



**PERIYAR
MANIAMMAI**
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University)
Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited
think • innovate • transform

Criterion 1 – Curricular Aspects

Key Indicator	1.2	Academic Flexibility
Metric	1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented (Data for the latest completed academic year)

**DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS
STRUCTURE OF THE PROGRAM CLEARLY INDICATING COURSES,
CREDITS/ELECTIVES**

Programmes

- 1. BCA**
- 2. MCA**

**BACHELOR OF COMPUTER APPLICATIONS (BCA)
REGULATIONS 2021, REVISION: 1
CURRICULUM
SEMESTER – I**

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
PART1	XGT101/ XFT101	Tamil I/Foundational Tamil I	3	0	0	3	3	0	0	0	3
PART2	XGE102	English I	3	0	0	3	3	0	0	0	3
CC- 1	XCA103	C Programming	4	0	0	4	4	0	0	0	4
DSC - 1	XCA104	Algebra, Calculus and Analytical Geometry	4	1	0	5	4	1	0	0	5
CC- 2	XCA105	Computer Organization and Architecture	4	0	0	4	4	0	0	0	4
CC-3	XCA106	C Programming Laboratory	0	0	1	1	0	0	2	0	2
UMAN 1	XUM001	Human Ethics, Values, Rights and Gender Equality	1	0	0	1	1	0	0	1	2
EA		Extension Activities NSS,NCC,NSO,RRC and Swatch Bharath)									2
		Mentor, Library									2
		Field Visit	0	0	0	0	0	0	0	0	2
		Placement Activity									1
		Total	19	01	01	21	19	01	02	1	30

SEMESTER – II

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
PART1	XGT201/ XFT201	Tamil II/Foundational Tamil II	3	0	0	3	3	0	0	0	3
PART2	XGL202	English II	3	0	0	3	3	0	0	0	3
CC- 4	XCA203	Object Oriented Programming with C++	4	0	0	4	4	0	0	0	4
DSC - 2	XCA204	Discrete Mathematics	4	1	0	5	4	1	0	0	5
CC- 5	XCA205	Computer Networks	3	0	0	3	3	0	0	0	3
CC- 6	XCA206	Data Structures and Algorithms	4	0	0	4	4	0	0	0	4
CC-7	XCA207	Object Oriented Programming with C++ Laboratory	0	0	1	1	0	0	2	0	2
CC-8	XCA208	Data Structures and Algorithms Laboratory	0	0	1	1	0	0	2	0	2
UMAN2	XUM002	Environmental Studies	1	0	0	1	1	0	0	1	2
		Mentor , Library									2
		Total	22	01	02	25	22	01	04	1	30

BACHELOR OF COMPUTER APPLICATIONS (BCA)
REGULATIONS 2021
CURICULLUM
SEMESTER – III

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
UMAN 2	XUMA301	Disaster Management	3	0	0	3	3	0	0	0	3
SEC 1	XCA302	HTML and DHTML	1	0	0	1	2	0	0	0	2
CC- 9	XCA303	Database Management Systems	4	0	0	4	4	0	0	0	4
CC- 10	XCA304	Visual Programming	4	0	0	4	4	0	0	0	4
GE1		Generic Elective – 1	3	0	0	3	3	0	0	0	3
DSC - 3	XCA305	Statistical and Numerical Methods	3	2	0	5	3	2	0	0	5
SEC 1- Lab	XCA306	HTML and DHTML Lab	0	0	1	1	0	0	2	0	2
CC-11	XCA307	Database Management Systems Lab	0	0	1	1	0	0	2	0	2
CC-12	XCA308	Visual Programming Lab	0	0	1	1	0	0	2	0	2
		Total	18	02	03	23	19	02	06	0	27

SEMESTER – IV

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
SEC 2	XCA401	Data Analytics	1	0	0	1	1	0	0	0	1
CC-13	XCA402	Java Programming	4	0	0	4	4	0	0	0	4
DSC - 4	XCA403	Resource Management Techniques	3	2	0	5	3	2	0	0	5
CC-14	XCA404	Operating Systems	4	0	0	4	4	0	0	0	4
GE2		Generic Elective – 2	3	0	0	3	3	0	0	0	3
UVM	XVM406	Entrepreneurship Development	2	0	0	2	2	0	0	0	2
SEC 2- Lab	XCA407	Data Analytics Lab	0	0	1	1	0	0	2	0	2
CC-15	XCA408	Java Programming Lab	0	0	1	1	0	0	2	0	2
CC-16	XCA409	Operating Systems Lab	0	0	1	1	0	0	2	0	2
		Total	17	02	03	22	17	2	6	0	25

