Semester	*Paper Code*	*Paper Name*	*Unit*	*Course Outcome*
UG Semester IV	CC8 (TH)	MICROBIAL GENETICS	Unit 1	To study the genomic organization of different organisms as well as brief idea of mutation
			Unit 2	To understand the types and molecular regulations of natural and artificial plasmids
			Unit 3	To understand the bacterial genetic exchange through different methods
			Unit 4	To study phage genetics and its regulation
			Unit 5	To understand how the prokaryotic and eukaryotic transposons involved in genetic variations
	CC8 (PR)			1. To understand the preparation of master and replica plates. 2. To understand the effect of the exposure of chemical and physical mutagens on bacterial cells through the survival curve as well as standard methods. 3. To know the process to isolate and visualize different plasmids. 4. To have the ideas about bacterial genetic exchange through different methods.
	CC9 (TH)	ENVIRONMENTAL MICROBIOLOGY	Unit 1	To understand the environmental aspects of microbial sustainability
			Unit 2	To study the microbial association with plants and animals
			Unit 3	To understand the role of microorganisms in the movement of elements and compounds between biotic and abiotic components through different natural pathways
			Unit 4 & 5	To understand the beneficial role of microbes and their usage for the remedial purposes of the environment
			Unit 6	To have the idea of the quality control techniques for drinking water
	CC9 (PR)			1. To understand the analyses of different physicochemical properties of soil. 2. To have knowledge of isolating microbes and detect microbial enzymes from different soil sources. 3. To understand the microbiological quality of water from different sources.

UG Semester IV	CC10 (TH)	RECOMBINANT DNA TECHNOLOGY	Unit 1	To understand the milestones of genetic engineering
			Unit 2	To understand the different basic tools and strategies used in recombinant DNA technologies
			Unit 3	To understand the basic ideas, processes and analyses of techniques for gene cloning
			Unit 4	To understand the different techniques of identification of gene sequences and their expressions
			Unit 5	To have the knowledge of genomic library construction of organisms
			Unit 6	To introduce basic ideas about applications of RDT in different fields for the benefit of mankind
	CC10 (PR)			To have the knowledge of the different basic techniques of RDT using basic tools that are used in research and clinical purposes.
	SEC-B2 (TH)	MICROBIOLOGICAL ANALYSIS OF AIR AND WATER	Unit 1	To have the idea of airborne microbes and their impacts on the environment and human health
			Unit 2	To study different methods for the collection and analyses of microbes from air
			Unit 3	To have a knowledge to control airborne microbes through different physical methods
			Unit 4	To have the idea of waterborne microbes and their impacts on the environment and human health
			Unit 5	To understand the different methods for the collection and analyses of microbes from water
			Unit 6	To have a knowledge to control waterborne microbes through different physical methods