



**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 PHYSICS**

**(M. Sc Physics)**

**CHOICE BASED CREDIT SYSTEM (CBCS)**

**&**

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

**2023 -2025 Batch**



## PROGRAMME OUTCOMES (PO)

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

<b>PO1</b>	Identify and analyze the complex problems reaching substantiated conclusions using domain knowledge.
<b>PO2</b>	Apply investigative research, specialize in problem identification, formulate research design, utilise analytical tools, draw valid inferences and provide suggestions leading to nation building initiatives.
<b>PO3</b>	Strengthen professional ethics and career planning with systematic building of intrapersonal and interpersonal skills to participate in the intellectual Diasporas.
<b>PO4</b>	Establish oneself as a self-reliant, empowered individual to have an inclusive, healthy and compassionate understanding towards life and society.
<b>PO5</b>	Equipped with technical / managerial expertise to innovate and critically analyse various attributes which constitute pivotal issues in a multidisciplinary scenario.
<b>PO6</b>	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

<b>PSO1</b>	Acquire Scientific temper leading to critical thinking and research motivation in Physics area.
<b>PSO2</b>	Attain the required skills to the Physics behind the phenomena occurring in nature and surroundings and hence apply them to enhance our life style.
<b>PSO3</b>	Plan and execute an experiment through careful observations, precise measurements, analyses, interpretation and effectively communicate the results by way of presenting a brief lecture on a science topic or writing scientific reports.



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## M.Sc Physics

### CURRICULUM FRAMEWORK 2023 – 2025 Batch

SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	CREDITS	LECTURE HOURS		CIA	ESE	TOTAL
						TH	PR			
I Year	I	CORE THEORY	22PPHCT1001	MATHEMATICAL PHYSICS	4	6		40	60	100
	I	CORE THEORY	20PPHCT1002	CLASSICAL MECHANICS AND RELATIVITY	4	6		40	60	100
	I	CORE THEORY	22PPHCT1003	QUANTUM MECHANICS I	4	6		40	60	100
	I	CORE THEORY	22PPHCT1004	INTEGRATED ELECTRONICS AND MICROPROCESSOR	4	6		40	60	100
	I	CORE PRACTICAL	20PPHCP2001	PRACTICAL I	4		3			
	I	CORE PRACTICAL	22PPHCP2002	PRACTICAL II	4		3			
	II	SKILL BASED ELECTIVE-	22PSSCS1001	CYBER SECURITY	3			50	-	100
				TOTAL	19					500
I Year	I	CORE THEORY	22PPHCT2005	QUANTUM MECHANICS II	4	6		40	60	100
	I	CORE THEORY	20PPHCT2006	ELECTROMAGNETIC THEORY AND PLASMA PHYSICS	4	6		40	60	100
	I	CORE THEORY	22PPHCT2007	COMPUTATIONAL METHODS AND C PROGRAMMING	4	6		40	60	100



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	I	CORE ELECTIVE COURSERA	24PPHET2A01 24PPHET2B01	SPECTROSCOPY/ INTRODUCTION TO MOLECULAR SPECTROSCOPY	3	6		40	60	100
	I	CORE PRACTICAL	20PPHCP2001	PRACTICAL I	4		3	40	60	100
	I	CORE PRACTICAL	22PPHCP2002	PRACTICAL II	4		3	40	60	100
	II	SOFT SKILL	18MOOC2002	SWAYAM (MOOC)	4	-		50		100
	I		17PPHIP3001	INTERNSHIP*	2			40	60	100
				TOTAL	29					800
II Year	I	CORE THEORY	22PPHCT3008	STATISTICAL MECHANICS	4	6		40	60	100
	I	CORE THEORY	20PPHCT3009	NUCLEAR AND PARTICLE PHYSICS	4	6		40	60	100
	I	CORE ELECTIVE COURSERA	24PPHET3A02 24PPHET3B02	NANOSCIENCE AND TECHNOLOGY NANOTECHNOLOGY A MAKERS COURSE	3	6		40	60	100
	I	CORE ELECTIVE COURSERA	24PPHET3A03 24PPHET3B03	CRYSTAL PHYSICS CRYSTAL STRUCTURE AND PROPERTIES OF METALS	3	6		40	60	100
	I	CORE PRACTICAL III	22PPHCP4003	GENERAL	4		3			



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	I	CORE PRACTICAL IV	22PPHCP4004	ELECTRONICS	4		3			
	II	SKILL BASED ELECTIVE -	18PSSRS3003	RESEARCH SKILLS	3			50	-	100
				TOTAL	17					500
II Year	I	CORE THEORY	20PPHCT4010	CONDENSED MATTER PHYSICS	4	6		40	60	100
	II	CORE ELECTIVE COURSERA	24PPHET4A04 24PPHET4B04	MICROPROCESSOR AND BASICS OF EMBEDDED SYSTEM  COMPUTER AND PERIPHERAL HARDWARE	3	6		40	60	100
	II	CORE ELECTIVE COURSERA	24PPHET4A05 24PPHET4B05	MATERIALS SCIENCE  INTRODUCTION TO MATERIALS SCIENCE	3	6		40	60	100
	I	CORE PRACTICAL III	22PPHCP4003	GENERAL	4		3	40	60	100
	I	CORE PRACTICAL IV	22PPHCP4004	ELECTRONICS	4		3	40	60	100
	I	CORE PROJECT	20PPHPR4001	PROJECT VIVA - VOCE	4	6		20	80	100
	II	SOFT SKILL	23PSSCR4004	COURSE ERA	4			50		100



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	TOTAL	26					700
TOTAL		91					2500