



**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**

### **B.Sc Computer Science**

#### **CHOICE BASED CREDIT SYSTEM (CBCS)**

**&**

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

**2022-2025 Batch**



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### B.Sc Computer Science

#### PROGRAMME OUTCOMES (PO)

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

<b>PO1</b>	Develop sharp cognisance 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 specialisation.
<b>PO6</b>	Self-actualise and self-regulate, focussing 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>	Attain proficiency in computing disciplines to devise efficient digital solutions for real-world challenges.
<b>PSO2</b>	Demonstrate a commitment, dedication to continuous learning and effectively tackle changing challenges in computational fields. Use software engineering principles to create practical solutions for IT Enabled Services (ITES).
<b>PSO3</b>	Promote entrepreneurship, actively engage in research and development to present creative solutions to contemporary challenges, identify areas for further research, and pursue opportunities for advanced education.



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## Curriculum 2022-2025

SEM	PART	COURSE COMPONENT	COURSE CODE	TITLE OF THE PAPER	CREDITS	LECTURE HOURS		CIA	ESE	TOTAL
						TH	PR			
I Year I Semester	I	Foundation Course	22ULTFC1001/ 22ULHFC1001/ 22ULSFC1001/ 22ULFFC1001	Tamil-I/ Hindi-I/ Sanskrit-I/ French-I	3	6		40	60	100
	II	English	20UGEFC1001	General English-I	3	6		40	60	100
	III	Core Theory-I	21UCSCT1001	Problem solving through Programming in C	3	4		40	60	100
		Core Theory-II	22UCSCT1002	Fundamentals of Digital Computer and Microprocessor (8085)	4	4		40	60	100
		Core Practical-I	21UCSCP1001	C Programming	2		4	40	60	100
		Allied Theory-I	20UCSAT1001	Allied Mathematics-I	5	6		40	60	100
	IV	Soft Skill	20USSLC1001	Essentials of Language and Communication skills	3	2		50	-	50
				<b>TOTAL</b>	<b>23</b>					<b>650</b>
I Year II Semester	I	Foundation Course	22ULTFC2002/ 22ULHFC2002/ 22ULSFC2002/ 22ULFFC2002	Tamil-II/ Hindi-II/ Sanskrit-II/ French-II	3	6		40	60	100
	II	English	20UGEFC2002	General English-II	3	6		40	60	100
	III	Core Theory-III	21UCSCT2003	Programming Using Python	3	4		40	60	100
		Core Practical-II	21UCSCP2002	Programming Using Python	2		4	40	60	100
		Core Practical-III	21UCSCP2003	Web Technology – [HTML,JS]	2		4	40	60	100
		Allied Theory-II	20UCSAT2002	Allied Mathematics-II	5	6		40	60	100
	IV	Value Education	20UESVE2001	Environmental Studies	2	1		50	-	50
			20UYGVE2002	Yoga and Wellness	2			50	-	50
		Soft Skill – II	20USSSP2002	Essentials of spoken and presentation skills	3			50	-	50
				<b>TOTAL</b>	<b>25</b>					<b>750</b>



