

MBPGE7- CLINICAL MICROBIOLOGY

Number of Hours / Week: 4

Credits: 4

UNIT I

Microbiology laboratory safety - Biological Safety Cabinets; Biocontainment, Biosafety Levels; Biosafety guidelines,- biosafety concerns at the level of individuals, institutions; Laboratory and associated infections. Good microbiological practices. Classification of biological agents based on hazards. Mailing of biohazardous materials.

UNIT II

Diagnostic cycle; General concepts for specimen collection, transport and processing. Infection control, Emerging infections; Quality assurance & quality control in microbiology, Accreditation of laboratories; Normal microbial flora of the human body.

UNIT III

Etiology, pathogenesis and laboratory diagnosis of- Blood Stream infections, Respiratory Tract infections, Central Nervous System infections, Gastrointestinal Tract infections, Urinary Tract infections, Genital Tract infections. Sexually transmitted diseases. Nosocomial infections.

UNIT IV

Skin, soft tissue and wound infections. Burn infections. Infections of sinuses, bone and bone marrow. Infections of eye and ear. Pyogenic infections. Infections in immunocompromised and immunodeficient patients. Infections in foetus and neonates.

UNIT V

Serodiagnosis of infectious diseases; Molecular techniques in diagnostic microbiology. Automation in Microbiology; Laboratory control of antimicrobial therapy; Immunoprophylaxis, Immunity in infections.

References

1. Blair, J.E.e., Lennette, E.H.e., and Truant, J.P.e. (1970). Manual of clinical microbiology. American Society for Microbiology, Bethesda, Md.
2. Gradwohl, R.B.H., Sonnenwirth, A.C., and Jarett, L. (1980). Gradwohl's clinical laboratory methods and diagnosis. Mosby, London.8th ed

3. Lennette, E.H., Balows, A., Hausler, W.J., and Shadomy, H.J. (1985). Manual of clinical microbiology. American Society for Microbiology, Washington, D.C. 4th ed.
4. Topley, W.W.C., Wilson, G.S.S., Parker, T., and Collier, L.H. (1990b). Topley and Wilson's principles of bacteriology, virology and immunology. Edward Arnold, 8th ed
5. Mukherjee, K.L. (2010) Medical Laboratory Technology .Tata McGraw-Hill Education. 2nd ed.
6. Sood, R. 1999. Medical Laboratory Technology- Methods and Interpretations. Jaypee Brothers Medical Publishers(P) Ltd. New Delhi. 5th ed.
7. Cheesbrough, M. (2006). District Laboratory Practice in Tropical Countries. Cambridge University Press. 2nd ed.
8. Mackie, T.J., McCartney, J.E., and Collee, J.G. (1989). Mackie & McCartney practical medical microbiology. Churchill Livingstone, 13th ed
9. Black, J.G. (1999). Microbiology : principles and explorations. Prentice Hall International ,London. 4th ed.
10. Kindt, T.J., Goldsby, R.A., Osborne, B.A., and Kuby, J. (2006). Kuby immunology. W.H. Freeman, New York. 6th ed.
11. Forbes, B.A., Sahm, D.F., Weissfeld, A.S., and Bailey, W.R.D.m. (2007). Bailey & Scott's diagnostic microbiology. Elsevier, Mosby, London. 12th ed