

Faculty of Science

Bachelor of Microbiology (B.Sc.)

SUBJECT: B.SC.

B.Sc. VI Semester

Paper- DSE - 2

Medical Microbiology

Course Outcomes

CO. No.	Course Outcomes	Cognitive Level
CO 1	Understand how infection happens in body.	U
CO 2	Understand what are different pathogens and how are they controlled.	U, A
CO 3	Understand basics of immunity and how and why epidemics spread	U

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	3	40	60	100
Practical	1	40	60	100
Total	4		200	

EVALUATION SCHEME

	MARKS	
	INTERNAL	EXTERNAL
THEORY	3 Exams Of 20 Marks (Best 2 Will Be Taken)	1 External Exam (At The End Of The Semester)
PRACTICAL	2 Internal Exams And Attendance (Total 40 Marks)	1 External Exam (At The End Of The Semester)

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Session 2025-26
Theory Paper

Part A Introduction

Program: Degree

Class: B.Sc.

Year: VI
Sem

Session: 2025-26

Subject: Industrial Microbiology

I	Course Code	S3INMB2T	
2	Course Title	Medical Microbiology (Theory)	
3	Course Type (Core Course/ Discipline Specific Elective/ Elective/ Generic Elective /Vocational/)	DSE 2	
Unit	Topics	No. of Lectures (1 Hour Each)	
1	<p>1. The Infectious Diseases:</p> <p>1.1. Normal Flora of human body, disease causing Bacteria, Virus, Fungi, protozoa,</p> <p>1.2. Pathogenicity- Mechanism of bacterial pathogenicity, colonization, Progress and transmission of diseases.</p> <p>1.3-Portal of entry-tissue penetration, Virulence factors, types of toxins</p> <p>1.4- Establishment of diseases. Characters of Infectious diseases. Opportunistic infections, nosocomial infections,</p> <p>2. Epidemiology of Infectious diseases</p> <p>Terminologies- Endemic, Epidemic, Hyperendemic, Sporadic, pandemic, modes of transmission, carrier and types, Frequency of diseases —Morbidity rates, Herd immunity, Disease Cycles. Incubation period</p> <p>Antibiotics— Mode of action development of resistance. Transmission of drug resistance.</p> <p>Antiviral and Antifungal drugs</p>	12	
2			

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3	<p>3. Infection & Immunity:</p> <p>3.1. Natural Resistance or Natural Immunity.</p> <p>3.2. Specific Resistance or Acquired Immunity. Immunoglobulins, types and function, in short.</p> <p>3.3 Humoral Immunity for bacterial infections, Cell mediated Immunity for viral infections.</p> <p>3.4 Clonal selection, memory cells, concept of immunization and vaccines.</p> <p>* <i>Autoimmune disease - brief</i></p>	12
4	<p>4. Diseases of Man- pathogen, Infection sources, Reservoirs, and control Measures only (Not in detail)</p> <p>4.1. Viral Diseases of Man. HIV, AIDS, Polio</p> <p>4.2. Bacterial Diseases of Man. Tuberculosis, Cholera</p> <p>4.3. Protozoan Diseases of Man. Malaria</p> <p>4.4. Fungal Diseases of Man. Candidiasis</p>	12
5	<p>5. SEROLOGICAL REACTIONS (SEROLOGY)-</p> <p>5.1 Blood test, Total Leucocyte count, Differential leucocyte count,</p> <p>5.2. Precipitation Test, agglutination, WIDAL test.</p> <p>5.3 Enzyme linked immunosorbent assay (ELISA) application in diagnosis</p> <p>5.4 Radioimmunoassay RIA. application in diagnosis</p>	12
Keywords/Tags: Infectious diseases, Immunity, Diagnostics		
Part C-Learning Resources		
	<p>Text Books, Reference Books, Other resources</p> <p>Suggested Readings</p> <ol style="list-style-type: none"> 1. Ananthanarayan, R. and Jayaram Panicker, C.K. Text book of Microbiology-5th Edition. 1996. Orient Longhorn Ltd, Chennai. 2. Bertram G. Katzung. Basic and Clinical pharmacology-11th edition. 1992. Prentiss-Hall International. 3. Chakroborthy. Text book of Microbiology. 1995. New Central Book Agency Pvt. Ltd. 4. Hugo, W.B. and A.D. Russel. Pharmaceutical Microbiology-4th edition. 1987. Blackwell Scientific Publication. 5. Gladwin, M & Trader. Clinical Microbiology made ridiculously simple. 1995. Med Master Inc., Miami. 6. Larry McKane and Judy Kandel. Microbiology- Essential and application -2nd Edition. Mc Graw Hill Inc. 7. Park, L.G. and Park, K. Text Book of Preventive and Social Medicine-12th Ed. 1989. M/S Banarsidas Bhenot, Jabalpur. 8. Dr. R.C. Dubey and Dr. D.K. Maheshwari. A Text Book of Microbiology. (Revised Edition) 9. M.P. Hindi Granth Academy Publications. 	

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2. Suggestive digital platforms/ web links www.eshiksha.mp.gov.in

Suggested equivalent online courses:

<https://www.digimatiq.nptel.ac.in/courses/medical/microbiology/MBI1.html>

Part D-Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100

Continuous Comprehensive Evaluation (CCE): 40 Marks University Exam (UE) 60 marks

Internal Assessment: Continuous Comprehensive Evaluation (CCE)	Class Test -2 Assignment/Presentation -1 (3 CCE will be taken)	(Best 2 CCE will be considered) 40
External Assessment: University Exam Section Time: 03.00 Hours	Section(A): Objective Questions Section (B): Short Question Section (C): Long Questions	60
Any remarks/ suggestions:		

Any remarks/ suggestions:

Janusdottir
11/09/24
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EW ✓
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