

## ACADEMIC PLAN FOR THE DEPARTMENT OF MICROBIOLOGY

SESSION:2017-18 (ACADEMIC YEAR)

Year	PAPER	UNIT	TEACHER		No. of class hours allotted per week (as per class routine)		Total no. of class hours required in the session (Approx.)		Duration (in month)	Remark (if any)
			Theory	Practical/Tutorial	Theory	Practical/Tutorial	Theory	Practical/Tutorial		
PART-III 3 <sup>rd</sup> Year (UG)	<b>Paper V Group A (Theory): Microbial Genetics</b>	Unit I: 1. Structure: DNA, gene and chromosome	Dr. Sampa Debnath		2		65	-----	8	
		Unit I: 2. Genetic exchange	Dr. Gargi Saha Kesh	-----	2	-----				
		Unit II: 1. Mutation and Repair	Dr. Arun Roy	-----	1	-----				
		Unit II: 2. Recombination								
	<b>Paper V Group B (Theory): Industrial Microbiology and Recombinant DNA Technology</b>	Unit I: 1. Industrial microbiology	Dr. Shilajit Barua	-----	2	65	-----			
		Unit I: 2. General method of preservation of industrially important culture strains								
		Unit II: 1. Recombinant DNA Technology	Dr. Shilajit Barua	1						
			Dr. Gargi Saha Kesh	2						
	<b>Paper VI Group A (Theory): Medical Microbiology and Virology</b>	Unit I: 1. Normal Microbial Flora (normal) of human body	Dr. Saswati Gayen	-----	2	70	-----			
		Unit I: 2. Mechanism of Bacterial Pathogenicity								
		Unit I: 4. Common Microbial Diseases								
		Unit I: 3. Antimicrobial Therapy	Dr. Shilajit Barua	1						
		Unit II: 1. Virology	Dr. Arun Roy	1						
			Dr. Shilajit Barua	1						
	<b>Paper VI Group B (Theory): Immunology</b>	Unit I: 1. Introduction: overview of the Immune system	Dr. Prasenjit Das	-----	4	60	-----			
Unit I: 2. Cells and organs of Immune system										
Unit I: 3. Types of Immunity										
Unit I: 4. Antigens										
Unit II: 1. Immunoglobulins										
Unit II: 2. Antigen - Antibody interactions										
Unit II: 3. Complement										

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<b>PART-III 3rd Year (UG)</b>	<b>Paper VI Group B (Theory): Immunology</b>	Unit II: 4. Hypersensitivity: definition, types, examples.	Mr. Anindya Bhattacharya		1					
		Unit II: 5. Vaccines								
	<b>Paper VII Practical</b>	Unit I: 1. Isolation and characterization of one industrially important enzyme, immobilization of cells.	-----	Dr. Sampa Debnath	-----	-----	-----	60	8	
		Unit I: 2. Determination of Km, Vmax and pH optima, effect of activator, inhibitor of alkaline phosphatase								
		Unit II 1. Protein estimation by Lowry method								
		Unit II: 2. Absorption spectra of DNA and protein, hyperchromic shift of DNA								
		Unit II: 3. Phage titration								
	<b>Paper VIII Practical</b>	Unit I: 1. Antigen-Antibody reaction	-----	Dr. Prasenjit Das	-----	-----	-----	60	8	
		Unit I: 2. Restriction digestion of plasmid DNA								
		Unit II 1. Isolation of plasmid-DNA								
		UnitII: 2. Transformation of E. coli by using plasmid DNA by CaCl <sub>2</sub> method								
		Unit II: 3. Conjugation experiments using any standard teaching kit								