



**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)**

**2025-2028 Batch**



### **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 2025 – 2028 Batch**

SEM	PART	COURSE TYPE	COURSE CODE	COURSE TITLE	HOURS	CREDITS	CIA	ESE	TOTAL	
<b>SEMESTER I</b>	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			Operating Systems	4	3	40	60	100
		Core Major- II			Python Foundation to Mastering	4	3	40	60	100
		Core Practical - I			Operating Systems Lab	4	2	40	60	100
		Generic Elective Theory- I	21UCGAT1001		Discrete Mathematics	6	4	40	60	100
	IV	Life Skill-1	24ULSEC1001		Effective Communication Skills		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 - III		Java Programming with Data Structures	4	3	40	60	100	
		Core Major- IV		Advanced Exploratory Data Analysis with Python	4	3	40	60	100	
		Core Practical- II		Java Programming with Data Structures Lab	4	2	40	60	100	
		Generic Elective Theory- II	21UCGAT2002	Numerical Methods	6	4	40	60	100	
	IV	Value Education	24UESVE2001	Environmental Studies		2	50	-	50	
		Life Skill – II	24ULSHV2002	Universal Human Values		2	50	-	50	
					<b>TOTAL</b>	<b>30</b>	<b>22</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 - V		Virtualization and Cloud Computing	4	3	40	60	100
		Core Major - VI		Machine Learning	4	3	40	60	100
		Core Practical - III		Robotic Process Automation Lab	2	2	40	60	100
		Core Practical- IV		Virtualization and Cloud Computing Lab	4	3	40	60	100
		Generic Elective Theory – III	21UCGAT3003	Operational Research	6	4	40	60	100
	IV	Non-Major Elective-I	21UCGNE3001	HTML		2	50	-	50
		Value Education	20UYGVE2002	Yoga and Wellness		2	50	-	50
				<b>TOTAL</b>	<b>30</b>	<b>25</b>			<b>750</b>



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SEMESTER IV	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-VII			Computer Networks	5	4	40	60	100
		Core Major-VIII			Deep Learning	4	3	40	60	100
		Core Practical- V			Computer Networks Lab	5	3	40	60	100
		Generic Elective IV Theory	21UCGAT4004		Statistical Methods	4	2	40	60	100
		Generic Elective IV Practical	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	III	Core Major - IX		Software Engineering and Testing	4	3	40	60	100	
		Core Major-X		Client Relationship Management	4	3	40	60	100	
		Core Major-XI		Generative Artificial Intelligence	4	4	40	60	100	
		Discipline Specific Elective I		Block Chain technology / Data Mining / Data Visualization	6	5	40	60	100	
		Core Practical- VI		Software Testing Lab using Selenium	4	2	40	60	100	
		Core Practical-VII		Client Relationship Management Lab	4	2	40	60	100	
		Core Practical-VIII		Relational Database Management System Lab	4	3	40	60	100	
	IV	Soft Skill – III	23USSSB5 SM3		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>29</b>			<b>850</b>	



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<b>SEMESTER VI</b>	<b>III</b>	Core Major-XII		Natural Language Processing	4	3	40	60	100
		Core Major-XIII		Cyber Security	4	3	40	60	100
		Discipline Specific Elective II		Internet of Things /Human Computer Interaction / Ethics and Social Implications of Artificial Intelligence	6	5	40	60	100
		Core Practical-VIII		Natural Language Processing Lab	5	2	40	60	100
		Core Practical- IX		Cyber Security 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>TOTAL</b>	<b>30</b>	<b>27</b>		
<b>149 Credits</b>									
<b>Sports (mandatory) - 1</b>									
<b>Total - 150 Credits</b>									