



**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



**DEPARTMENT OF COMPUTER SCIENCE WITH  
COGNITIVE SYSTEMS**

**B.Sc Computer Science with Cognitive Systems**

**CHOICE BASED CREDIT SYSTEM (CBCS)**

**&**

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

**2024-2027 Batch**



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## PROGRAMME OUTCOMES (PO)

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

<b>PO1</b>	Develop sharp cognizance of concepts, apply the domain knowledge with utmost confidence and be assertive at any given opportunity.
<b>PO2</b>	Possess deeper understanding of life skills to appraise life and draw logical conclusions.
<b>PO3</b>	Design and develop solutions for challenging problems of society.
<b>PO4</b>	Acquire programme centric thought process facilitating further studies in the respective domain.
<b>PO5</b>	Engage in life-long learning to easily adapt to the dynamic environment and obtain clarity and preparedness for field specialization
<b>PO6</b>	Self-actualize and self-regulate, focusing on ethical and moral values to become a compassionate human being.

## PROGRAMME SPECIFIC OUTCOMES (PSO)

The students at the time of graduation will

<b>PSO1</b>	Understand the programming concepts, methodologies and apply algorithms, mathematical and scientific reasoning to solve ranged computational problems.
<b>PSO2</b>	Apply emerging software development techniques and tools in providing real-time solutions through logical thinking, problem solving and cognitive skills.
<b>PSO3</b>	Build successful careers through the various recent technical tool knowledge, and have an edge in employment opportunities in the IT sector, as well in higher education



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## B. SC. COMPUTER SCIENCE WITH COGNITIVE SYSTEMS CURRICULUM FRAMEWORK 2024 – 2027 Batch

SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	HOURS	CREDITS	CIA	ESE	TOTAL	
SEMESTER I	I	Language	20ULTFC1001 / 20ULHFC1001 / 20ULSFC1001 / 21ULFFC1001	Tamil-I / Hindi-I / Sanskrit-I / French-I	6	3	40	60	100	
	II	English	20UGEFC1001	English I	6	3	40	60	100	
	III	Core Major - I	21UCGCT1001	Operating Systems	4	3	40	60	100	
		Core Practical - I	21UCGCP1001	Operating Systems Lab	4	2	40	60	100	
		Core Practical-II	23UCGCP1002	Problem Solving using Python	4	2	40	60	100	
		Allied Theory- I	21UCGAT1001	Discrete Mathematics	6	5	40	60	100	
	IV	Life Skill-1	24ULSEC1001	Essentials of Effective Communication		2	50	-	50	
		Pre-Requisite Course	23UPRQT1001	Quantitative Aptitude						
					<b>TOTAL</b>	<b>30</b>	<b>20</b>			<b>650</b>



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SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	HOURS	CREDITS	CIA	ESE	TOTAL	
SEMESTER II	I	Language	20ULTFC2002 / 20ULHFC2002 / 20ULSFC2002 / 21ULFFC2002	Tamil-II / Hindi-II / Sanskrit-II / French-II	6	3	40	60	100	
	II	English	20UGEFC2002	English II	6	3	40	60	100	
	III	Core Major – II	23UCGCT2002	Java Programming	5	3	40	60	100	
		Core Practical-III	21UCGCP2003	Web Technology Lab	3	2	40	60	100	
		Core Practical-IV	23UCGCP2004	Java Programming Lab	4	2	40	60	100	
		Allied Theory- II	21UCGAT2002	Numerical Methods	6	5	40	60	100	
	IV	Value Education	24UESVE2001	Environmental Studies		2	50	-	50	
			20UYGVE2002	Yoga and Wellness		2	50	-	50	
		Life Skill – II	24ULSHV2002	Universal Human Values		2	50	-	50	
					<b>TOTAL</b>	<b>30</b>	<b>24</b>			<b>750</b>



