

MMB-302: Medical Microbiology

Teaching Scheme Lectures: 3 hrs/Week Tutorials: 1 hr/Week Credits: 4	Examination Scheme Class Test -12Marks Teachers Assessment - 6Marks Attendance – 12 Marks End Semester Exam – 70 marks
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Prerequisite: - MMB 101 Diversity of Prokaryotes and Eukaryotes Microbes

Course Objectives:

1. To give an overview of viruses and their evolution, history and the characteristics properties and the classification systems.
2. To give concepts and understanding viral infection, its properties and the virus estimation and the available techniques for its visualization.
3. To recognize and understand the replication strategies and the host and the virus replication process.
4. To explain cryptograms, its importance and its historical and the new perspectives
5. To explain viruses and its symptoms, infection, and viral diseases and the antiviral strategies.
6. To explain the methods of viral propagation, virus purification and identification methods.

Detailed Syllabus

Unit-1 General topics on Medical Microbiology: History and development, Koch's postulates, classification of medically important bacteria. Infection: source, modes of transmission, portal of entry into the susceptible host and prevention.
Unit-2 Bacterial pathogenicity, identification of bacteria: staining methods, culture methods, biochemical tests and other recent methods. Sterilization and disinfection. Normal microbial flora, antimicrobial agents, drug resistance and drug sensitivity test.
Unit-3 Systematic Microbiology: Diseases caused by Gram positive cocci - sore throat, pneumonia etc., Diseases caused by Gram negative cocci - meningitis, gonorrhoea etc. Diseases caused by Gram positive bacilli - Tuberculosis, Diphtheria, Tetanus, Gas gangrene etc., Diseases caused by Gram negative bacilli of Enterobacteriaceae - Enteric fever, Bacillary dysentery, UTI etc..
Unit-4 Diseases caused by other Gram negative bacilli - Cholera, Plague, Whooping cough, Wound infection, Septicemia etc. Sexually Transmitted Diseases. Diseases caused by mycoplasma, Chlamydia, Rickettsia. Overview of Medical Mycology, Important Fungal Diseases – Superficial, Subcutaneous, Systemic and Opportunistic Mycosis.
Unit-5 Overview of Medical Parasitology, Important Protozoan Diseases- Malaria, Leishmaniasis, Amoebiasis, Giardiasis etc. Important Helmenthic Diseases- Ascariasis, Ankylostomiasis, Filariasis, Taeniasis, Echinococcosis, Schistosomiasis etc. Overview of Medical Virology, Important Viral Diseases– Herpesvirus, Poliovirus, Rabies virus, Arboviruses Hepatitis, HIV etc. Opportunistic Microbial Infection, Water, Milk and Food borne diseases, Microbial Vaccine.