DEPARTMENT OF MICROBIOLOGY ACADEMIC PLAN 2021-2022
ODD SEMESTER

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name	Sem/ paper	14/06/2021-19/06/2021	21/06/2021-26/06/2021	28/06/2021-3/7/2021	5/7/2021-10/7/2021	12/7/2021-17/07/2021	19/07/2021-24/07/2021	26/07/2021-31/07/2021-	2/8/2021-7/8/2021	9/8/2021-14/08/2021	16/08/2021-21/08/2021	23/08/2021-28/08/2021	30/08/2021 4/9/2021	6/9/2021-12/9/2021	13/09/2021-18/09/2021	20/09/2021-26/09/2021
Dr Unnati Padalia	Sem. III Theory	C1 M1 Introduction of unit CO,LO virulence outcome of host parasite relations	C1 M1 Mathematical expression of infection Types of infectionI	C1 M1 Types of infectionI LD50,ID50 CIE	C1 M1 Pathogenesis overview	C1 M1 Pathogenesis overview	C1 M1 Bacterial adherence factors	C1 M1 Revision CIE								
	Sem III Theory.	C! M2 Epidemiology of infectious Disease CO,LO	C! M2 Terminolog	C1 M2 Measuring frequency Tools CIE	C1 M2 Problem solving	C1 M2 Infectious disease cycle	C1 M2 Infectious disease cycle	C!1M2 recognition of inf.dis. and Revision CIE								
	Sem III Theory	C1 M3 Chemotherapy LO.CO History and Dev	C1 M3 Properties of antimicrobial agents	C1M3 Ideal antimicrobial agent CIE	C1M3 Dilution suscep.Test	C1 M3 Disc diffusion Test	C1M3 Cell wall syn inhibition Protein synthesis Inhibition	C1 M3 NA inhibition and Revision CIE								
	Sem III Theory	C2 M2 Virology CO, LO Architecture	C2M2 Architecture TMV	C2M2 INfluenza CIE	C2M2 HIV	C2M2 Baltimore	C2M2 ICTV	C2M2 Viral Attachment and Revision CIE								
	Sem III Pract	Introduction AST	C1 M2 MIC	C1 M2 Coagulase CIE CIE Prac	C1 C3 Hemolysin DNA Estimation	C1 M1 Lecithinase DNSA method	C2M3 Dry wt Wet Wt	C2M3 Amino acid estimation CIE								
	Sem. V Theory	CII M 1 LO,CO First line of defence skin ,mucous membrane	CII M 1 Skin MM	CII M 1 Resp.tract	CII M 1 GI tract, Genitourinary tract	CII M 1 Cationic peptide	CII M 1 bacteriocin complement	CII M 1 Interferon Revision CIE								
	Sem. V	CII M2 CO,LO Pharyngitis	Pharyngitis diphtheria	Rubella,measles, CIE	Mumps,chickenpo	Mumps, chickenpo	pathogenesis TB	Revision upper RT CIE								
Ms. Hemlata Chakravarty	Sem I Theory			CII MI Introduction to Microscopy	CII MI Resolution Resolving power	CII MI Numerical aperture and angular aperture	CII MI Bright field microscope	CII MI Types of objective lens CIE	CII M Oil immersion objective and ocular lens system	CII MI Dark field microscope	CII MI Phase contrast microscope and differential reinforce interference microscope	CII MI Stains and staining solutions CIE	CII MI Classification of auxochrome and chromophore group	CII M Simple staining method and negative staining method	CII MI Gram staining method CIE	CII MI Acid fast staining Comparison between Acid fast and gram staining
	Sem III theory	CIII MII Centrifugation basic concept	CIII MII Types of rotors and safety measures	CIII MII Centrifugation techniques- density gradient and differential centrifugation CIE	CIII MII Preparative centrifuge and its applications	CIII MII Application of preparative centrifuge and introduction to analytical centrifuge	CIII MII Applications of analytical centrifuge	CIII MII Introduction to chromatographic technique CIE	CIII MII Basic concept of chromatography	CIII MII Adsorption chromatography	CIII MII Partition chromatography	CIII MII Ion exchange chromatography CIE	CIII MII Molecular size exclusion chromatography	CIII MII Principle and application of HPLC, GL, Affinity chromatography	CIII MII Revision Lecture 1	CIII MII Revision Lecture 2
	Sem. V Theory	CCII MIII Cytokine- definition and properties	CCII MIII Cytokine functions	CCII MII APC- Introduction and functions CIE	CCII MIII APC- Endocytic pathway of antigen processing	CCII MIII APC cytosolic pathway of antigen processing	CCII MIII MHC- Structure of MHC- class I and class II molecule	CCII MIII Comparison between MHC-class I and class II molecule CIE	CCII MIII Allelic forms of MHC, haplotype, inbred, outbred, syngeneic mice	CCII MIII Significance of MHC in transplantation	CCII MIII Complement- definition, function and types	CCII MIII Classical pathway CIE	CCII MIII Alternate pathway and lectin pathway	CCII MIII Biological effect of complement activation	CCII MIII Revision Lecture 1	CCII MIII Revision Lecture 2
	Sem V Theory	DSCII MI Concept of cell theory and cellular totipotency	DSCII MI Aseptic technique	DSCII MI Culture media CIE	DSCII MI Culture media	DSCII MI Invitro response of explant	DSCII MI Callus culturing technique	DSCII MI Callus culturing technique CIE	DSCII MII Characterisation of cell line	DSCII MII Characterisation of cell line	DSCII MI Characterisation of cell linel	DSCII MII Cell storage and distribution CIE	DSCII MII Cell storage and distribution	DSCII MII Cryopreservation and cell repositories	DSCII MII Revision Lecture 1	DSCII MII Revision Lecture 2
	Sem V Pract	Practical General instructions and orientation	Practical Pure culture study of E. coli and Klebsiella	Practical Pure culture study of proteus and Pseudomonas CIE	CIII MIV Immune tolerance- factors affecting	CIII MIV Autoimmunity- introduction and interplaying factors	CIII MIV Autoimmunity- Triggering factors	CIII MIV Autoimmunity- Mechanism of damage CIE	CIII MIV Diagnosis and treatment of autoimmunity	CIII MIV Transplantation- introduction, antigen involved in graft rejection	CIII MIV Allo-recognition	CIII MIV Graft rejection CIE	CIII MIV Graft vs Host disease	CIII MIV Immunosuppressive therapies	CIII MIV Blood transfusion	CIII MIV Immunosenescence and immune exhaustion
	M.Sc I Theory	CIII MIV Immune tolerance- definition, major features	CIII MIV Immune tolerance- mechanism of central and peripheral tolerance	CIII MIV Immune tolerance- Induction and factors affecting CIE	CIII MIV Immune tolerance- factors affecting	CIII MIV Autoimmunity- introduction and interplaying factors	CIII MIV Autoimmunity- Triggering factors	CIII MIV Autoimmunity- Mechanism of damage CIE	CIII MIV Diagnosis and treatment of autoimmunity	CIII MIV Transplantation- introduction, antigen involved in graft rejection	CIII MIV Allo-recognition	CIII MIV Graft rejection CIE	CIII MIV Graft vs Host disease	CIII MIV Immunosuppressive therapies	CIII MIV Blood transfusion	CIII MIV Immunosenescence and immune exhaustion

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Dr.Lolly Jain	Sem I Prac					Safety precautions in Laboratory CI Glasswares used in Laboratory CI Common Laboratory Instruments CI Requirements to be carried for working in Microbiology laboratory	CI Qualitative detection of carbohydrates by Molisch test and Benedicts test , Qualitative detection of proteins and amino acids	CI Qualitative detection of Nucleic acids: DNA and RNA, Preparation of culture media, Preparation of slant, butt and plate	CI Tube to tube transfer, Liquid medium inoculation, Operation between burners.	CII Cultivation of BGA and Protozoa, CI Inoculation of Butt and Slant and Plate, CII Care of Microscope	CI Plate isolation methods, CI Monochrome staining CIE	CI Colony characteristics on NA, Mac, SMA and SIBA	CII Gram Staining, CI Negative Staining, Fungal Wet mounts CIE	CII Study of Oligodynamic action, Effect of Copper vessel on storage of water, STAR-DBT Cultivation of Anaerobes	CII Evaluation of a disinfectant, Effect of soap, Study of yeast	CII Effect of UV light, Effect of desiccation, STAR-DBT Study of enzyme activity CIE
Dr.Lolly Jain	Sem III theory	CII MIII Discussion of CO, LO of the module, Taxonomic ranks, Binomial Nomenclature	CII MIII Phylogenetic approach and Classical approach to taxonomy	CII MIII Numerical taxonomy CIE	CII MIII Numerical taxonomy	CIV MII Pneumatic - bubble-cap fermenter,	CIV MII Pneumatic - acetato	CIV MII Pneumatic - cavitator. CIE	CIV MII Animal cell culture reactors	CIV MII Animal cell culture reactors	CIV MII Photo-bioreactor, tower and packed tower fermenters	CIV MII Biofilters and Fixed film processes, Single use disposable fermenters CIE	CIV MII Solid State fermenters, Membrane fermenters	CIV MII Revision	CIV MII Test 1	CIV MII Test 2