BACHELOR OF COMPUTER APPLICATIONS (BCA)

REGULATIONS 2018, Revision:1

CURICULLUM

SEMESTER – V

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
SEC-3	XCA501	XML and Web Services	1	0	1	2	1	0	2	0	3
DSE-1A	XCA502A	Software Engineering	4	1	0	5	4	1	0	0	5
	XCA502B	Compiler Design	4	1	0	5	4	1	0	0	5
DSE-2A	XCA503A	Unix and Shell Programming	4	0	1	5	4	0	2	0	6
	XCA503B	Web Scripting Framework	4	0	1	5	4	0	2	0	6
DSE-3A	XCA504A	Enterprise Resource Planning	4	1	0	5	4	1	0	0	5
	XCA504B	Organizational Behavior	4	1	0	5	4	1	0	0	5
GE 3		*Open Elective – To be chosen by student	3	0	0	3	3	0	0	0	3
Minor Course	XCA505	Android App Development - Mobile Technology	0	0	0	1*	0	0	0	0	15
Extra credit	XCA506	Inplant Training	0	0	0	2*					
		Total	16	02	02	20+3*	16	02	04	00	22

SEMESTER – VI

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
SEC-4	XCA601	Introduction to Graphics Design	1	0	1	2	1	0	2	0	3
DSE-1B	XCA602A	.Net Technologies	4	0	1	5	4	0	2	0	6
	XCA602B	Programming with PHP and MySQL	4	0	1	5	4	0	2	0	6
DSE-2B	XCA603A	Mobile Computing	4	1	0	5	4	1	0	0	5
	XCA603B	Distributed Computing	4	1	0	5	4	1	0	0	5
	XCA603C	Block Chain	4	1	0	5	4	1	0	0	5
DSE-3B	XCA604	Project Work	0	1	8	6	0	1	8	0	9
Extra credit		NCC/NSS/SPORTS/RRC//YRC	0	0	0	1*	0	0	0	0	0
		Total	09	02	10	18+1*	09	02	12	00	23

B.Sc. DATA SCIENCE
REGULATION 2022
CURRICULUM
SEMESTER – I

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
PART1	XGT101/ XFT101	Tamil I/Foundational Tamil I	3	0	0	3	3	0	0	0	3
PART2	XGE102	English I	3	0	0	3	3	0	0	0	3
CC- 1	XDS103	C Programming	4	0	0	4	4	0	0	0	4
DSC – 1	XDS104	Mathematics for Data Science -I	4	1	0	5	4	1	0	0	5
CC- 2	XDS105	Computer Organization and Architecture	4	0	0	4	4	0	0	0	4
CC-3	XDS106	C Programming Laboratory	0	0	1	1	0	0	2	0	2
UMAN 1	XUM001	Human Ethics, Values, Rights and Gender Equality	1	0	0	1	1	0	0	1	2
EA		Extension Activites (NSS, NCC, NSO, RRC and Swachh Bharat)				-					2
		Mentor, Library									2
	XDS107	Field Visit				2					2
		Placement Activity									1
		Total	19	01	01	23	19	01	02	1	30

SEMESTER – II

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
PART1	XGT201/X FT201	Tamil II/Foundational Tamil II	3	0	0	3	3	0	0	0	3
PART2	XGE202	English II	3	0	0	3	3	0	0	0	3
CC- 4	XDS203	Object Oriented Programming with C++	4	0	0	4	4	0	0	0	4
DSC – 2	XDS204	Mathematics for Data Science -II	4	1	0	5	4	1	0	0	5
CC- 5	XDS205	Fundamentals of Data Science	4	0	0	4	4	0	0	0	4
CC- 6	XDS206	Data Structures and Algorithms	4	0	0	4	4	0	0	0	4
CC-7	XDS207	Object Oriented Programming with C++ Laboratory	0	0	1	1	0	0	2	0	2
CC-8	XDS208	Data Structures and Algorithms Laboratory	0	0	1	1	0	0	2	0	2
UMAN2	XUM002	Environmental Studies	1	0	0	1	1	0	0	1	2
EA		Extension Activities (NSS, NCC, NSO, RRC and Swachh Bharat)				-					1
		Mentor, library									
		Total	23	01	02	26	23	01	04	1	30

