



**Shrimathi Devkunvar Nanalal Bhatt Vaishnav
College for Women (Autonomous)**

Owned and Managed by Cork Industries Charities Trust
Affiliated to University of Madras - Re-Accredited with 'A+' Grade by NAAC
Chromepet Chennai-600044



**PG DEPARTMENT OF PLANT BIOLOGY AND
PLANT BIOTECHNOLOGY**

M. Sc. PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

CHOICE BASED CREDIT SYSTEM (CBCS)

&

**LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK
(LOCF)**

2022 -2024 Batch

PROGRAMME OUTCOMES (PO)

After completion of the programme, the student will be able to

PO1	To Identify and analyze the complex problems reaching substantiated conclusions using domain knowledge.
PO2	To apply investigative research, specialize in problem identification, formulate research design, utilise analytical tools, draw valid inferences and provide suggestions leading to nation building initiatives.
PO3	To strengthen professional ethics and career planning with systematic building of intrapersonal and interpersonal skills to participate in the intellectual diasporas.
PO4	To establish oneself as a self-reliant, empowered individual for an inclusive, healthy and compassionate understanding towards life and society.
PO5	To equip with technical / managerial expertise to innovate and critically analyse various attributes which constitute pivotal issues in a multidisciplinary scenario.
PO6	To emerge as innovators and pioneers to create new avenues of employment catering to the global trends as well as demands.

PROGRAMME SPECIFIC OUTCOMES (PSO)

The students at the time of graduation will

PSO1	To gain an advanced knowledge on concepts in classical and modern plant biology and Plant biotechnology
PSO2	To analyse the acquired knowledge experimentally using various technological aspects to customize plant products for the benefit of humankind
PSO3	To demonstrate the ability to think critically and creatively using knowledge gained from experiments in order to pursue jobs in plant biology and plant biotechnology

M. Sc. PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

CURRICULUM FRAMEWORK

2023 – 2025 Batch

SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	CREDITS	HOURS	CIA	ESE	TOTAL
I	I	Core Theory I	22PPBCT1001	Algae, Fungi, Bacteria and Virus	4	90	40	60	100
		Core Theory II	20PPBCT1002	Bryophytes, Pteridophytes, Gymnosperms and Paleobotany	4	90	40	60	100
		Core Practical I	20PPBCP1001	Practical – I (Algae, Fungi, Microbiology, Bryophytes, Pteridophytes, Gymnosperms and Paleobotany)	4	90	40	60	100
		Elective I	20PPBET1001	Plant Pathology	3	75	40	60	100
		Elective II	22PPBET1002	Applications of Algae	3	75	40	60	100
	II	Skill based Elective	22PSSCS1001	Cyber Security	3	75	50	-	100
II	I	Core Theory III	20PPBCT2003	Plant Anatomy, Embryology, Palynology	4	90	40	60	100
		Core Theory IV	20PPBCT2004	Taxonomy of Angiosperms and Economic Botany	4	90	40	60	100
		Core Theory V	20PPBCT2005	Microbiology and Plant Pathology	4	90	40	60	100
		Core Practical II	20PPBCP2002	Practical – II (Plant Anatomy, Embryology, palynology, Taxonomy of Angiosperms and Economic Botany and Cell Biology)	4	90	40	60	100
		Elective III	20PPBET2003	Molecular Biology and Genetic Engineering	3	75	40	60	100
	II	Soft Skills	18MOOC2002	SWAYAM (MOOC)	4	90	50	-	100
III		Core Theory VI	20PPBCT3006	Genetics, Plant Breeding and Evolution	90	4	40	60	100

		Core Theory VII	20PPBCT3007	Ecology and Phytogeography	90	4	40	60	100
		Core Theory VII	20PPBCT3008	Plant Tissue Culture	90	4	40	60	100
		Core Practical III	20PPBCP3003	Practical – III (Genetics, Plant Breeding and Evolution, Ecology and Phytogeography, Plant Tissue Culture)	90	4	40	60	100
		Elective IV Classroom/ Coursera	24PPBET3A04 24PPBET3B04	Bioinstrumentation and Bioinformatics/ Bioinformatics	75	3	40	60	100
	II	Skill Based Elective	18PSSRS3003	Research Skill		3	50	---	100
		Internship	17PPBIP3001	Internship		2	40	60	100
IV	I	Core Theory I	20PPBCT4009	Plant Biotechnology	90	4	40	60	100
		Core Theory X	20PPBCT4010	Plant Physiology and Biochemistry	90	4	40	60	100
		Core Practical IV	20PPBCP4004	Practical – IV (Plant Biotechnology, Plant Physiology and Biochemistry)	90	4	40	60	100
		Core Project I	20PPBPR4001	Project	90	4	40	60	100
		Elective V Classroom/ Coursera	24PPBET4A05 24PPBET4B05	Pharmacognosy Herbal Medicine	75	3	40	60	100
	II	Skill Enhancement	23PSECR4004	Skill Enhancement- Coursera	90	4	50	--	100
				TOTAL		91			2500

M. Sc Plant Biology and Plant Biotechnology

List of coursera courses offered by M. Sc Plant Biology and Plant Biotechnology

S. No.	Name of the Course	Link	<u>Duration</u>
1	Finding Hidden Message in DNA (Bio informatics - I)	https://www.coursera.org/learn/dna-analysis	15
2	Genome sequencing (Bio informatics – II)	https://www.coursera.org/learn/genome-sequencing	17
3	Comparing Genes, Proteins and Genomes (Bio informatics - III)	Comparing Genes, Proteins, and Genomes (Bioinformatics III) Coursera	22
4	Drugs, drug use, drug policy and health	Drugs, drug use, drug policy and health Coursera	29
5	Patenting in Biotechnology	Patenting in Biotechnology Coursera	16
6	Agriculture, Economics and Nature	Agriculture, Economics and Nature Coursera	26
7	Experimental methods in Systems Biology	Experimental Methods in Systems Biology Coursera	18
8	Large Marine Ecosystems – Assessment and Management	https://www.coursera.org/learn/large-marine-ecosystems	25
9	Ecosystem service: a method for sustainable Development	https://www.coursera.org/learn/ecosystem-services	26
10	Nanotechnology: A maker's course	https://www.coursera.org/learn/nanotechnology	26