

<i>Semester</i>	<i>Paper Code</i>	<i>Paper Name</i>	<i>Unit</i>	<i>Course Outcome</i>
UG Semester III	CC5 (TH)	VIROLOGY	Unit 1	To understand the basic properties and classification of viruses
			Unit 2	To understand the basic ideas and life cycle regulation of bacteriophages
			Unit 3	To understand the viral transmission and genomic variations as well as multiplication and replication strategies of viruses
			Unit 4	To study the basic ideas of virus associated cancers
			Unit 5	To understand the basics of treatment against viral diseases
			Unit 6	To understand how the viruses can help in bench to bedside research.
	CC5 (PR)			1. To study the structure of important animal, plant and t bacterial viruses using electron micrograph. 2. To isolate and enumerate bacteriophages.
	CC6 (TH)	MICROBIAL PHYSIOLOGY AND METABOLISM	Unit 1	To understand the effect of environment on microbial growth
			Unit 2	To understand the basics of microbial nutrient uptake and transport
			Unit 3	To understand the types of aerobic respiration in microbes
			Unit 4	To understand the types of anaerobic respiration in microbes
			Unit 5 & 6	To understand the various types of microbial metabolisms
	CC6 (PR)			1. To calculate generation time and specific growth rate of bacteria 2. To study the effects of different physical and chemical conditions on bacterial growth. 3. To quantify bacterial cells by optical density method followed by standard plating technique.

UG Semester III	CC7 (TH)	MOLECULAR BIOLOGY	Unit 1	To understand the basic structure and organization of nucleic acids and chromosomes
			Unit 2 & 3	To understand eukaryotic and prokaryotic replication and transcription
			Unit 4	To understand the basic ideas of post-transcriptional processing
			Unit 5	To understand eukaryotic and prokaryotic translation
			Unit 6	To have the knowledge on prokaryotic and eukaryotic regulation of gene expression
	CC7 (PR)			1. To study the different types of DNA, RNA as well as replication of DNA through micrographs. 2. To measure DNA and RNA through quantitative analysis. 3. To isolate genomic DNA and visualize both DNA and protein through different gel types .
	SEC-A1 (TH)	MICROBIAL QUALITY CONTROL IN FOOD AND PHARMACEUTICAL INDUSTRIES	Unit 1	To have a knowledge on basic microbiological laboratories and safe practices
			Unit 2	To study different methods to determine microbes in food and pharmaceutical samples
			Unit 3	To have a knowledge on detecting specific pathogenic microorganisms in food and water samples
			Unit 4	To have a basic overview on food safety and microbial standards