



**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 CHEMISTRY

M.Sc., Chemistry

CHOICE BASED CREDIT SYSTEM (CBCS)

&

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF)

Batch 2023-2025



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



PROGRAMME OUTCOMES (PO)

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

PO 1	To identify and analyze the complex problem searching substantiated conclusions domain knowledge
PO 2	To apply investigative research , specialize in problem identification , formulate research design , utilize analytical tools , draw valid inferences and provide suggestions leading to nation building initiatives .
PO 3	To strengthen professional ethics and career planning with systematic building of intrapersonal and interpersonal skills to participate in the intellectual diasporas .
PO 4	To establish oneself as a self - reliant, empowered individual for an inclusive , healthy and compassionate understanding towards life and society .
PO 5	To equip with technical / managerial expertise to innovate and critically analyze various attributes which constitute pivotal issues in a multidisciplinary scenario .
PO 6	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	Build up a broad knowledge, understanding of advanced concepts and execute critical thinking in different areas of Chemistry and also in interdisciplinary fields.
PSO2	Enhance skills in handling scientific instruments, and interpret analytical data for structure elucidation using characterization techniques.
PSO3	Execute professional skills as chemists, entrepreneurs or in higher education with the available opportunities in the field of research and Industries.



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



SE M	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	CRE DITS	HR S	CI A	ES E	TOT AL
I	I	Core Theory I	22PCHCT1001	Basic Principles of Organic Chemistry	4	90	40	60	100
		Core Theory II	22PCHCT1002	Structural Inorganic Chemistry and Photochemistry	4	90	40	60	100
		Core Theory III	22PCHCT1003	Chemical Kinetics and Thermodynamics	4	90	40	60	100
		Elective Theory I	22PCHET1001	Analytical Techniques in Chemistry	3	75	40	60	100
		Core Practical I	22PCHCP1001	Inorganic Chemistry Practical I	4	90	40	60	100
	II	Skill Based Elective	22PSSCS1001	Cyber Security	3		50	---	100
				Total	22				600
II	I	Core Theory IV	22PCHCT2004	Organic Reaction Intermediates and its Mechanism	4	90	40	60	100
		Core Theory V	22PCHCT2005	Co-ordination Chemistry: Bonding, Reaction and Spectra	4	90	40	60	100
		Core Theory VI	22PCHCT2006	Group Theory and Quantum Chemistry	4	90	40	60	100
		Core Practical II	22PCHCP2002	Organic Chemistry-Practical	4	90	40	60	100
		Elective Theory II	22PCHET2002	Heterocyclics and Natural Products	3	75	40	60	100
	II	Soft skill	18MOOC2002	SWAYAM (MOOC)	4		50	---	100
				Total	23				600
III	I	Core Theory VII	22PCHCT3007	Retro synthetic Analysis and Pericyclic Reactions	4	90	40	60	100
		Core Theory VIII	22PCHCT3008	Molecular Spectroscopy and its Applications	4	90	40	60	100
		Core Theory IX	22PCHCT3009	Electro and Computational Chemistry	4	90	40	60	100
		Core Practical III	22PCHCP3003	Physical Chemistry Practical	4	90	40	60	100
		Elective Theory III classroom/Coursera	24PCHET3A03 / 24PCHET3B03	Green Chemistry and Sustainable Development/ Drug Chemistry	3	75	40	60	100
	II	Skill Based Elective	18PSSRS3003	Research Skills	3		50	---	100
	II	Internship	17PCSIP3001	Internship	2		40	60	100
				Total	24				700



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



IV	I	Core Theory X	22PCHCT4010	Advanced Inorganic Chemistry	4	90	40	60	100
		Elective Theory IV	24PCHET4A04 /24PCHET4B04	Research Methodology/ Introduction to Sustainability	3	75	40	60	100
		Elective Theory V	24PCHET4A05 /24PCHET4B05	Introduction to material science/ Nanotechnology: A Maker's Course	3	75	40	60	100
		Core Practical IV	23PCHCP4004	Inorganic Chemistry Practical II	4	90	40	60	100
		Core Project I	20PCHPR4001	Project	4		40	60	100
		Soft Skill	23PSECR4004	Skill Enhancement –Course era	4		50		100
Total					22				600
Grand Total					91				2500