Dr.Lolly Jain	Sem. V Theory	CIV MII Discussion of CO, LO of the module, Types of fermenters	CIV MII Mechanical fermenter	CIV MII Hydrodynamic fermenter CIE	CIV MII Pneumatic - air-lift fermenter,	CIV MII Pneumatic - bubble-cap fermenter,	CIV MII Pneumatic - acetator	CIV MII Pneumatic - cavitator. CIE	CIV MII Animal cell culture reactors	CIV MII Animal cell culture reactors	CIV MII Photo-bioreactor, tower and packed tower fermenters	CIV MII Biofilters and Fixed film processes, Single use disposable fermenters CIE	CIV MII Solid State fermenters, Membrane fermenters	CIV MII Revision	CIV MII Test 1	CIV MII Test 2
Dr.Lolly Jain	Sem V Theory	CIV MIII Discussion of CO, LO of the module, Different types of sensor	CIV MIII Temperature Monitoring and Control	CIV MIII Flow measurement and control CIE	CIV MIII Pressure measurement and control	CIV MIII Foam sensing and control	CIV MIII Measurement and control of dissolved oxygen	CIV MIII Measurement and control of dissolved oxygen CIE	CIV MIII Inlet and exit gas analysis	CIV MIII Inlet and exit gas analysis	CIV MIII pH measurement and control	CIV MIII Control systems CIE	DSE MIII Gene drives for vector control	DSE MIII Revision	DSE MIII Test 1	DSE MIII Test 2
Dr.Lolly Jain	PG Sem III Theory	CII MI Discussion of CO , LO of the module, Insect resistance (Bt toxin)	CII MI Insect resistance (Bt toxin)	CII MI Virus Resistance CIE	CII MI Bacterial & Fungal Disease resistance	CII MI Herbicide Resistance (Glyphosate)	CII MI The nature of abiotic stress, the nature of water deficit stress CIE	CII MI Target approaches toward the manipulation of tolerance to salt stress and oxidative stress	CII MI Improvement of crop yield and quality by manipulation of Photosynthesis.	CII MI Improvement of crop quality by manipulation of nutritional Content: Amino acids	CII MI Improvement of crop quality by manipulation of nutritional Content: vitamins and minerals CIE	CII MI Plants as bioreactors	CII MI Plants as bioreactors	CII MI Edible Vaccines	CII MI Concerns about GM crops: Antibiotic resistance genes, Superweeds CIE	CII MI Concerns about GM crops:Gene containment and Techniques for gene containment Revision Test
Dr.Soniya Shetty	Sem I theory				C I M2 Prokaryotic cell structure-size, shape arrangement	C I M2 Prokaryotic cell structure-size, shape arrangement	C I M2 Prokaryotic cell structure-size, shape arrangement	C I M2 Prokaryotic cell structure-size, shape arrangement CIE	C I M2 Cell membrane and cell wall	C I M2 Cell membrane and cell wal	C I M2 Cell membrane and cell wall	C I M2 Cell membrane and cell wal	C I M2 Internal structures CIE	C I M2 Internal structures	C I M2 External structure	C I M2 Endospores CIE
Dr.Soniya Shetty	Sem. III Theory	CII M1 Central Dogma	CII M1 Central Dogma	CII M1 Central Dogma	CII M1 Double helix DNA	CII M1 Double helix DNA	CII M1 Double helix DNA	CII M1 Double helix DNA CIE	CII M1 Supercoilin	CII M1 Supercoilin	CII M1 Genetic code	CII M1 Genetic code	CII M1 Genetic code CIE	CII M1 Genetic code	CII M1 Genetic code	CII M1 Revision CIE
Dr.Soniya Shetty	Sem. V Theory 6+3u	C I M2 DNA Replication-features	C I M2 Historical experiments	C I M2 Historical experiments	C I M2 Historical experiments	C I M2 molecular mechanism	C I M2 molecular mechanism	C I M2 molecular mechanism CIE	C I M2 molecular mechanism	C I M2 molecular mechanism	C I M2 molecular mechanism	C I M2 Telomere replication	C I M2 Telomere replication CIE	C I M2 Rolling circle (σ)	C I M2 Revision	C I M2 Revision CIE
Dr.Soniya Shetty	Sem. V Theory 6u 2lec	C III M2 Bioenergetics-	C III M2 ETC	C III M2 Chemiosmotic coupling	C III M2 Chemiosmotic coupling	C III M3 Catabolism of carbohydrates	C III M3 Catabolism of carbohydrates	C III M2 ATP synthase CIE	C III M2 Shuttle systems, Bacteriorhodopsin	C III M3 EMP, TCA	C III M3 HMP, ED	C III M3 Anaplerotic pathways, Glyoxylate bypass	C III M3 Fermentations CIE	C III M3 Fermentations	C III M2 Calculations	Revision CIE
Dr.Soniya Shetty	Sem. V Practica	Practicals General instructions	Practicals Media principles	Practicals IMViC	Practicals OFtest	Practicals Albert	Practicals Phosphate solubilisers	Practicals Fibroblast culturing and count CIE	Practicals Haemocytometer	Practicals Electrophoresis	Practicals Cellulolytic	Practicals lignolytic	Practicals Phosphatase assay CIE	Practicals karyotyping	Practicals Mitochondria	Practicals Revision CIE
Mr Shabib Khan	Sem I theory				CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	C I M2 Prokaryotic cell structure-size, shape arrangement CIE	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life CIE	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life	CI MI Introduction to Microbiology and Chemical basis of life CIE
Mr Shabib Khan	Sem. III Theory	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography CIE	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography CIE	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography	CIII MIII Advanced Chromatography CIE	CIII MIII Advanced Chromatography Revision	CIII MIII Advanced Chromatography Revision	CIII MIII Advanced Chromatography Revision

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Mr Shabib Khan	Sem. III Practica	Medical Microbiology Virulence factors, Bioinstru mentatio n	Medical Microbiology MIC, Bioinstrumentation	Genetics, Virology and Viral plaque, Taxonomy Introduction to Bergey's manual	CI, CII, CIII CIE (Kirby Bauer method)	Medical Microbiology Bioinstru mentation Lambda max and dry wet, wet weight . Bergey's follow up	Medical Microbiology Bioinstru mentation Estimation of amino acid	Genetics, Virology and Taxonomy Viable count and plaque assay	Genetics, Virology and Taxonomy Follow up viable and plaque	CI, CII, CIII CIE (Identification of isolate using Bergey's manual)	Medical Microbiology Bioinstru mentation chemical assays	Medical Microbiology Bioinstru mentation chemical assays	Genetics, Virology and Taxonomy follow up	CI, CII, CII CIE (Paper Chromatography/ Dry wt- Wet wt.)	Bioinstrumentation , Revision and Journal assessment n	Revision and Journal assessment
	Sem. V Theory	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation CIE	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation CIE	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation	CI MIII Transcription and Translation CIE	CI MIII Transcription and Translation Revision	CI MIII Transcription and Translation Revision	CI MIII Transcription and Translation Revision
	Sem. V Practica	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport CIE	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport CIE	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport	CIII MI Solute Transport CIE	CIII MI Solute Transport Revision	CIII MI Solute Transport Revision	CIII MI Solute Transport Revision
Dr Rashmi Thakur	Sem I theory	CIII MIII Molecular basis of diversity of immunoglobulin molecule	CIII MII Multigene organization of Ig genes	CIII MII Multigene organization of Ig genes.	CIII MII Variables-Region Gene Rearrangements. CIE	CIII MII Variables-Region Gene Rearrangements	CIII MII Mechanism of Variable-Region DNA Rearrangements.	CIII MII Mechanism of Variable-Region DNA Rearrangements. CIE	CIII MII Generation of antibody diversity.	CIII MII Generation of antibody diversity.	CIII MII Generation of antibody diversity.	CIII MII Manipulations of the immune response	CIII MII Manipulations of the immune response. CIE	CIII MII Manipulations of the immune response.	CIII MII Antibody genes and antibody engineering.	CIII MII Antibody genes and antibody engineering.
