PGDMLT-1003: MEDICAL MICROBIOLOGY

Semester: I	
Course (subject) Code	PGDMLT-1003
Subject Title	Medical Microbiology
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of • The pathogenic bacteria that have ability to cause diseases and also techniques to perform microbiological examination of different clinical samples. • The prominent human viral infections – their pathogenesis, diagnosis and role of a clinical laboratory. This is important due to recent prominent viral diseases and their detection. • The mycological examination of various clinical samples may require simple technology and instruments but give an effective clinical picture in differential diagnosis. Definitive diagnosis of mycological examination is always based on direct examination of samples. • Modern developments have contributed to increased epidemiological aspects of protozoological diseases. The given unit helps to understand the basic human parasites, their mode of entry, mechanism of action, pathogenesis and laboratory diagnosis. • Antimicrobial Sensitivity Test to find drug of choice • Hospital Acquired Infection

Course Content

Unit No.	**Content**	**Teaching Hours**
Unit-1	**Collection and Processing of Clinical Specimens**	**15 Hr.**
1.1	Collection, Transportation and Examination of Clinical specimen: Urine, Sputum, Pus, Feces, Blood, CSF	
1.2	Collection, Transportation and Examination of Clinical specimen for Viral Diseases	
1.3	Collection, Transportation and Examination of Clinical specimen for Fungal Diseases	
1.4	Antimicrobial Sensitivity Test: Disc Diffusion and MIC	
Unit-2	**Diagnostic Bacteriology**	**15 Hr.**
2.1	Identification of bacteria by Morphological, Cultural and Biochemical characteristics: *Staphylococcus aureus, Streptococcus pneumoniae, Bacillus cereus, Escherichia coli, Klebsiella spp., Proteus vulgaris, Salmonella spp., Pseudomonas aeruginosa*	
2.2	Identification of bacteria by Automated Method: BACTEK and VITEK	

2.3	Causative agent and Laboratory diagnosis of Bacterial Diseases: Diphtheria; Cholera; Syphilis; Typhoid; Tuberculosis; Food Poisoning; Urinary Tract Infection	
2.4	Hospital Acquired Infection	**15 Hr.**
Unit-3	**Diagnostic Virology**	
3.1	General Lab Diagnosis of Viral Infections	
3.2	Causative agent and Laboratory diagnosis of AIDS	
3.3	Causative agent and Laboratory diagnosis of Hepatitis	
3.4	Causative agent and Laboratory diagnosis of Other Viral Diseases: Dengue; Chikungunya; SARS	
Unit-4	**Diagnostic Mycology and Parasitology**	**15 Hr.**
4.1	Mycosis: Cutaneous, Sub Cutaneous and Systemic Mycosis	
4.2	Laboratory Diagnosis of Mycotic Infections	
4.3	General Laboratory Diagnosis for Parasitic Infection	
4.4	Causative agent and Laboratory diagnosis of Malaria and Amoebic Dysentery	

Reference Books:

Sr. No.	Title/ Edition	Authors	Publiser
1	Textbook of Medical Laboratory Technology /3rd	Praful B Godkar	Bhalani Publisher
2	Textbook of Medical Laboratory Technology/3rd	Ramnik Sood	Jaypee
3	Laboratory Practice in Tropical countries – Vol 1 & 2	Monica Cheesbrough	Cambridge Univ Press
4	Prescott's Microbiology/11th	Willey, Sandman & Wood	McGraw Hill
5	Clinical Microbiology & Parasitology (For DMLT students)/3rd edition	Nanda Maheshwari	Jaypee
6	Instant Notes in Microbiology/3rd edition	Simon Baker	Taylor & Francis
7	Medical Microbiology/16th	David Greenwood	Elsevier
8	Medical Parasitology/5th	D R Arora	CBS publishers
9	Textbook of Medical Parasitology/8th	Sougata Ghosh	Jaypee