

Branch Name:	B.Sc. Microbiology
Program Code:	SC102
Course Name:	Medical Microbiology
Course Code:	2SC1020603
Pre-requisite Course:	Basic knowledge of Medical microbiology

Course Objective:

1. To understand Host – Parasite relationship
2. To understand Basics of Epidemiology
3. To understand Vector-borne diseases
4. To understand Systemic diseases of various system

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	--	--	3	70	30	--	--	100

Subject Contents:

Unit	Content	Lectures	Weightage
1	HOST PARASITE RELATIONSHIP 1. Terms: Pathology, Infection, intoxication and disease, symptoms, sign, syndrome, Prophylaxis. 2. Normal flora of skin, oral cavity, Gastrointestinal tract, and other body regions, 3. Classifying Infectious disease on basis on occurrence severity and extent of host involvement. 4. Normal flora of skin, oral cavity, Gastrointestinal tract, and other body regions, 5. Entry of pathogen into the host, Colonization and growth. 6. Toxins – Endotoxins and Exotoxins. 7. Nonspecific host defences – general, physical, chemical and biological barriers.	13	28%
2	EPIDEMIOLOGY. AND PROPHYLAXIS 1. Definition - pandemic, epidemic, endemic and sporadic, epizootics and zoonoses , Morbidity rate, Mortality rate: Immunization, vaccine, adjuvant, serum, antiserum, anamnesis, toxoids 2. Epidemiology Technique and Epidemiological Markers 3. Recognition of Epidemic, antigenic shift and drift, Herd Immunity. 4. Transmission of disease: Contact, vehicle and vector transmission. 5. Nosocomial infections. 6. Control of Epidemics. 7. Types of vaccines –whole organism vaccines, Inactivated, Purified macromolecules as vaccines, Recombinant vector vaccines, DNA vaccines, and multivalent subunit vaccines.	13	28%

3	Systemic diseases : 1. Diseases of Skin and Eyes, Bacterial ,Viral (Chicken pox and Herpes.)and Fungal 2. Diseases of Nervous System: Bacterial and Viral (Rabies and CreutzfeldtJakob disease) 3. Diseases of Cardiovascular and Lymphatic System: Bacterial, Protozoal (Malaria) and Viral(Dengue fever). 4. Diseases of Respiratory System: Bacterial, Viral (Influenza and Common cold.) 5. Diseases of Digestive System: Bacterial, Viral (Hepatitis) and Protozoal (Amoebic dysentery.) 6. Diseases of Urinary and Reproductive System: Bacterial, Viral (Genital Herpes) and Fungal (Candidiasis.)	19	44%
---	---	----	-----

Text books:

1. Tortora, G.J., Funke, B.R., Case, C.L. (2001) Microbiology: An Introduction. (7th ed). Benjamin Cummings N.Y
2. Prescott, L.M., Harley, J.P., Klein. DA., (2002) Microbiology (5th edY McGraw Hiil. International ed..

Reference Books:

- 1.Tortora, G.J., Funke, B.R., Case, C.L. (2001) Microbiology: An Introduction. (7th ed). Benjamin Cummings N.Y.
2. Prescott, L.M., Harley, J.P., Klein. DA., (2002) Microbiology (5th edY McGraw Hiil. International ed.
3. Ananthanarayan R. and Paniker C.K.J. (2009) Textbook of Microbiology. 8th edition, University Press Publication
4. Brooks G.F., Carroll K.C., Butel J.S., Morse S.A. and Mietzner, T.A. (2013) Jawetz, Melnick and Adelberg's Medical Microbiology. 26th edition. McGraw Hill Publication
5. Goering R., Dockrell H., Zuckerman M. and Wakelin D. (2007) Mims' Medical Microbiology. 4th edition. Elsevier
6. Willey JM, Sherwood LM, and Woolverton CJ.(2013) Prescott, Harley and Klein's Microbiology.9th edition. McGraw Hill Higher Education
7. Madigan MT, Martinko JM, Dunlap PV and Clark DP. (2014). Brock Biology of Microorganisms.14th edition. Pearson International Edition

List of Open Source Software/learning website:

1. <https://www.youtube.com/watch?v=TgtzgRhsXAg>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom'sTaxonomyLevel
CLO1	Define and enlist the terms used terms: used in host parasite relationship. And get basic understanding of normal flora of human body	1 Remembering 2 Understanding
CLO2	To get knowledge and understand the entry of pathogens and its mode of action .	1 Remembering 2 Understanding 3 Applying 4 Analyze
CLO3	Classify the infectious disease on the basis of occurrence severity and extent of host involvement.	2 Understanding 3 Applying 4 Analyze
CLO4	To understand the concept of epidemic and its control	1 Remembering 2 Understanding 3 Applying

		4 Analyze 5 Evaluate 6 Create
CLO5	To study the diseases caused by microbes (virus , bacteria, fungi, protozoa)	1 Remembering 2 Understanding 3 Applying
CLO6	To study describe and compare types of vaccine which would help student to design prophylactic measures for infectious disease.	1 Remembering 2 Understanding 3 Applying 4 Analyze 5 Evaluate 6 Create

Mapping of CLOs with Pos& PSOs

Course Learning Outcomes	Program Outcomes (POs)									Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CLO1	M	M				M		M				
CLO2	H	H	M		M			L	M			
CLO3	M	M	H					M	M		M	
CLO4	M				M				H	M		
CLO5	M		H		M					H		
CLO6				H		M	H		H		H	M

L= Low M= Medium H= High