	Sem. I Practi	CI Study of cell cytology using	CII Isolation of lactose from bovine milk. p	CIII Diagnosis for HIV a. CD4 lymphocyte count for AIDS	CIV UV mutagenesis.CIE	CI Study of Mitosis. 6. Study of Meiosis.	CII Estimation of total sugars by phenol-sulphuric acid method.	CIII ELISA for AIDS CIE	CIV Southern hybridization technique [Demonstration].	CII Diffusion studies of molecules across sheep RBCs.	CII Isolation of glutamic acid from gluten.	CIII Heamagglutination studies to detect swine flu.	CIV 7. Northern Blotting technique [Demonstration]. 8. Restriction mapping	CIV Design of primer & PCR. 10. Protein electrophoresis (Native and PAGE)	CII Estimation of polyphenols/ tannins by Folin-Denis method.	CIII Acid fast staining for MOTT.
	Sem. III Theory	CIVMIII Introduction to bioinformatics- CIMIV Experimental data collection and data processing	CIVMIII Introduction to bioinformatics- CIMIV Experimental data collection and data processing	CIVMIII Introduction to bioinformatics- CIMIV Experimental data collection and data processing	CIVMIII Introduction to bioinformatics- CIMIV Experimental data collection and data processing CIE	CIVMIII Biological databases: CIMIV Experimental data collection and data processing	CIVMIII Sequence alignment: CIMIV Report writing and presentation:	CIVMIII Sequence alignment: CIMIV Report writing and presentation: CIE	CIVMIII Sequence alignment: CIMIV Report writing and presentation	CIVMIII Protein Structure analysis: CIMIV Guidelines for writing a report:	CIVMIII Protein Structure analysis: CIMIV Guidelines for writing a report::	CIVMIII Protein Structure analysis: CIMIV Guidelines for writing a report::	CIVMIII Protein Structure analysis: CIMIV Guidelines for writing a report:: CIE	CIVMIII Basic concepts of computer aided drug design (CADD) CIMIV Guidelines for writing a report:	CIVMIII Basic concepts of computer aided drug design (CADD) CIMIV Guidelines for writing a report:	CIVMIII Basic concepts of computer aided drug design (CADD) CIMIV Guidelines for writing a report:
	Sem. III Pract	CI Writing Research Project Proposal and presentation (Oral/Poster presentation)	CII Initiation of callus from Tulsi /Neem explant on MS medium 2. Demonstration of Chick embryo fibroblast culture and viable staining of Lymphocytes	CIII Visit to Pharmaceutical industry 2. Sterility testing and reporting CIE	CIV Biological Databases: Sequence databases: Gene bank, EMBL, DDBJ, UNIPROT Structure database: PDB Literature database: PubMed 2. Genome Databases: Viral genomes, Archeal and Bacterial Genomes,	CI Analysis of data using MS- Excel (Descriptive Statistics), and manual problem solving based on Geometric and Harmonic mean	CII Visit to an animal cell culture laboratory	CIII 2. Sterility testing and reporting CIE	CIV 3. Sequence alignment BLAST: identification of homologs, paralogs & amp orthologs Multiple sequence alignment using Clustal W/Omega 4. Molecular phylogenetics: Construction of phylogenetic tree using 16S Ribosomal	CI Data collection exercises	CI Data analysis: R programming	CIII Efficacy testing of preservatives like parabens	CIV Protein structure analysis Visualization of protein 3Dstructure Classification – CATH & SCOP 6. Protein 3D structure prediction using SWISS MODEL server CIE	CI Data analysis: R programming	CII Case study on Biofuel production	CIII 6. Efficacy of preservation and shelf life study
	UG Sem. III Theory	CIII MI Colorimeter:	CIII MI Colorimeter:	CIII MI Spectroscopy: CIE	CIII MI Spectroscopy:	CIII MI Spectroscopy:	CIII MI Macromolecular Composition of a Microbial cell:	CIII MI Principle, Method and Applications: CIE	CIII MI Phosphorus by Fiske-Subbarow method	CIII MI Estimation of Proteins	CIII MI Estimation of Amino acids:	CIII MI Estimation of Nucleic acids: CIE	CIII MI Extraction and Estimation of Lipids.			
	UG Sem. V Theory	SECIUI Dairy starter cultures,	SECIUI Dairy starter cultures,	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese. CIE	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese.	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese.	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese.	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese. CIE	SECIUI Fermented dairy products: yoghurt, tofu, dahi, cheese.	SECIUI Other fermented foods: Idli, dosa, kombucha, green tea	SECIUI Other fermented foods: Idli, dosa, kombucha, green tea	SECIUI Other fermented foods: Idli, dosa, kombucha, green tea CIE	SECIUI Probiotics: Health benefits, types of microorganisms used, probiotic foods available in market and nutraceuticals.			
