

Department of Liberal Education
Era University, Lucknow
Course Outline
Effective From: 2023-24

Name of the Program	B.A. / B.Sc. (LIBERAL EDUCATION)			Year/ Semester:	3rd / 5th
Course Name	Medical Microbiology	Course Code:	MB301	Type:	Theory
Credits	03			Total Sessions Hours:	45 Hours
Evaluation Spread	Internal Continuous Assessment:	40 Marks		End Term Exam:	35 Marks
Type of Course	<input type="radio"/> Compulsory	<input checked="" type="radio"/> Core	<input type="radio"/> Creative	<input type="radio"/> Life Skill	
Course Objectives	<p>This module will help students to understand following;</p> <ol style="list-style-type: none"> a. Contribution of pioneers in medical microbiology b. Microflora of human body c. Bacterial diseases, viral diseases & parasitic diseases d. Fungal diseases e. History of chemotherapeutic f. Antimicrobial agents g. Drug resistance & its mechanism h. Clinical diagnostics & assays 				
Course Outcomes (CO): <i>After the successful course completion, learners will develop following attributes:</i>					
Course Outcome (CO)	Attributes				
CO1	Learners will be able to learn about the historical development of medical microbiology and about the importance of microorganisms in life.				
CO2	Students will be able to learn about microorganisms associated with various infectious diseases.				
CO3	They will able to differentiate the pathogenic fungal diseases and its types.				
CO4	They will learn about the processes, treatment and strategies followed for the infectious diseases with the mechanism of antibiotic resistance.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 20 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks				
Session Details	Topic			Hours	Mapped CO
Unit 1	History of Medical Microbiology <ul style="list-style-type: none"> • Contribution of pioneers in the field of Medical Microbiology 			10	CO1

	<ul style="list-style-type: none"> • Normal Microflora of human body: • Skin • Mouth, • Alimentary canal • Gintourinary tract 													
Unit 2	<p>Microbial disease :Bacterial diseases, Viral diseases and Parasitic diseases</p> <ul style="list-style-type: none"> • Diseases caused by certain bacterial pathogens Staphylococcus aureus, Streptococcus pneumoniae, Mycobacterium tuberculosis, Salmonella typhi, Vibrio cholera <p>Viral diseases</p> <ul style="list-style-type: none"> • Diseases caused by certain viruses Human Immunodeficiency Virus, Hepatitis Virus, Influenza virus, Herpes virus <p>Parasitic diseases</p> <ul style="list-style-type: none"> • Diseases caused by protozoa Giardia sp., Plasmodium sp., Leshmania sp., and Entamoeba sp <p>Person to person Microbial disease</p> <ul style="list-style-type: none"> • Airborne transmission of diseases by airborne pathogens • Direct contact transmission of diseases • Sexually transmitted diseases • Animal transmitted, Artropod transmitted , Soil borne and Water borne microbial diseases 	15	CO2											
Unit 3	<p>Pathogenic fungal disease I & Pathogenic fungal disease II</p> <ul style="list-style-type: none"> • Dermatophytes- Trichophyton, Microsporum Filamentous fungi causing subcutaneous infection by Mucor, Rhizopus and Aspergillus • Systemic mycoses caused by Blastomyces, Histoplasma • Yeast like fungi: Candida and Cryptococci 	10	CO3											
Unit 4	<p>Antibiotics, Chemotherapeutics and Antibiotic resistance</p> <ul style="list-style-type: none"> • Historical development of chemotherapeutic and antibiotic substances • Major antimicrobial agents • Mode of action of chemotherapeutic and antibiotic substances • Drug resistance • Mechanism of antibiotic resistance, • Antibiotic susceptibility assay • Collection and transport of appropriate clinical sample specimen for clinical diagnostics 	10	CO4											
CO-PO and PSO Mapping														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1			1	1		2			1	1	1	1	1	
CO2			1	1		2			1	1	1	1	1	
CO3		3	2	1	1	2	3		3	1	2	2	1	1
CO4	1	1	3	1	2	2	2		3	1	3	2	1	2
<i>Strongcontribution-3,Averagecontribution-2, Lowcontribution-1,</i>														
Suggested Readings:														
Text- Books	1.Ananthanarayanan R and Panicker C K. Textbook of Microbiology. Orient Longman.													
Reference Books	1.Ananthanarayanan R and Panicker C K. Textbook of Microbiology. Orient Longman. 2.Baveja, CP. Text book of Microbiology. Arya publications. 3.Ken S.Rosenthal, Patrick R.Murray, and Michael A.Pfaller. Medical Microbiology 7th													

	Edition, Elsevier	
Para Text	Unit 1: 1. https://www.futurelearn.com/courses/basic-concepts-in-microbiology-and-clinical-pharmacology-of-antimicrobials Unit 2: 2. https://vlab.amrita.edu/?sub=3&rch=73 Unit 3: 3. https://www.mooc-list.co/tags/pathology Unit4: 4. https://online.creighton.ed/program/medical-microbiogy-and-immunology-ms	
Recapitulation & Examination Pattern		
Internal Continuous Assessment:		
Component	Marks	Pattern
Mid Semester	20	Section A: Contains 10 MCQs/Fill in the blanks/One Word Answer/ True-False type of questions. Each question carries 0.5 mark. Section B: Contains 07 descriptive questions out of which 05 questions are to be attempted. Each question carries 03 marks.
Class Test	05	Contains 05 descriptive questions. Each question carries 01 mark.
Online Test/ Objective Test	05	Contains 10 multiple choice questions. Each question carries 0.5 mark.
Assignment/ Presentation	05	Assignmet to be made on topics and instruction given by subject teacher
Attendance	05	As per policy
Total Marks	40	

Course created by: **Dr. Manaal Zahera**

Signature:

Approved by: **Dr. Amita Jain**

Signature: