Module:VII(elective)-(immunology and immunological techniques)

UNIT-I cells and organs of immune system

Organs of immune system : primary and secondary lymphoid organs, cells of immune system –lymphoid cells,stem cells, Band T lymphocytes , null cells , mononuclear cells ,granulocytic cells.

UNIT-II TYPES OF IMMUNE SYSTEM

Immunity : innate immunity (non specific –anatomic barriers, physical barrier, phagocytic,inflammatory) Adaptive(specific immunity- humoral and cell mediated response,);recognition of antigen by B and T lymphocytes. Processing and presentation of antigens,clonal selection of lymphocytescellular interaction for generation of humoral and cell mediated response.

Vaccine :active and passive immunization ,types of vaccines.

UNIT –III ANTIGEN , ANTIBODY ANF THEIR INTERACTION

Antigen :factors that influence immunogenicity ,epitope,haptens,immunoglobulins- structure of immunoglobulin,classes of immunoglobulin and their functions. antigen determinants of immunoglobulins.Monoclonal antibodies and its production. Abzymes. Antigen-antibody interactions : precipitation , agglutination , ELISA, RIA, Immunoprecipitation, Immunofluorescence.T-CELL RECEPTORS, MATURATION, ACTIVATION AND DIFFERENTIATION. B cell receptors, maturation , activation and proliferation. Cytikinin – structure and function. Complement system_ the function of complement, complement activation.

UNIT-IV HYPERSENSITIVITY AND AUTOIMMUNE DISEASES

- Hypersensitivity –gell and coombs classification –IgE mediated Type I Hypersensitivity, Antibody mediated cytotoxic (Type II) Hypersensitivity , immune complex mediated (Type III) Hypersensitivity, TDTH mediated (Type IV) Hypersensitivity.

Autoimmune disease- definition : types of immune diseases like systemic lupus erythomatus, multiple sclerosis, rheumatoid arthritis, myasthenia garavis, insulin dependent diabetic mellitus.