

CLINICAL MICROBIOLOGY

Skill Based Elective I (Semester IV)

Clinical Bacteriology

Unit I

Historical development in Bacteriology, Classification of Pathogenic bacteria, General methods of isolation and identification of pathogenic bacteria.

Unit II

Infections associated with following Gram-positive bacteria – *Bacillus anthracis*, *Clostridium*, *Pneumococcus*, *Corynebacterium*, Streptococcal infections, Staphylococcal infections.

Unit III

Infections associated with following Gram-negative bacteria – Enterobacteriaceae – *Salmonella*, *Shigella*, *Klebsiella*, *Proteus*, *Yersinia* and *Escheichia*. *Vibrio*, *Pseudomonas*, *Neisseria*, *Haemophilus*, *Campylobacter*, *Bordetella*, *Brucella*.

Unit IV

Infections associated with *Mycoplasma*, *Mycobacterium tuberculosis* and *Mycobacterium leprae*. *Spirochetes* – *Treponema*, *Borrelia* and *Leptospira*. Actinomycetes. *Rickettsiae* and *Chlamydiae*.

Unit V

Nosocomial infections and Zoonotic diseases, Sterilization, disinfection and antimicrobial agents, culturing Techniques and sensitivity Testing; MPN count for water Quality.

References

Moselio Schaechter, Cary Engleberg, N.Barry I. Eisenstein, Gerald medoff. Mechanisms of microbial disease, 3rd ed, Lippincott Williams & Wilkins, 1999.
Ananthanarayan and Jayaram Paniker. Textbook of Microbiology, 4th ed. Orient Longman, 2000.
Mandel, G.L. Bennet, J.E. and Dolin, R. 1995. Principles and practice of infectious disease. 4th edi. Churchil Living stone. New York.

Skill Based Elective II (Semester V)

Clinical Mycology and Virology

Unit I

Classification of Medically important fungi. General identification process of medically important fungi.

Unit II

Detailed study about etiology, Lab diagnosis, Pathogenesis and Treatment of Superficial *Trichophyton* Systemic (Candidiosis) diseases of human.

Unit III

Classification of animal viruses. Isolation, Identification, Cultivation and Purification of animal viruses. Antiviral chemotherapy. Viral Zoonotic infection. Viral vaccines. Interferons.

Unit IV

DNA viruses- Poxvirus, Herpes virus, Adeno virus, Hepatitis B virus.

Unit V

RNA viruses – Retrovirus, Picorna virus, Reo virus, Herpes virus, Rhabdo virus, Toga virus, Paramyxo virus.

References

Richman, Whitley, Hayden. Clinical virology. Churchill Livingstone, New York. 1997.

David. M.Knipe & Peter M.Harley. Fundamental Virology, 4th Ed., Lippincott Williams & Wilkins, 2001.

S.J. Flint Enguist, L.W. Krug RM, Racaniello V.R., A.M.Skalka. Principles of Virology, A.S.M. Press, Wasington, 2000.

Skill Based Elective III (Semester V)

Clinical Parasitology

Unit I

Classification and Brief history of Protozoa and helminthic infections – mechanism of disease production by parasites.

Unit II

Etiology, Pathogenesis, Clinical diagnosis of following protozoans – *Entamoeba histolytica*, *Giardia lamblia*, *Leishmania*, *Plasmodium* and *Cryptosporidium*.

Unit III

Etiology, Pathogenesis, Clinical diagnosis of following Nematodes – *Trichonella*, *Trichuris*, *Ancylostoma* and *Wucheria bancrofti*.

Unit IV

Etiology, Pathogenesis, Clinical diagnosis of following Cestodes – *Tinea*, *Diphyllobotrium*, *Cysticercus* and *Echinococcus*.

Unit V

Etiology, Pathogenesis, Clinical diagnosis of following Tremtodes – *Schistosoma*, Medical entomology.

References

Moselio Schaechter, Cary Engleberg, N.Barry I. Eisenstein, Gerald medoff. Mechanisms of microbial disease, 3rd Ed, Lippincott Williams & Wilkins, 1999.
Samuel Baron. Medical Microbiology, 2nd Ed, Addison – Wesley Publication & Co., New York. 1986.