

Mohamed Sathak college of Arts and Science

University of Madras Syllabus

(Choice Based Credit Grading System)

Course Outcomes (2020-2021)

PG & Research Department of Biotechnology

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	SAC1A	Core	Cell Biology	The students will learn different areas of cellular biology including the structure and functions of cell in prokaryotic and eukaryotic.
	SAC21	Practical	Cell Biology	The course will make the student understand & develop skill and hands on training in basics of cell biology
	SBANA	Allied	Microbiology	This course will facilitate the students to gain expertise in diversity of microbial lifestyles, growth and to study the structure of animal viruses and methods involved in control of microorganisms.
	SAC21	Allied Practical	Microbiology	It's give an understand the basic techniques in microbiology
II	SAC2B	Core	Molecular Development Biology	The students will learn about cell signaling pathways, Types of cells, cancer studies and Neurogenesis.
		Practical	Molecular Development Biology	Students will learn different stage of cell cycle-Mitosis and Meiosis
	SBADE	Allied	Chemistry	The students will learn atomic structure, isotopes and to study properties of acids, liquid , gas and various types of chemical reaction and different types of organic compounds and physical-chemical properties of macromolecule.
		Practical	Chemistry	The course will learn volumetric analysis and analysis of organic compounds with their functional group
III	SAC3A	Core	Genetics	The student will be able to genetic material and Mendelian's

Dr. R. MEGANATHAN, Ph.D
PRINCIPAL

MOHAMED SATHAK COLLEGE OF ARTS & SCIENCE
SHOLINGANALLUR, CHENNAI-600 119.

				principles in genetics, chromosome structure
		Practical	Genetics	The Students will learn about identification of blood group and Mitosis and Meiosis stage of plant and animal
	SBC3A	Allied	Biochemistry	The course will learn about structure and chemical properties of macromolecules its bioenergetics signal molecule, pigments and analytical techniques
		Practical	Biochemistry	The student will gain hands on experience on estimation, qualitative and quantitative analysis of sugars and aminoacids
IV	SAC4A	Core	Plant Biotechnology	Students will learn the genomic organization of plants, plant viruses, vaccine and role of plant hormones and artificial cultivation methods
		Practical	Plant Biotechnology	The student will gain hands on experience on maintain and propagation of plant tissue in artificial culture.
	SBACB	Allied	Biophysics and Biostatstics	Students will have a strong foundation in structures and organization of macro molecules and their interaction. basic and application of data analysis in biological science
V	SAC5A	Core	Animal and Medical Biotechnology	The course will learn artificial reproduction technology, disease and modern diagnosis of animal and preventive measure by types of vaccine and cloning technology
		Practical	Animal and Medical Biotechnology	The student will gain hands on experience on preparation and maintenance of animal cell in tissue culture and its analysis and preservation.
	SAC5B	Core	Bioinformatics	The students will learn the analysis of whole genomics and the structure by software package.

Dr. R. MEGANATHAN, Ph.D
PRINCIPAL

MOHAMED SATHAK COLLEGE OF ARTS & SCIENCE
SHOLINGANALLUR, CHENNAI-600 119.

	SAC5C	Core	Immunology	The student will learn the structure, types of antigen and antibody-hypersensitive action and types of vaccines
		Practical	Immunology	The student will learn about the different types of serological test like ELISA and Hypertensive reaction.
	SEC5A	Elective	Pharmaceutical Biotechnology	The course will learn about the formation of biological its delivery systems and metabolism of drugs
VI	SAC6A	Core	Genetic Engineering	The students will learn analysis and application of various tools in genetic engineering technology
		Practical	Genetic Engineering	The student will gain hands on experience on analysis of various macro molecules using different techniques
	SAC6B	Core	Bioprocess technology	The students will learn basic of fermentation technology, its types in large scale production.
		Practical	Bioprocess technology	Students will gain hands in isolation and application of industrial important microorganism .
	SEC6A	Elective	Microbial Biotechnology	The course will learn about the identification, mass cultivation and application of important microbes
	SEC6B	Elective	Environmental Biotechnology	The course will learn about the biodegradation of various pollutants in both natural and artificial conditions
MSC	MDK1A	Core	Biochemistry	The course will learn about structure and chemical properties of macromolecules its bioenergetics signal molecule, pigments and analytical techniques .
SEM I	MDK1B	Core	Molecular Genetics	Gene concept and organization and their implications. Plasmid and its types. Molecular aspects of viruses infecting bacteria and plants.
	MDK1C	Core	Molecular Cell Biology	The student would be able to comprehend the cell organelle, cell membrane .The student would be able to signal

Dr. R. MEGANATHAN, Ph.D
 PRINCIPAL
 MOHAMED SATHAK COLLEGE OF ARTS & SCIENCE
 SHOLINGANALLUR, CHENNAI-600 119.

				transduction and its implications. The student would be able to cell cycle and its relevance.
	MDKAA	Elective	Bioinstrumentation	The student will be able to handle the equipment available and identify the suitable and appropriate experiments for their research. The student would have gained sufficient knowledge about the assays and analyzing data.
	MDKAB	Elective	Biostatistics	Understand simple calculations. How to plan and execute research designs. Analyse data, interpret, and present information. Publishing research data. Calculate; analyse and compare observed data; perform simple sums in proportions and algebraic function
SEM II	MDK2A	Core	Microbiology	The student will be able to understand microbial diversity; physiology and nutrition. The student will be able to identify microbes using modern techniques
	MDK2B	Core	Plant & Animal Biotech	Students will learn the genomic organization of plants, plant viruses, vaccine and Animal role of plant hormones and artificial cultivation methods.
	MDK2C	Core	Genetic Engineering	Comprehend the cloning principles and strategies. Analysis of the clones
	MDKAD	Elective	Tissue Engineering	To understand the significance and gain experience in using the tools of tissue engineering in human health-care. To understand the implications of tissue engineering from the subject area concepts, theory, experimental, research, drug discovery and health-care perspectives.
	MDKAE	Elective	Pharmaceutical Biotech	To understand the significance of industrial application of pharmaceutical biotechnology in human health-care. To understand the implications of

Dr. R. MEGANATHAN, Ph.D
 PRINCIPAL
 MOHAMED SATHAK COLLEGE OF ARTS & SCIENCE
 SHOLINGANALLUR, CHENNAI-600 119.

