Immunology BVOMLT-401

**UNIT I**

Introduction to Immunology Introduction and history of Immunology, Nonspecific Defense; Physical Barriers, Chemical Barriers, Phagocytosis, Inflammation, Fever, Types of Immunity, Active & Passive Immunity, Immunological memory, Primary & Secondary Lymphoid organs, Mucosa Associated Lymphoid tissue (MALT), Cutaneous Associated Lymphoid Tissue (CALT), Lymphocyte Traffic, Cells of immune system, Antigens; factors affecting Immunogenicity, epitopes, haptens.

**UNIT II**

Humoral Immunity Humoral Immune Response, Antibodies / Immunoglobulins, Structure, function and type of antibodies, Antigentic-combining regions of antibodies, factors influencing antibody production, Genetic model, Multigene Organisation, generation of antibody diversity.

**UNIT III**

Cell Mediated Immunity Cell Mediated Immune System, Mechanism of CMI, Types of effector T Cells, Helper T-cells, Suppressor, T-cells, cytotoxic T cells, Killer T cells, Cytokines, Lymphokines, Colony Stimulating factors, Tumour Necrosis factor, Interferons, Accessory cells (Macrophages), the Complement System, Classical and Alternate pathway, HLA, Monoclonal antibody technology and its applications, Interactions between B and T lymphocytes.

**UNIT IV**

Antigen-Antibody Interactions Antigen-Antibody Interactions : Precipitation reaction, Immunodiffusion test, counter current Immuno electrophoresis, complement fixation tests, Widal test, Wasserman’s test, Weil Felix reaction, Western Blotting, Types of vaccines