**MCA – MASTER OF COMPUTER APPLICATIONS
REGULATION 2020**

SEMESTER- I

Course Code	Course Title	L	T	P	H	C
YCA101	Database Management Systems	4	1	0	5	4
YCA102	Computer Networks	4	1	0	5	4
YCA103	Object Oriented Programming, Analysis and Design	4	0	0	4	4
YCA104	Management Support Systems	3	0	0	3	3
YCA105	Mathematical Foundation for Computer Applications	4	1	0	5	5
YCA106	Database Management Systems Lab	0	0	4	4	2
YCA107	Mathematical Foundation for Computer Applications Lab using Java	0	0	4	4	2
Total		19	03	08	30	24

SEMESTER- II

Course Code	Course Title	L	T	P	H	C
YCA201	Advanced Operating System Concepts	4	1	0	5	4
YCA202	Software Engineering	4	1	0	5	4
YCAIT*	IT Elective I	4	0	0	4	4
YCA203	Advanced Data Structures	4	0	0	4	3
YCABM*	BM Elective I	3	0	0	3	3
YCA205	Advanced Operating System Concepts Lab	0	0	4	4	2
YCA206	Case Tools Lab	0	0	4	4	2
Total		19	02	08	29	22

SEMESTER- III

Course Code	Course Title	L	T	P	H	C
YCA301	Artificial Intelligence and Machine Learning	4	0	0	4	4
YCA302	Graphics and Multimedia	3	0	0	3	3
YCAIT*	IT Elective II	3	0	0	3	3
YCABM*	BM Elective II	3	0	0	3	3
YCA303	Optimization Techniques	4	0	0	4	4
YCA304	Artificial Intelligence and Machine Learning Lab using Python	0	0	4	4	2
YCA305	Optimization Techniques Lab	0	0	4	4	2
YCA306	Industrial Lectures	0	0	2	2	2
YCA307	Mini Project	0	0	3	3	2
Total		17	0	13	30	25

SEMESTER-IV

Course Code	Course Title	L	T	P	H	C
YCA401	Research Methodology(Paper Publications)	3*(SS)	0	-	3	3
YCA402	Project	0	0	6	6	12
Total		3*(SS)	0	06	09	15

INFORMATION TECHNOLOGY ELECTIVES

IT Elective I

Course Code	Course Title	L	T	P	H	C
YCAEE1	Data Mining and Data Warehousing	4	0	0	4	4
YCAEE2	High Performance Computing	4	0	0	4	4
YCAEE3	Compiler Design	4	0	0	4	4
YCAEE8	System Analysis and Simulation	4	0	0	4	4
YCAEE9	Cryptography and Information Security	4	0	0	4	4

IT Elective II

Course Code	Course Title	L	T	P	H	C
YCAEE4	Cloud Computing	3	0	0	3	3
YCAEE5	Distributed Database Management	3	0	0	3	3
YCAEE6	Image Processing	3	0	0	3	3
YCAEE7	Parallel Programming	3	0	0	3	3
YCAEE10	Bigdata Analytics	3	0	0	3	3

BUSINESS MANAGEMENT ELECTIVES

BM Elective I

Course Code	Course Title	L	T	P	H	C
YCABM3	Foundations of Decision Processes	3	0	0	3	3
YCABM4	Investment Technology	3	0	0	3	3
YCABM8	Management of Software Projects	3	0	0	3	3
YCABM9	Blockchain Technology	3	0	0	3	3

BM Elective II

Course Code	Course Title	L	T	P	H	C
YCABM1	Managerial Economics	3	0	0	3	3
YCABM2	Corporate Planning	3	0	0	3	3
YCABM5	Business Finance	3	0	0	3	3
YCABM6	Taxation Practices	3	0	0	3	3
YCABM7	MIS Frameworks and Implementation	3	0	0	3	3