Semester	*Paper Code*	*Paper Name*	*Unit*	*Course Outcome*
UG Semester V	CC11 (TH)	FOOD AND DAIRY MICROBIOLOGY	Unit 1	To study how microbes utilizes food materials as their substrates
			Unit 2	To understand the principles and types of food spoilage by microbes
			Unit 3	To understand the different methods of food preservation
			Unit 4	To understand the involvement of microbes in the production of different fermented foods available in markets
			Unit 5	To understand different food borne diseases and their causative agents
			Unit 6	To have the basic idea of food sanitization techniques
			Unit 7	To understand different techniques for rapid detection of food borne pathogens
	CC11 (PR)			1. To isolate spoilage microbes from different food materials. 2. To identify contamination in the different milk samples. 3. To prepare very basic fermented food.
	CC12 (TH)	INDUSTRIAL MICROBIOLOGY	Unit 1	To understand the history and developments in industrial microbiology
			Unit 2	To understand the various physical and chemical requirements to isolate and maintain industrially important microbes
			Unit 3	To understand the various physical and chemical parameters to maintain microbial industry and fermentors
			Unit 4	To understand the different downstream techniques in industries
			Unit 5	To understand the detail physical and chemical requirements to produce different microbial products
			Unit 6	To have the idea of enzyme immobilization and its recovery in industries
	CC12 (PR)			1. To have a knowledge on industrial fermentor 2. To have a knowledge on qualitative and quantitative production procedures of different industrially important products. 3. To visit any industry to have the real experience of industrial processes

UG Semester V	DSE-A1 (TH)	MICROBIAL BIOTECHNOLOGY	Unit 1	To understand the beneficial applications of microorganisms in our environment and societies
			Unit 2	To understand the therapeutic and industrial aspects of microorganisms
			Unit 3	To understand the microbial application in different industrial processes
			Unit 4	To understand the different recovery techniques of microbial products in industries
			Unit 5	To understand the role of microbes in the production of bio-energy as well as in the protection of environment to some extent
			Unit 6	Helps to understand the therapeutic applications of RNAi
			Unit 7	Helps to understand about intellectual property related ethical issues in research and job
	DSE-A1 (PR)			1. To study the basic process of cell or enzyme immobilization. 2. To understand the isolation of different industrially important microbial enzymes from different sources. 3. To study the single cell protein.
	DSE-B1 (TH)	INHERITANCE BIOLOGY	Unit 1	To have the basic idea genetics
			Unit 2	To understand the different aspects of mendel's laws and its deviation
			Unit 3	To have a knowledge of linkage and crossing over
			Unit 4	To have the idea of extrachromosomal effects on human genetics
			Unit 5	To understand the different characters and aberration of chromosome
			Unit 6	To understand the knowledge of recombination
			Unit 7	To understand the human genetics through various techniques
			Unit 8	To understand quantitative genetics through various methods
	DSE-B1 (PR)			1. To understand human genetics by different basic protocols. 2. To understand the use of statistics to solve different gentical issues 3. To use pedigree analysis in human genetics