	M.Sc. I Sem II Existing batch	CIMI Viral cell interaction: CIIMI Monitoring of astronaut microbial flora. CIIM4 Biohazards:	CIMI Viral cell interaction: CIIMI Monitoring of astronaut microbial flora. CIIM4 Biohazards:	CIMI Viral cell interaction CIIMI Monitoring of astronaut microbial flora. CIIM4 Biosafety	CIMI Viral cell interaction CIIMI Monitoring of astronaut microbial flora. CIIM4 Biosafety											
	M.Sc. I Sem II Pract Existing batch	CIII 13) Antimicrobial effect of Ionic silver and Nanosilver prepared by above methods. 14) Study of Nanosilver coated Gauze/textiles for antimicrobial effect on different bacteria.	CIV Estimation of anti-oxidants and anti-nutritional factors (tannin/phytic acid) by spectrometric method.	CI Egg inoculation and cultivating animal virus in embryonated egg. Demonstration	CII Analysis of review and research papers in exobiology. 2. Presentation on Prof. Jayant Narlikars research. 3. Assignment on exobiology											

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Ms Versha Peghwal	Sem. V Theory	SEC MI Discussion LO &CO I Food borne dieases	SEC MII Staphylococcus aureus, characteristics, pathogenesis	SEC MII Diagnosis, treatment and lab diagnosis, association with food and preventive measures CIE	SEC MII Clostridium botulinum characteristics, pathogenesis	SEC MII Clostridium botulinum association with food and preservative strategies	SEC MII Shigellosis characteristics, pathogenesis	SEC MII Shigellosis Association with food and preservative strategies	SEC MII Salmonellosis characteristics, pathogenesis CIE	SEC MII Salmonellosis association with food and preservative strategies	SEC MII Entamoeba histolytica , Hepatitis E, Giardia lamblia characteristics, pathogenesis	SEC MII Entamoeba histolytica , Hepatitis E, Giardia lamblia association with food and preservative strategies CIE	SEC MII Yersinia enterocolitica, characteristics, pathogenesis	SEC MII Yersinia enterocolitica, association with food and preservative strategies	SEC MII Listeria monocytogenesch aracteristics, pathogenesis association with food and preservative strategie	SEC MII Revision
	Sem. V Theory	SEC MI Discussion LO &CO I Food borne dieases	SEC MII Staphylococcus aureus, characteristics, pathogenesis	SEC MII Diagnosis, treatment and lab diagnosis, association with food and preventive measures CIE	SEC MII Clostridium botulinum characteristics, pathogenesis	SEC MII Clostridium botulinum association with food and preservative strategies	SEC MII Shigellosis characteristics, pathogenesis	SEC MII Shigellosis Association with food and preservative strategies	SEC MII Salmonellosis characteristics, pathogenesis CIE	SEC MII Salmonellosis association with food and preservative strategies	SEC MII Entamoeba histolytica , Hepatitis E, Giardia lamblia characteristics, pathogenesis	SEC MII Entamoeba histolytica , Hepatitis E, Giardia lamblia association with food and preservative strategies CIE	SEC MII Yersinia enterocolitica, characteristics, pathogenesis	SEC MII Yersinia enterocolitica, association with food and preservative strategies	SEC MII Listeria monocytogenesch aracteristics, pathogenesis association with food and preservative strategie	SEC MII Revision
	Msc Sem I Theory	CI MIII Discussion LO &CO of CELL CYCLE Mechanism of cell division:	CI MIII Mechanism of cell division: M-phase	CI MIII Mechanism of cell division: S-phase, CIE	CI MIII Mechanism of cell division: CYTOKINESIS	CI MIII Germ cells and fertilization,	CI MIII events in Germ cells and fertilization,	CI MIII Meiosis events	CI MIII Regulation of meiosis sex determination in mammal CIE	CI MIII eggs, sperm, fertilization.	CI MIII Cell cycle and Programmed cell death	CI MIII Cell cycle and Programmed cell death: CIE	CI MIII Control system, intracellular control of cell cycle events,	CI MIII Apoptosis,	CI MIII extracellular control of cell growth and apoptosis	CI MIII extracellular control of cell growth and apoptosis.
Ms Versha Peghwal	Msc Sem I Theory	CIV MIII Discussion LO &CO of gene expression module. introduction to transcription	CIV MII Transcription process in eukaryotesI	CIV MIII RNA molecules and processing. Post transcriptional processing- structure of mRNA, pre –mRNA processing, addition of 5'cap, CIE	CIV MIII addition of Poly (A) tail, RNA splicing, RNA editing.	CIV MIII Small RNA molecules- RNA interference, types, processing & function of micro RNAs.	CIV MIII Small RNA molecules- RNA interference, types, processing & function of micro RNAs.	CIV MIII Translation Mechanism of translation-	CIV MIII Control of gene expression in prokaryotes Genes & regulatory Element. CIE	CIV MIII Levels of gene regulation. iii. DNA binding proteins: Leucine zipper and zinc fingers, homeodomain, helix turn helix motif.	CIV MIII Antisense RNA molecules. . Riboswitches	CIV MIII Control of gene expression in eukaryotes. CIE	CIV MIII Regulation through modification of gene structure- DNase I hypersensitivity,, DNA methylation.	CIV MIII histone modifications, chromatin remodelling	CIV MIII Regulation through transcriptional activators, Co-activators & repressors, enhancers and insulators.	CIV MIII Regulation through RNA processing & degradation Regulation through RNA interference.
	Msc Sem I Theory	CIV MIV DNA repair (direct reversal)	CIV MIV DNA repair (direct reversal	CIV MIV Base excision repair CIE	CIV MIV Sos repair	CIV MIV Recombination repair	CIV MIV Translational DNA synthesis	CIV MIV Yeast mating type switching	CIV MIV Homologous recombination in eukaryotes CIE	CIV MIV Homologous recombination in eukaryotes	CIV MIV Homologous recombination in eukaryotes	CIV MIV Homologous recombination in prokaryotes CIE	CIV MIV Homologous recombination in prokaryotes	CIV MIV Revision	CIV MIV Revision	CIV MIV
	Msc Sem III (New)	CII MIV Manipulation of Gene Expression in Prokaryotes: Regulatable promoters	CII MIV Fusion proteins	CII MIV Increasing protein stability Protein folding CIE	CII MIV DNA integration into the host chromosome	CII MIV Heterologous protein production in eukaryotic cells: Saccharomyces cerevisiae	CII MIV Pichia pastoris	CII MIV Baculovirus -Insect cell lines	CII MIV Mammalian cell lines CIE	CII MIV Oligonucleotide directed mutagenesis with M13	CII MIV Oligonucleotide directed mutagenesis with plasmid DNA	CII MIV PCR amplified oligonucleotide directed mutagenesis Random mutagenesis with degenerate oligonucleotide CIE	CII MIV Primer, Random mutagenesis with nucleotide analogues	CII MIV Error-prone PCR DNA shuffling	CII MIV Mutant proteins with unusual amino acids	CII MIV REVISION
Ms Versha Peghwal	Msc Sem III (New)	CIII MII Overview of drug development process	Impact of genomics and related technologies in drug discovery:	Gene chips CIE	Proteomics	Structural genomics	Introduction to Pharmacogenetics: Basic concept	Delivery of Biopharmaceuticals	Oral delivery system CIE	Pulmonary delivery	Nasal, transmucosal and transdermal delivery systems	Pharmacokinetics and pharmacodynamics CIE	Clinical trials	Clinical trials	The role and remit of regulatory authorities	The role and remit of regulatory authorities
	Msc Sem I Practicals	Study of Cell structure using Confocal Microscopy- Demonstration	Study of Cell membrane integrity using uptake of neutral red. Study of Meiosis.	Study of Cell Structure using Atomic force Microscopy- Demonstration. CIE	Extraction of total lipids. Estimation of total sugars by phenol-sulphuric acid method.	Isolation of cholesterol and lecithin from egg yolk.	Identification of fatty acids and other lipids by TLC. Determination of degree of unsaturation of fats and oils.	Preparation of liposomes. roblem solving exercises in medical microbiology based on diseases caused by HIV, MOTT, Chikungunya, Helicobacter.	SRID Diagnosis for MOTT. Preparation of LJ medium. CIE	Wet mount of stool sample. outhern hybridization technique [Demonstration].	Detection of dengue by kit method.	Acid fast staining for MOTT. CIE	Mono - Spot Test for diagnosis of Chikungunya (Demonstration expt.)	Acridine orange mutagenesis. Northern Blotting technique [Demonstration].	Isolation of mutants by Replica plate technique.	Penicillin enrichment technique.
	Msc Sem.III Practicals	Initiation of callus from Tulsi /Neem explant on MS medium	Demonstration of Chick embryo fibroblast culture and viable staining of Lymphocytes	Enumeration of animal cells (Lymphocytes) Preparation of complete medium. Sterilization and sterility checking of medium CIE .	Terminology and Laboratory design of Animal tissue culture laboratory Isolation of cellulose digestors from soil/ cow-dung/ biogas plant	Production of bioethanol / biodiesel	Microbial load in cosmetic product	Efficacy testing of preservatives like paraben	Efficacy testing of preservatives like paraben CIE	LAL and other tests for QC	Bacterial transformation	Engineering expression (simulation studies) CIE	Case study on Patent	Product design – hand wash, shampoo		

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ms Chinmai G.	Sem I Practical					Safety precautions in Laboratory CI Glasswares used in Laboratory CI Common Laboratory Instruments CI Requirements to be carried for working in Microbiology laboratory	CI Qualitative detection of carbohydrates by Molisch test and Benedict's test , Qualitative detection of proteins and amino acids	CI Qualitative detection of Nucleic acids: DNA and RNA, Preparation of culture media, Preparation of slant, butt and plate	CI Tube to tube transfer, Liquid medium inoculation, Operation between burners.	CII Cultivation of BGA and Protozoa, CI Inoculation of Butt and Slant and Plate, CII Care of Microscope	CI Plate isolation methods, CI Monochrome staining	CI Colony characteristics on NA, Mac, SMA and SIBA	CII Gram Staining, CI Negative Staining, Fungal Wet mounts	CII Study of Oligodynamic action, Effect of Copper vessel on storage of water, STAR-DBT Cultivation of Anaerobes	CII Evaluation of a disinfectant, Effect of soap, Study of yeast	CII Effect of UV light, Effect of desiccation, STAR-DBT Study of enzyme activity
	Sem. V Theory	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles	DSE I M I Biogeochemical Cycles
	Sem. V Theory	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.	DSE I M II Microbial derived value-added products.