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II Year III Sem este r	I	Foundation Course	22ULTFC3003/ 22ULHFC3003/ 22ULSFC3003/ 22ULFFC3003	Tamil-III/ Hindi-III/ Sanskrit-III/ French-III	3	5		40	60	100
	II	English	20UGEFC3003	General English-III	3	5		40	60	100
	III	Core Theory-IV	21UCSCT3004	Data structures and Algorithms	3	5		40	60	100
		Core Practical-IV	21UCSCP3004	Data Structures Using Python	2		4	40	60	100
		Core Practical-V	21UCSCP3005	Web Applications Development	3		3	40	60	100
		Allied Theory-III	20UCSAT3003	Statistical Methods and its Application-I	4		6	40	60	100
		Non-Major Elective* Offered to other departments	20UCSND4002 (AIDED)	Tests of Analytical Reasoning (verbal & Non Verbal)(Aided)/ Principles of Internet(SFS)	2	2		50	-	50
			20UCSNE4002 (SFS)							
				<b>TOTAL</b>	<b>20</b>					<b>650</b>
II Year IV Sem este r	I	Foundation Course	22ULTFC4004/ 22ULHFC4004/ 22ULSFC4004/ 22ULFFC4004	Tamil-IV/ Hindi-IV/ Sanskrit-IV/ French-IV	3	5		40	60	100
	II	English	20UGEFC4004	General English-IV	3	5		40	60	100
	III	Core Theory-V	23UCSCT4005	Programming in Java	3	4		40	60	100
		Core Practical-VI	23UCSCP4006	Programming in Java	2		4	40	60	100
		Core Practical-VII	23UCSCP4007	MySQL - Lab	2		4	40	60	100
		Allied Theory-III	20UCSAT3003	Statistical Methods and its Application-II	4	6		40	60	100
		Allied Practical-I	20UCSAP4001	Statistical Methods and its Application(allied Practical)	2			40	60	100
	IV	Non-Major Elective* Offered to other departments	20UCSND4002 (AIDED)	Tests of Analytical Reasoning (verbal & Non Verbal)(Aided )/ Principles of Internet(SFS)	2	2		50	-	50
			20UCSNE4002 (SFS)							
				<b>One month Internship</b>	<b>2</b>					
				<b>TOTAL</b>	<b>21</b>					<b>750</b>
III Year	III	Core Theory-VI	20UCSCT5006	Operating systems	4	5		40	60	100



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V Sem este r		Core Theory-VII	22UCSCT5007	Data Mining	4	5		40	60	100
		Core Theory-VIII	22UCSCT5008	Database Management Systems	4	5		40	60	100
		Core Practical – VIII	23UCSCP5008	Data Analytics Using R	2		4	40	60	100
		Core Practical – IX	22UCSCP5009	Database Management Systems	2		4	40	60	100
		Elective Theory– I Blended learning	24UCSET5A01/ 24UCSET5B01	Cloud Computing/Big Data Analytics	5		5	40	60	100
	IV	Soft Skill – III Skill based Elective	23USSSB5ST3	Spoken Tutorial*	3	2		50	-	50
				<b>TOTAL</b>	<b>24</b>					<b>650</b>
III Year VI Sem este r	III	Core Theory--IX	22UCSCT6009	Computer Networks	4	5		40	60	100
		Core Theory-X	22UCSCT6010	Software Engineering and Testing	4	5		40	60	100
		Core Practical-X	22UCSCP6010	Software Testing	2		4	40	60	100
		Core Practical – XI	22UCSCP6011	Mobile Application Development	3		4	40	60	100
		Elective Theory – II Blended learning	24UCSET6A02/2 4UCSET6B02	Cryptography/Image Processing	5		5	40	60	100
		Elective Project	20UCSPR6001	Mini Project	5		5	40	60	100
	IV	Soft Skill – IV Skill Enhancement Course	23USSSE6CR4	Coursera*	3		2	50	-	50
	V	Extra-Curricular Activity	XSP	Sports	1			-	-	-
				<b>TOTAL</b>	<b>27</b>					<b>650</b>
				<b>GRAND TOTAL</b>	<b>140</b>					<b>4100</b>

\* Spoken Tutorial- LMS course offered from IIT Mumbai

\* Coursera– LMS course offered from Coursera Course

## Core Electives

<u>List of Courses Offered in V Semester</u> 1. Computer Graphics 2. Resource Management Techniques 3. Cloud Computing 4. Big Data Analytics	<u>List of Courses Offered in VI semester</u> 5. Digital Commerce 6. Network Security 7. Artificial Intelligence and Machine Learning 8. Block Chain Technology 9. Internet of Things
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	10. Image Processing 11. Cryptography <b>12.</b> Analytics for Service Industry
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