Government Degree College, Khairatabad, Hyderabad District, Telangana state

Department of Microbiology

Name of the faculty: Dr. N. Harikrishna **Subject: Microbiology**

Month	Paper	Topics to be covered	No. of classes available or conducted	Percentage of syllabus covered	Sign
August -2022	**I**	Introduction to syllabus, History of Microbiology, Contributions of scientists – Leeuwen Hoek, Pasteur, Koch	03	5	
	III	Introduction to syllabus, Food Microbiology, Microbial food production, Probiotics			
	V	Introduction to syllabus- History of Genetics, Mendilian laws, alleles, crossing over, linkage	06	5	
September-2022	**I**	Applications of Microbiology, Microscopy, Staining techniques, Ultra structure of Bacteria,	14	15	
	III	Microbial food spoilage, Food preservation, Air Microbiology, Soil, Rhizosphere, Phyllosphere,	14	15	
	V	DNA, Replication of DNA, DNA and RNA as genetic material, Mutations	14	20	
October-2022	**I**	Growth media, General characters of viruses, TMV, HIV, Lambda phage according to the bergeys manual, isolation and preservation of pure culture	18	45	
	III	Food intoxications, Water Microbiology, water Borne diseases, sewage treatment	18	45	
	V	Repair, Horizontal gene transfer among bacteria, Central dogma, Genetic code	18	40	
November-2022	**I**	Isolation of pure culture and preservation. Glycolysis, TCA, ETC	14	70	

	III	Food safety and Quality control	14	70	
	V	History and Outline of cloning, application og Genetic engineering	18	70	
December-2022	**I**	Examinations	10	80	
	III	Examinations	10	85	
	V	Examinations	12	80	
January -2023	**I**	Introduction to syllabi, Biodiversity of organisms, Species rich ness, conservation of Biodiversity Classification of living organisms			
	III	Introduction to syllabi, Host pathogen interactions, Normal flora,			
	V	Introduction to syllabi Screening of industrially important microorganisms, Strain improvement Types of fermentations, Fermentor- design, Fermentation media, inoculation media			
February-2023	**II**	Gram positive and gram negative bacteria Mycoplasma, archea, metabolic characters of extremophiles,	22		
	IV	Types of immunity, cells and organs of immunity, antigens and antibodies,	27		
	VI&VII	Raw materials for fermentation, down stream processing, alcohol, beer production Amylase production,	27		
March- 2023	**II**	Great plate count anomaly, perturbed and preserved ecosystem,	26		
	IV	Antigen antibody reactions, ELISA, RIA, Immunoflourescence, Polyclonal and monoclonal antibodies	30		

	VI &VII	Production of pigments, carotenoids, biotransformations to produce of ester, aldehydes, vanillin	30		
April -2023	**II**	Microbiome, cultivated and uncultivated microorganisms	10		
	IV	Hypersensitivity, autoimmunity, MHC-I and II complement pathway, Vaccine	11		
	VII &VIII	IPR, Nitrogen fixation, Phosphate solubilizing bacteria, Azolla, Mycorrhiza trichoderma, Bacillus, Rhizobium	11		
May -2023	**II**	algae and fungi classification			
	IV	Vaccine, Hypersensitibvity, Autoimmunity,			
	VII&VIII	glutamic acid production, vitamin B12 production, clinical sample collection, diagnosis of pathogens, zeihl nelson, gram staining			
June-2023	**II**				
	IV				
	VII&VIII				