	M.Sc Sem I	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling	C I M IV Cell Communication and Signalling
	M.Sc Sem I	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules	C II M III Transfer of Biomolecules
	M.Sc Sem I	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics	C IV M IV Molecular tools for genetics and Population genetics
	Msc Sem. III Theory (New)	C III M I Biopharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals	C III M I Bio pharmaceuticals
	MSC III M III	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products	C III M III Analysis of Pharma and Cosmetic Products

DEPARTMENT OF MICROBIOLOGY ACADEMIC PLAN 2021-2022
EVEN SEMESTER

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name	Sem/ paper	15/11/2021-20/11/2021	22/11/2021-2611/2021	28/11/2021-04/12/2021	06/12/2021-11/12/2021	13/12/2021-18/12/2021	20/12/2021-24/12/2021	03/01/2022-08/01/2022-	10/01/2022-15/01/2022	17/01/2022-22/01/2022	24/01/2022-29/01/2022	31/01/2022-05/02/2022	07/02/2022-12/02/2022	14/02/2022-19/02/2022	21/02/2022-26/02/2022	28/02/2022-05/03/2022
Ms. Hemlata Chakravarty	Sem. II Theory	CCI MI Microbial growth-introduction, terms used, cell cycle	CCI MI Cell division	CCI MI Growth curve CIE	CCI MI Growth curve	CCI MI Enumeration of bacteria- turbidity method. brown's opacity tube. spectroscopic method	CCI MI Enumeration of bacteria-DMC CIE	CCI MI Enumeration of bacteria-Membrane filter technique	CCI MI Enumeration of bacteria-SPC	CCI MI Turbidostat	CCI MI Chemostat CIE	CCI MI Effect of environment on microbes-Availability of water	CCI MI Effect of temperature	CCI MI Effect of pH	CCI MI Effect of salt	CCI MI Revision Lecture
	Sem. II Theory	CCI MII Fluorescent microscope	CCI MII Applications of fluorescence microscope	CCI MII Confocal microscope CIE	CCI MII Electron microscope, comparison with light microscope	CCI MII TEM- Construction	CCI MII TEM- Staining method CIE	CCI MII SEM	CCI MII Ultramicrotomy	CCI MII Shadow casting and negative staining	CCI MII Special staining method-cell wall and capsule CIE	CCI MII Lipid and meta-chromatic granule staining	CCI MII Endospore staining	CCI MII Flagella staining	CCI MII Revision Lecture 1	CCI MII Revision Lecture 2
	Sem. IV Theory	CIII MIII Microbial flora of milk- Sources of microorganism in milk	CIII MIII Biochemical type of bacteria in milk	CIII MIII Temperature characteristic of bacteria in milk and pathogenic types of bacteria in milk CIE	CIII MIII Processing of milk and phosphatase test	CIII MIII Processing of milk and phosphatase test	CIII MIII Analysis of milk CIE	CIII MIII Analysis of milk	CIII MIII Analysis of milk	CIII MIII Analysis of milk	CIII MIII Grading of milk-raw and pasteurised milk CIE	CIII MIII Shelf life and packaging	CIII MIII Storage and distribution	CIII MIII Storage and distribution	CIII MIII Revision Lecture 1	CIII MIII Revision Lecture 2

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ms. Hemlata Chakravarty	Sem. VI Theory	CCII MIII T-cell receptor	CCII MIII T-cell development	CCII MIII T-cell activation and differentiation CIE	CCII MIII Generation and target destruction by cytotoxic T cell	CCII MIII Killing Mechanism of NK cell	CCII MIII Antibody dependent cell cytotoxicity CIE	CCII MIII B-cell recepto	CCII MIII B-cell development and maturation	CCII MIII B-cell activation and differentiation	CCII MIII Introduction of humoral response CIE	CCII MIII Primary and secondary immune response	CCII MIII Germinal centres and antigen induced B-cell differentiation	CCII MIII Revision Lecture 1	CCII MIII Revision Lecture 2	CCII MIII Revision Lecture 3
	Sem. VI Theory	DSCII MI Monoclonal antibodies- production and application	DSCII MI Monoclonal antibodies- production and application	DSCII MI Monoclonal antibodies- production and application CIE	DSCII MI Immunohematology- Humanblood group system	DSCII MI Immunohematology- secretor and non-secretor Rhesus system	DSCII MI Immunohematology- Other blood group systems CIE	DSCII MI Immunohematology- Hemolytic disease of newborn	DSCII M Immunohematology-Coombs test	DSCII MI Vaccine- active immunisation	DSCII MI Passive immunisation CIE	SCII MI Ty[pes of vaccine- killed, attenuated, whole organism	DSCII MI Types of vaccine- Purified macromolecule, DNA vaccine, recombinant	DSCII MI Use of adjuvant, ideal vaccine, route of administration	DSCII MI Revision Lecture 1	DSCII MI Revision Lecture 2
	Sem. VI Theory	DSCII MII Hypersensitivity reaction- Coombs and Gel classification	DSCII MII Type I hypersensitivity	DSCII MII Type I hypersensitivity CIE	DSCII MII Type II hypersensitivity	DSCII MII Type III and IV hypersensitivity	DSCII MII Introduction to autoimmunity- definition of immune tolerance, immune suppression and autoimmunity CIE	DSCII MII Examples of autoimmune disorder	DSCII MII Possible mechanism	DSCII MI Transplantation- TypesI	DSCII MII Mechanism of graft rejection CIE	DSCII MII Methods of increasing acceptance of allograft	DSCII MII Methods of increasing acceptance of allograft	DSCII MII Revision Lecture 1	DSCII MII Revision Lecture 2	DSCII MII Revision Lecture 3
	Sem. VI Pract	Practical Pure culture study of Salmonella	Practical Pure culture study of Shigella	Practical Study of SS Agar. XLD agar, Decarboxylase agar CIE	Practical Blood group antigens-direct and reverse typing	Practical Coombs test-direct and indirect	Practical Major and minor typing CIE	Practical TAB Vaccine preparatio	Practical Isoagglutination	Practical Coliphage enrichment and enumeration	Practical Sterility testing of injectables CIE	Practical Carotene extraction and estimation	Practical Diagnostic cycle of CNS	Practical Diagnostic cycle of bacteremia	Practical Diagnostic cycle of GI tract	Practical Revision
Dr.Lolly Jain	Sem. II Theory	CII MIII Discussion of CO ,LO of the module Introduction to Industrial Microbiology	CII MIII Introduction to Industrial Microbiology	CII MIII Introduction to Industrial Microbiology CIE	CII MIII Introduction to Industrial Microbiology	CII MIII Screening Methods for Industrially important strains	CII MIII Screening Methods for Industrially important strains CIE	CII MIII Screening Methods for Industrially important strains	CII MIII Basic Fermenter design	CII MIII Basic Fermenter design	CII MIII Preservation of microorganisms CIE	CII MIII Preservation of microorganisms	CII MIII Preservation of microorganisms	CII MIII Revision	CII MIII Test 1	CII MIII Test 2
	Sem. II Practical	CI: Effect of Temperature CI: Cell wall Staining	CI: Effect of pH CI: Capsule staining Metachromatic Granule Staining	CI: LIpid staining CII: Winogradsky column CI: Endospore staining Flagella Staining	CI: Measurement of Growth- Preparation of Brown's Opacity tubes CI: Measurement of Growth- Growth Curve study of E.coli CIE	CII: Study of Air Flora and determination of sedimentation rate CII: Preservation of Microorganisms (Serial Subculture and Mineral oil overlay)	CII: Preservation of Microorganisms (Soil stock and glycerol stock method) CIE	CII: Motility by hanging drop preparation CII: Presumptive test	CII: Confirmed Completed Eijkman IMViC test	CII: Crowded Plate Technique	STAR-DBT Use of micropipettes Use of Motility aga	CI: Enrichment and Enumeration of coliphages CIE	CI: Revision	CII: Revision	MOCK TEST PRACTICAL CI	MOCK TEST PRACTICAL CI
