

M.D.MICROBIOLOGY
(POST GRADUATE DEGREE STANDARD)

SUBJECT CODE:351

UNIT – I: GENERAL MICROBIOLOGY

1. History & Milestone in Microbiology
2. Microscopy
3. Sterilization and disinfection
4. Bio Safety in Microbiology Laboratory
5. Bacterial morphology
6. Staining of Bacteria
7. Nutrition and growth of Bacteria
8. Culture Media & Cultivation of Bacteria
9. Identification of Bacteria & Bacterial Classification
10. Normal Microbial flora
11. Bacterial Genetics

UNIT – II: IMMUNOLOGY

- 1 Immunity
- 2 Structures and functions of Immune system
- 3 Cells of Immune System
- 4 Immune Response/Immunity
- 5 Antigen
- 6 Antibody
- 7 The complement System
- 8 Antigen - Antibody reactions
- 9 Hypersensitivity
- 10 Auto Immunity
- 11 Histo-Compatibility complex
- 12 Transplantation Immunity
- 13 Tumour Immunity
- 14 Immuno Deficiency diseases
- 15 Immuno Hematology
- 16 Immuno Prophylaxis against infectious Diseases

UNIT – III: SYSTEMATIC BACTERIOLOGY

- 1 Staphylococcus
- 2 Streptococcus
- 3 Neisseria

- 4 Coryne bacteria .
- 5 Bacillus
- 6 Mycobacteria
- 7 Actinomyecetes & Nocardia
- 8 Coliform bacteria-Escherichia coli & kelsiella 9 Proteus
- 9 Salmonella
- 10 Shigella
- 11 Yersinia
- 12 Pasteurella & Francisella
- 13 Haemophilus
- 14 Bordetella
- 15 Brucella
- 16 V. Cholerae
- 17 Pseudomonas
- 18 Spirochetes
- 19 Rickettsiae
- 20 Chlamydia
- 21 Mycoplasma
- 22 Miscellaneous Bacteria

UNIT - IV PARASITOLOGY

- 1 Classification
- 2 General principles of Diagnosing parasites & treatment of parasitic infection .
- 3 *Protozoology*
Pathogenic and Non-pathogenic amoebae and free living amoebae
Intestinal ,Blood & Tissue flagellates Plasmodium, Toxoplasma, Isospora
- 4 Balantidium coli
- 5 *Helminthology*
Cestodes, Trematodes, Nematodes

UNIT - V GENERAL VIROLOGY

- 1 Classification of viruses
- 2 Replication of Viruses
- 3 Cultivation of Viruses
- 4 Identification of Viruses & Lab diagnosis
- 5 Pathogenesis & Host response to Viral infection
- 6 Bacteriophage
- 7 Antiviral Agents
- 8 Viral Vaccines

UNIT – VI: VIRUSES

- 1 Pox
- 2 Adeno
- 3 Herpes
- 4 Papova
- 5 Parvo
- 6 Picorna
- 7 Orthomyxo
- 8 Paramyxo
- 9 Rota virus
- 10 Rhabdovirus
- 11 Hepatitis
- 12 Arbo
- 13 Retro
- 14 Slow-viruses
- 15 Oncogenic virus
- 16 Miscellaneous virus

UNIT - VII Mycology

- 1 Classification of fungi
- 2 Fungal Mycotoxins
- 3 Pathogenesis & Lab diagnosis of Mycotic infections
- 4 Superficial Mycosis
- 5 Cutaneous Mycosis
- 6 Subcutaneous Mycosis
- 7 Systematic Mycosis
- 8 Opportunistic Mycosis and common lab contaminants
- 9 Antifungal Agents

UNIT- VIII Clinical Microbiology

- 1 C.N.S infection
- 2 Respiratory Infections
- 3 Urinary Tract Infection
- 4 Gastro intestinal Infection
- 5 Genital Tract Infection
- 6 Congenital Infection
- 7 Infections of Eye, Ear & Skin
- 8 Infections of Cardiovascular System
- 9 P.U.O
- 10 Zoonotic Infections

UNIT - IX Applied Microbiology

- 1 Collection ,Transport and Disposal of Specimens
- 2 Environmental Microbiology (Food, Water, Milk and Air)
- 3 Hospital Infections Prevention & Control
- 4 Microbial Control- anti microbial susceptibility testing
- 5 Bio medical waste management
- 6 Basic molecular biology related to infections
- 7 Emerging and reemerging infections - Bio Terrorism

UNIT - X Recent Advances in Microbiology

- 1 Advanced Molecular Techniques in Relation to Diagnosis of Infectious diseases
- 2 Scope of Medical Microbiology
- 3 Automation in Microbiology
- 4 Anti microbial resistance and antibiotic policy
- 5 Newer Vaccines
- 6 Quality Control, Audit and Accreditation of Standard Microbiology Laboratory
