

B.Sc. III

Paper I

Immunology and Medical Microbiology

Unit 1. Innate and acquired immunity, humoral and cell mediated immunity, organs and cells involved in immune response, identification and characterization of T and B cells, MHC, antigen characteristics, types of antigens, adjuvants.

Unit 2. Humoral immune response, immunoglobulins – structure and properties, antibody diversity theories, monoclonal antibodies, antigen-antibody reactions, complement system.

Unit 3. Characterization and types of T cells, macrophage activation, cytokines, types of hypersensitivity, cell mediated toxicity, principles of serological test methods.

Unit 4. Diseases caused by specific bacterial pathogens: *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Mycobacterium*, *Salmonella*, *Vibrio*, *Clostridium*, *Enterobacter*, *Mycobacteria*, *Spirochaetes*, *Chlamydiae* and *Rickettsiae*.

Unit 5. Diseases caused by Viruses: HIV, Hepatitis, Rabies, pox, Herpes, oncogenic viruses. Diseases caused by protozoans: *Entamoeba histolytica*, *Plasmodium* species, *Trypanosoma*, *Leishmania*.

References:

1. B Annadurai. A textbook of Immunology and Immunotechnology. S. Chnd
2. R Ananthanarayanan and C K Panicker. Textbook of Microbiology. Orient Longman.