	Sem. IV Theory	CIII MI Discussion of CO , LO of the module,Fermentation Media	CIII MI Fermentation Media	CIII MI Fermentation Media CIE	CIII MI Fermentation Media	CIII MI Fermentation Media	CIII MI Types of Fermentation CIE	CIII MI Types of Fermentation	CIII MI Types of Fermentation	CIII MI Types of Fermentation	CIII MI Types of Fermentation CIE	CIII MI Inoculum developmen	CIII MI Inoculum developmen	CIII MI Revision	CIII MI Test 1	CIII MI Test 2
	Sem VI Theory	CIV MI Discussion of CO , LO of the module, Criteria for choice of recovery process	CIV MI Biomass separation from fermentation media Foam Separation Precipitation	CIV MI Biomass separation from fermentation media : Filtration, filter aids, plate-frame and rotary vacuum filters CIE	CIV MI Biomass separation from fermentation media: Centrifugation - Cell aggregation and flocculation, Range of centrifuges	CIV MI Cell Disruption for intracellular products-Physico-mechanical methods	CIV MI Cell Disruption for intracellular products-Chemical methods CIE	CIV MI Liquid –liquid extraction, Solvent recovery, Two phase aqueous extraction, Reversed Micelle extraction Supercritical fluid extraction	CIV MI Adsorption and removal of volatile products	CIV MI Chromatography- Ion Exchange chromatography HPLC	CIV MI Membrane processes CIE	CIV MI Drying	CIV MI Crystallization and Whole broth processing	CIV MI Revision	CIV MI Test 1	CIV MI Test 2
	Sem VI Theory	C IV MII Discussion of CO , LO of the module, Protein –Based contaminants	C IV MII Detection of Protein based product impurities	C IV MII Immunological approaches to detection of contaminants CIE	C IV MII Endotoxin and other pyrogenic contaminants	C IV MII Miscellaneous contaminants	C IV MII Validation studies CIE	C IV MII Validation studies	C IV MII Methods for determination of organic matter content in waste waters	C IV MII Wastes from major industries- an overview Systems for the treatment of wastes	C IV MII Systems for the treatment of wastes CIE	C IV MII Anaerobic breakdown of sludge	C IV MII Waste water disposal in Pharmaceutical industry, EPA	C IV MII Revision,	C IV MII Test 1	C IV MII Test 2
	Sem. V Theory	SEC MII Discussion of CO , LO of the module, Introduction	SEC MII Methods of Immobilization :Adsorption	SEC MII Methods of Immobilization :Adsorption CIE	SEC MII Methods of Immobilization :Covalent binding	SEC MII Methods of Immobilization :Covalent binding	SEC MII Methods of Immobilization :Entrapment CIE	SEC MII Methods of Immobilization :Entrapme	SEC MII Advantages of Immobilization	SEC MII Advantages of Immobilization	SEC MII Advantages of Immobilization CIE	SEC MII Advantages of Immobilization	SEC MII Applications	SEC MII Applications	SEC MII Applications CIE	SEC MII Revision Test
Dr.Soniya Shetty	Sem II theory	C I M3 Viruses	C I M3 Viruses	C I M3 Viruses	C I M3 Viruses	C I M3 Viruses CIE	C I M3 Viruses	C I M3 Viruses	C I M3 Viruses	C I M3 Rickettsia	C I M3 Chlamydia CIE	C I M3 Actinomycetes	C I M3 Actinomycetes	C I M3 Archaebacteria	C I M3 Archaebacteria	Revision CIE
	Sem. IV Theory 2 lec	C II M1 Thermodynamics- concepts	C II M1 Thermodynamics- concepts	C II M1 Thermodynamics- concepts	C II M2 Metabolism	C II M2 Types of pathways CIE	C II M2 Types of pathways	C II M1 ATP	C II M1 Energy yielding mechanisms	C II M1 Energy yielding mechanisms	C II M2 Biological oxidation reduction reactions CIE	C II M2 EMP	C II M2 TCA	C II M2 Revision	C II M1 Revision	Revision CIE
	Sem. VI Theory 6+3u	C I M3 Mutation- terminology	C I M3 Mutation- terminology	C I M3 Mutation- terminology	C I M3 Types of mutations	C I M3 Types of mutations CIE	C I M3 Types of mutations	C I M3 Spontaneous	C I M3 Spontaneous	C I M3 Induced mutation	C I M3 Induced mutation CIE	C I M3 Detection	C I M3 Repair	C I M3 Revision	C I M3 Revision	Revision CIE

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Dr.S.Shetty	Sem. VI Pract	Practicals	Practicals Folin lowry	Practicals Lysine decarboxylase	Practicals Replica plating	Practicals B gal CIE	Practicals Diauxy	Practicals B12 bioassay	Practicals Penicillin bioassay	Practicals Alcohol, sugar tolerance	Practicals Alcohol and sugar estimation CIE	Practicals calculations	Practicals Chlorophyll	Practicals Bioassay practice	Practicals Revision	Revision CIE
	Sem. II M.Sc. Theory	C I M3 cloning experiments	C I M3 Model organisms	C I M3 Early embryonic development	C I M3 Genetics of Pattern Formation in Drosophila	C I M3 Genetics of Pattern Formation in Drosophila CIE	C I M3 Genetics of Pattern Formation in Drosophila	C I M3 Sex determination	C I M3 Sex determination CIE	C I M3 Zygotic Gene Activity	C I M3 Zygotic Gene Activity	C I M3 Zygotic Gene Activity	C I M3 Flower whorl development	C I M3 Appoptosis	C I M3 Stem cell lineage	C I M3 Revision CIE
Mr Shabib Khan	Sem II theory	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil CIE	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil CIE	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil	CII MI Microorganisms in Air and Soil CIE	CII MI Microorganisms in Air and Soil Revision	CII MI Microorganisms in Air and Soil Revision	CII MI Microorganisms in Air and Soil Revision
	Sem. IV Theory	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology CIE	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology CIE	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology	CII MIII Enzymology CIE	CII MIII Enzymology Revision	CII MIII Enzymology Revision	CII MIII Enzymology Revision
	Sem. IV Pract	Immunology,DID, Blood grouping and staining CII, Industrial and Food Microbiology TDP	Immunology, SRID CII, Industrial and Food Microbiology TDT	Concepts in Biochemistry Invertase production and extraction, ELISA	CI, CII, CIII CIE (Blood grouping , Identification of blood cells)	Immunology, Widal and O, H preparation	Effect of pH,Temperature	Industrial and Food Microbiology, Agar streak	CI, CII, CIII CIE (Problems on bioenergetics) 05 (Purification of enzymes-Problem)	Effect of Substrate , enzyme Auxanography, Food spoilage organisms isolation	Industrial and Food Microbiology Dairy Microbiology , Km and Vmax MIC sugar	Industrial and Food Microbiology, Dairy Microbiology MIC salt, Agar strip	CI, CII, CIII CIE (Auxanography/ TDP- TDT/ MBRT-DMC)	Industrial and Food Microbiology Counts follow up	Industrial and Food Microbiology, Solid and submerged state of fermentation	Revision and Journal assessment
	Sem. VI Theory	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology CIE	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology CIE	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology	CI MII Plasmids and their mechanism in Molecular Biology CIE	CI MII Plasmids and their mechanism in Molecular Biology Revision	CI MII Plasmids and their mechanism in Molecular Biology Revision	CI MII Plasmids and their mechanism in Molecular Biology Revision
	Sem. VI Theory	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision
	Sem. VI Theory	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids CIE	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision	CIII MI Metabolism of Proteins,Nucleic acids,Catabolism of Lipids Revision
	Sem. VI Theory	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology CIE	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology CIE	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology CIE	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology Revision	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology Revision	DSE-I MII Screening, selection of recombinant clones and Applications of Recombinant DNA Technology Revision