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SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	HOURS	CREDITS	CIA	ESE	TOTAL	
SEMESTER III	I	Language	20ULTFC3003 / 20ULHFC3003 / 20ULSFC3003 / 21ULFFC3003	Tamil-III / Hindi-III / Sanskrit-III / French-III	5	3	40	60	100	
	II	English	20UGEFC3003	English III	5	3	40	60	100	
	III	Core Major-III			Data Structures	4	3	40	60	100
		Core Major-IV			Virtualization and Cloud Computing	4	3	40	60	100
		Core Practical- V			Data Structures using Java Lab	3	3	40	60	100
		Core Practical – VI			Virtualization and Cloud Computing Lab	3	2	40	60	100
		Allied Theory – III	21UCGAT3003		Operational Research	6	5	40	60	100
	IV	Non-Major Elective-I	21UCGNE3001		HTML		2	50	-	50
					<b>TOTAL</b>	<b>30</b>	<b>24</b>			<b>750</b>



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SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	HOURS	CREDITS	CIA	ESE	TOTAL	
<b>SEMESTER IV</b>	I	Language	20ULTFC4004 / 20ULHFC4004 / 20ULSFC4004 / 21ULFFC4004	Tamil-IV / Hindi-IV / Sanskrit-IV / French-IV	5	3	40	60	100	
	II	English	20UGEFC4004	English IV	5	3	40	60	100	
	III	Core Major-V			Relational Data Base Management System	5	4	40	60	100
		Core Practical-VII			Relational Data Base Management System Lab	5	2	40	60	100
		Core Practical-VIII			Robotic Process Automation Lab	4	3	40	60	100
		Allied Theory- IV	21UCGAT4004		Statistical Methods	4	3	40	60	100
		Allied Practical I	21UCGAP4001		Statistical Methods	2	2	40	60	100
	IV	Non-Major Elective-II	21UCGNE4002		HTML		2	50	-	50
		Life Skill-III	23ULSLM4003		Leadership & Managerial Skills		2	50	-	50
		Students Progression Bodies	23USP__4001		Students Progression Activities		2			
					<b>TOTAL</b>	<b>30</b>	<b>26</b>			<b>800</b>



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SEMESTER V	Core Theory - VII	Core Theory- VII		Software Engineering and Testing	4	3	40	60	100	
		Core Theory- VII		Client Relationship Management	4	3	40	60	100	
		Core Major-VIII		Network Management	4	4	40	60	100	
		Elective Theory -I		Block Chain technology / Data Mining / Cyber Security	6	5	40	60	100	
		Core Practical- IX		Software Testing Lab using Selenium	4	2	40	60	100	
		Core Practical- X		Client Relation Management Lab	4	2	40	60	100	
		Core Practical- XI		Network Management Lab	4	2	40	60	100	
	IV	Soft Skill – III	23USSSB5SM3	Skill based Elective SWAYAM - MOOC/NPTEL/ Spoken Tutorial		3	50	-	50	
		Life Skill-IV	23ULSPF5004	Professional skills		2	50	-	50	
		Ability Enhancement-I	23UAE__5001	VIVAC/TIME/ Coursera / NPTEL / Spoken Tutorials/Others (to be chosen by the department)		2	50	-	50	
					<b>TOTAL</b>	<b>30</b>	<b>28</b>			<b>850</b>



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<b>SEMESTER VI</b>	<b>III</b>	Core Major-IX		Natural Language Processing	4	3	40	60	100	
		Core Major-X		Machine Learning using Python	4	3	40	60	100	
		Elective Theory -II		Internet of Things /Human Computer Interaction / Ethics and Social Implications of Artificial Intelligence	6	5	40	60	100	
		Core Practical-XII		Natural Language Processing Lab	5	2	40	60	100	
		Core Practical-XIII		Data Analytics Lab	5	2	40	60	100	
		Elective Project		Mini Project	6	5	40	60	100	
	<b>IV</b>	Soft Skill – II		Skill Enhancement Course Coursera		3	50	-	50	
		Ability Enhancement-II	24USSSE6CR2	Essential of Computing Skill		2	50	-	50	
		Skill Development	23UAEES6002	Add on Courses		2	50	-	50	
	<b>V</b>	Extra-Curricular Activity	23UAD__6001	Sports		1				
					<b>TOTAL</b>	<b>30</b>	<b>28</b>			<b>750</b>

### Internship

Internship in IV<sup>th</sup> Semester during summer vacation with 2 extra credits.