

Department : Clinical Laboratory Sciences
Course Number : CLS 212
Course Title : Medical Microbiology
Credit Hours : 3 + 1 = 4

Course Description:

This is a general medical microbiology course intended for students outside the department of Clinical Laboratory Sciences. The structure of the course is based on presenting the fundamentals of microbiology to include structures, morphology and classification of bacteria, viruses, fungi and parasites. The students will be introduced to the pathogenesis of the various infectious agents. The course will also cover some topics related to community health, including the modes and sources of infections as well as prevention of these infections.

CLS 212: Lectures Outline

Weeks	Subjects
1.	General introduction Historical Background & classification of microorganisms
2.	Introduction to Viruses Structure and morphology of viruses Classification / Replication / Pathogenicity
3.	Introduction to Fungi Structure and morphology of fungi Classification / Fungal diseases
4.	Introduction to Parasites Classification /General characteristics of protozoa Medically important protozoa General characteristics of helminths/Medically important helminths
5.	Introduction to Bacteria Classification / Morphology Bacterial Structures / Bacterial replication
6.	Bacterial growth / Growth curve Factors affecting growth
7.	Antimicrobial agents
8.	Microbial control / Principles Physical and chemical methods
9.	Microbial control – Chemical agents

Hospital acquired infections

10. Pathogenicity of infectious diseases
Normal microbial flora
11. Upper respiratory tract infections
12. Lower respiratory tract infections
13. Wound and skin infections
14. Sexually transmitted diseases
15. Food borne diseases, Water borne diseases

CLS 212: Laboratory Schedule

Weeks	Subjects
1.	Introduction to Microbiology laboratory Techniques and safety rules
2.	Introduction to light Microscopy Types of light microscope
3.	Examination of stained smear and wet mounts
4.	Microscopic examination of eukaryotic microorganisms
5.	Staining of bacterial cells and bacterial structures (simple and differential stains)
6.	Bacterial culture media Techniques of cultivation
7.	Microbial flora of skin and oral cavity Environmental sampling
8.	Antimicrobial Agents - Methods of sensitivity testing
9.	Microbial count : viable and total counts
10.	Factors affecting microbial growth
11.	Physical and chemical methods used in microbial control

12. **Revision**
13. **FINAL PRACTICAL EXAMINATION**

Assessments:

First Mid Term Examination:	15
Second Mid Term Examination:	15
Laboratory Quizzes:	5
Mid Term Practical Examination:	5
Final Practical Examination:	20
Final Theoretical Examination:	40

References:

1. Cano J. Raoul and Calome J.S., **Microbiology**, West Publishing Company, USA, Latest Edition
2. Eugene W. Nester et al, **Microbiology- A Human Perspective**, Mc Graw Hill, USA, Latest Edition
3. Tortora, G. J., B. R. Funke, and C. L. Case., **Microbiology, An Introduction**, (7th edition) Benjamin Cummings, San Francisco, 2002