	M.Sc Sem II Theory	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I CIE	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I CIE	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I	CIII MI Enzymology-I CIE	CIII MI Enzymology-I Revision	CIII MI Enzymology-I Revision	CIII MI Enzymology-I Revision
Dr Rashmi Thakur	Sem II theory	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies	CIMI Viral genetics CIIMI Extra-terrestrial life detection studies
	Sem. II Practi	CI Transformation	CII Analysis of sludge: sewage and industrial for the following parameters: sludge volume index (SVI),.	CIII 11) Preparation of Nanosilver By Wet reduction Method (Chemical), using Neem Extract(plants) & Bacteria(Microbiological). 12) Characterisation of Nanosilver by UV spectrometry and microscopic methods.	CIV Microbiological study of fermented foods (Idli batter and sauerkraut CIE	CI Conjugation	CII Mixed liquor suspended solids (MLSS), Mixed liquor volatile suspended solids (MLVSS), F/M ratio	CIII 13) Antimicrobial effect of Ionic silver and Nanosilver prepared by above methods. 14) Study of Nanosilver coated Gauze/textiles for antimicrobial effect on different bacteria. CIE	CIV Estimation of anti-oxidants and anti-nutritional factors (tannin/phytic acid) by spectrometric method.	CI Egg inoculation and cultivating animal virus in embryonated egg. Demonstration	CII Analysis of review and research papers in exobiology. 2. Presentation on Prof. Jayant Narlikars research. 3. Assignment on exobiology CIE .	CIII Chemotaxis of Pseudomonas.	CIV Assessment of point of use water purifiers (Zero B) for removal of bacteria. 8.	CI Cultivation of macrophage cell lines and study of cell viability. Demonstration Assignment on Animal viruses – Epidemiology, Transmission.	CII Visit to a dairy plant or food industry - Report to be written in journal	CIII 6) Effect of temperature and water activity on swarming of Proteus

Dr Rashmi Thakur	Sem. IV Theory	CIMIII CIIMIV History: Origins and Initial experiments	CIMIII CIIMIV History: Origins and Initial experiments	CIMIII CIIMIV Introduction to Synthetic Biology	CIMIII CIIMIV Introduction to Synthetic Biology CIE	CIMIII CIIMIV Introduction to Synthetic Biology	CIMIII CIIMIV Synthetic Biology Approaches:	CIMIII CIIMIV Synthetic Biology Approaches: CIE	CIMIII CIIMIV Synthetic Biology Approaches:	CIMIII CIIMIV Applications:	CIMIII CIIMIV Applications:	CIMIII CIIMIV Applications: CIE	CIMIII CIIMIV Applications:	CIMIII CIIMIV Applications:	CIMIII CIIMIV Synthetic Biology for a Sustainable World and Cas-9 tool	CIMIII CIIMIV Synthetic Biology for a Sustainable World and Cas-9 tool
	Sem. IV Practical	CI Determination of MIC of disinfectant/antimicrobials with sessile and planktonic bacteria (to show higher resistance of biofilms to antimicrobials as compared to Planktonic cells) quantified using crystal violet assay.	CII Bacterial transformation	CIII Heat killed vaccine preparation CIE	CIV Analysis of sludge: sewage and industrial for the following parameters: sludge volume index (SVI),	CI Think well and Gut check: The Microbiome game by Jonathan Eisen's lab.	CII. Engineering expression (simulation studies)	CIII Sterility checking of the prepared heat killed vaccine CIE	CIV Analysis of sludge: sewage and industrial for the following parameters: sludge volume index (SVI), Mixed liquor suspended solids (MLSS), Mixed liquor volatile suspended solids (MLVSS), F/M ratio	CI 8. Hand Microbiome print (Diversity analysis).	CII Assignment on Gene Knockout Technology/Overview of different types of biotechnology	CI Effects of sanitizers/soaps/deodorants on skin. CIE	CI IHMC: Report/Assignment (http://www.human-microbiome.org/).	CIV Mixed liquor suspended solids (MLSS), Mixed liquor volatile suspended solids (MLVSS), F/M ratio	CII Demonstration of PCR 3. Primer designing	CII 11. PCR, Gibson and DNA assembly (Virtual Lab)
	UG Sem. IV THEORY	General principles of food spoilage:	General principles of food spoilage:	Contamination, spoilage and preservation of Meat CIE	Contamination, spoilage and preservation of Meat	Methods of food preservation:	Methods of food preservation: CIE	Effect of Irradiation on Food qualit	Effect of Irradiation on Food qualit	Indirect antimicrobial	Concepts underlying use of the following for preservatio)Antibiotics CIE	Lactoperoxidase system c) Antifungal agents for fruit	Lactoperoxidase system c) Antifungal agents for fruit			
	UG Sem. VI THEORY	SECIUI Electrophoresis-agarose gel electrophoresis,	SECIUI Electrophoresis-agarose gel electrophoresis,	SECIUI Electrophoresis-agarose gel electrophoresis, CIE	SECIUI Electrophoresis-agarose gel electrophoresis,	SECIUI Matrix assisted laser desorption ionization (MALDI),	SECIUI Surface enhanced laser desorption ionization(SELDI), CIE	SECIUI Electro spray ionization (ESI), PCR, Applications of PCR.	SECIUI Blotting Techniques:	SECIUI Blotting Techniques:	SECIUI DNA finger printing Radioimmunoassay CIE	SECIUI Fluorescence in situ Hybridization (FISH)				
Ms. Varsha Peghwal	Sem. VI Theory	CI MI LO/CO DISCUSSION AND INTRODUCTION	CI MI Gene transfer mechanisms in bacteria Transformation: Introduction and History	CI MI Types of transformation in prokaryotes- Natural transformation in Streptococcus pneumoniae, Bacillus, CIE	CI MI Mapping of bacterial genes using transformation. Problems based on transformation.	CI MI Discovery of conjugation in bacteria (Lederberg and Tatum experiment). Properties of F plasmid/Sex factor.	CI MI The conjugation machinery. Hfr strains, their formation and mechanism of conjugation.	CI MI F' factor, origin and behaviour of F' strains, Sex-duction. Mapping of bacterial genes using conjugation (Interrupted mating experiment). CIE	CI MI Problems based on conjugation	CI M Introduction and discovery.I	CI MI Generalized transduction.CIE	CI MI Specialized transduction.	CI MI Problems based on transduction	CI MI Revision	CI MI Revision	CI MI Revision
	Sem. VI Theory	DSE M III Disease diagnosis LO/CO discussion and introduction	DSE M III Disease diagnosis DNA/RNA Probe Monoclonal Antibodies	DSE M III Autoantibodies Commercial potential of Diagnostics CIE	DSE M III Detection of genetic diseases Obtaining foetal cells	DSE M III Disease detection Identification of genes causing genetic diseases	DSE M III Disease treatment Products from Non-recombinant organisms Products from Recombinant organisms	DSE M III Interferons Growth factors Monoclonal antibodies CIE	DSE M III Artificial tissues/organs Therapeutic oligonucleotides	DSE M III Drug designing, Drug delivery and targeting	DSE M III Gene therapy Types of gene therapy .CIE	DSE M III Augmentation gene therapy Targeted gene transfer Ethical issues	DSE M III DNA fingerprinting in forensic medicine	DSE M III Bioterrorism	DSE M II REVISION	DSE M II REVISION
	Msc Sem II Theory	CIII MII LO/CO discussion and introduction to two-component signalling systems:	CIII MII Response by facultative anaerobes to anaerobiosis, nitrate and 10L nitrite, nitrogen supply.	CIII MII Response by facultative anaerobes to anaerobiosis, nitrate and 10L nitrite, nitrogen supply. .CIE	CIII MII Effect of oxygen and light on the expression of photosynthetic genes in purple photosynthetic bacteria,	CIII MII response to osmotic pressure and temperature, response to potassium ion	CIII MII external osmolarity, response to carbon sources.	CIII MII Synthesis of virulence factors in response to temperature, pH, nutrient, osmolarity and quorum sensors, .CIE	CIII MII chemotaxis, photoresponses, aerotaxis.	CIII MII Bacterial response to environmental stress- heat-shock response,repairing damaged DNA, oxidative stress.	CIII MII Bacterial response to environmental stress- heat-shock response,repairing damaged DNA, oxidative stress. .CIE	CIII MII Bacterial development and quorum sensing:	CIII MI Myxobacteri Caulobacter, I quorum sensing:	CIII MII bioluminescence, systems similar to LuxR/LuxI	CIII MII nonluminescent bacteria, biofilms.	CIII MII VBNC
	Msc Sem II Theory	CIV UII LO/CO discussion and introduction to control and detection of Microorganism Control by physical removal, heat, low temperature,	CIV UII Control by Reduced aw, low pH	CIV UII Control by organic acids, modified atmosphere .CIE	CIV UII Control by antimicrobial preservatives, irradiation, canning,	CIV UII Control to access of microorganism	CIV UII Conventional methods of detection of Microbes: Bacterial toxins	CIV UII Conventional methods of detection of Microbes :Fungal toxins .CIE	CIV UII Conventional methods of detection of Microbes:Rapid methods	CIV UII Biosensors	CIV UII Novel emerging techniques of food preservation .CIE	CIV UII Novel emerging techniques of food preservation	CIV UII Control by combination of methods (Hurdle concept)	CIV UII Control by combination of methods (Hurdle concept)	CIV UII Revision	CIV UII Revision
	Msc Sem II Theory	CIV UIV Controlling the Microbiological quality of food	CIV UIV Drinking water risk assessment and its safety: 8L bottled water – legislation	CIV UIV types of bottled water. BIS regulations .CIE	CIV UIV Potential chemical and microbiological hazards in the bottles	CIV UIV type of bottle and the bottling procedure.	CIV UIV The application of HACCP in the bottling plants:	CIV UIV Water quality attained from point of use water purifier units, .CIE	CIV UIV Water quality attained from point of use water purifier units,	CIV UIV types of water purifiers.	CIV UIV types of water purifiers. .CIE	CIV UIV Microbiological specification and methods used to certify water purifiers,	CIV UIV Microbiological specification and methods used to certify water purifiers,	CIV UIV international standards regulating quality of water	CIV UIV international standards regulating quality of water	CIV UIV Revision
	MSC Sem II Pract	Transformation Conjugation	Transduction Study of transposable elements. Curing of plasmids.	Isolation of host range mutants. Problems on gene transfer mechanisms. CIE	Isolation and Purification of coliphages from sewage. Study of One Step Growth Curve of Lambda phage / T4Phage.	Isolation of Lysozyme from egg white Ecology problems.	Enrichment and isolation of cellulose, lignin & xylanase degraders from mangrove SOIL	Purification of an extracellular enzyme(ß-amylase) by salting out and dialysis. CIE	Enzyme kinetics-effect of enzyme concentration, substrate concentration, pH temperature	Demonstration of proteolytic activity.	Determination of glucose isomerase present intracellularly in Bacillus sp. CIE	Microbiological load in carrot and apple juice, salad, mayonese.	Microbiological load in carrot and apple juice, salad, mayonese.	Microbiological analysis of fish samples wrt sample processing for recovery	Enrichment and isolation of cellulose, lignin & xylanase degraders from mangrove SOIL	

Ms. Varsha Peghwal	Msc Sem. IV (New)	CIII MII Introduction of vaccines	CIII MII Subunit vaccines	CIII MII FMD and Cholera vaccines CIE	CIII MII Peptide vaccines	CIII MII Peptide vaccines	CIII MII Genetic immunization	CIII MII Delivery CIE	CIII MII DNA vaccines for dental caries	CIII MII DNA vaccines for dental caries	CIII MII Attenuated vaccines CIE	CIII MII Cholerae and leishmania	CIII MII Bacterial antigen delivery system	CIII MII Bacterial antigen delivery system	CIII MII Revision	CIII MII Revision
	Msc Sem. IV (New)	CIII MI E.coli T4 phage structure and Replication	CIII MI Lambda phage replication	CIII MI Regulation of Lytic and lysogenic cycle CIE	CIII MI Influenza Virus structure and lifecycle	CIII MI Replication and mRNA synthesis	CIII MI Pathogenesis, Diagnosis and treatment of Influenza virus	CIII MI Nipah virus: epidemiology, pathogenesis , transmission CIE	CIII MI Nipah virus diagnosis and treatment Sars CoV -2	CIII MI Sars CoV-1 and Sars CoV -2	CIII MI Sars CoV-1 and Sars CoV -2 CIE	CIII MI Myco bacteriophages	CIII MI Mycobacteriophages APPLICATION	CIII MI Application of Mycobacteriophages in clinical tool	CIII MI Revision	CIII MI Revision
	Msc Sem IV pract	Enrichment & isolation of thermophiles from hot springs/compost heaps & extraction of thermophilic enzymes & determination of its specific activity.	Different types of media preparation for extremophiles.	Isolation of halophiles from mangrove soil. CIE	Biofilm visualization by staining a slide immersed in different environments such as soil, water, saliva (to emphasize compositional and structural variations in biofilms from different environments	Demonstration of PCR Demonstration of microarray technology	Estimation of total Amino-acid content (Plant material) by Ninhydrin Method	Amino-acid profile of plant material by 2D Chromatography CIE	Bacterial transformation	Laboratory scale cultivation of algae.	Enrichment and Enumeration of Coliphages from Sewage CIE	Phage Typing of E. coli and Salmonella strains	Study of One Step Growth Curve of Coliphages	Demonstration of Analysis of SOx, NOx, heavy metal (As/Cr) pollutants using volumetric/ spectrophotometric methods	Enrichment, isolation and characterization of thermophiles from marine hot-springs	
Ms Chinmai G.	Sem II Pract	CI: Effect of Temperature CI: Cell wall Staining	CI: Effect of pH CI: Capsule staining Metachromatic Granule Staining	CI: LIpid staining CII: Winogradsky column CI: Endospore staining Flagella Staining	CI: Measurement of Growth- Preparation of Brown's Opacity tubes CI: Measurement of Growth- Growth Curve study of E.coli	CII: Study of Air Flora and determination of sedimentation rate CII: Preservation of Microorganisms (Serial Subculture and Mineral oil overlay)	CII: Preservation of Microorganisms (Soil stock and glycerol stock method)	CII: Motility by hanging drop preparation CII: Presumptive test	CII: Confirmed Completed Eijkman IMViC test	CII: Crowded Plate Technique	STAR-DBT Use of micropipettes Use of Motility agar	CI: Enrichment and Enumeration of coliphages	CI: Revision	CI: Revision	MOCK TEST PRACTICAL CI	MOCK TEST PRACTICAL CI
	Sem. VI Theory	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations	C IV M III Industrial fermentations
	M.Sc Sem II Theory	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology	C II M III Ecology
	M.Sc Sem II Theory	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology	C III M IV Nano biotechnology
	M.Sc Sem II Theory	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology	C IV M III Advances in Food Microbiology
	M.Sc Sem IV Theory	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity	C I M I Microbial Diversity
	M.Sc Sem IV Theory (New)	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles	C I M II Cultivation and Applications of Extremophiles
	M.Sc Sem IV Theory (New)	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology	C IV M I Soil & Agricultural Microbiology