



**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

<b>Key Indicator</b>	1.2	<b>Academic Flexibility</b>
<b>Metric</b>	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**  
**2023-2024 ACADEMIC YEAR**  
**DEPARTMENT OF COMPUTER SCIENCE AND**  
**APPLICATIONS**

### Programmes

1. BCA
2. MCA

**BCA Curriculum Reg. 2021, Rev.2**

**SEMESTER – I**

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
<b>PART1</b>	<b>XGT101/ XFT101</b>	<b>Tamil I/Foundational Tamil I</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
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
		<b>Total</b>	<b>19</b>	<b>01</b>	<b>01</b>	<b>21</b>	<b>19</b>	<b>01</b>	<b>02</b>	<b>1</b>	<b>30</b>

**SEMESTER – II**

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
<b>PART1</b>	<b>XGT201/ XFT201</b>	<b>Tamil II/Foundational Tamil II</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
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
		<b>Total</b>	<b>22</b>	<b>01</b>	<b>02</b>	<b>25</b>	<b>22</b>	<b>01</b>	<b>04</b>	<b>1</b>	<b>30</b>

**BCA Curriculum Reg. 2021, Rev.1**

**SEMESTER – III**

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
SEC 1	XCA301	HTML and DHTML	1	0	0	1	1	0	0	0	1
CC- 9	XCA302	Database Management Systems	4	0	0	4	4	0	0	0	4
CC- 10	XCA303	Visual Programming	4	0	0	4	4	0	0	0	4
<b>GE1</b>		<b>Generic Elective – 1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
DSC – 3	XCA304	Statistical and Numerical Methods	3	2	0	5	3	2	0	0	5
SEC 1- Laboratory	XCA305	HTML and DHTML Laboratory	0	0	1	1	0	0	2	0	2
CC-11	XCA306	Database Management Systems Laboratory	0	0	1	1	0	0	2	0	2
CC-12	XCA307	Visual Programming Laboratory	0	0	1	1	0	0	2	0	2
UMAN3	XUM003	Disaster Management	1	0	0	1	1	0	0	1	2
EA		Extension Activities NSS,NCC,NSO,RRC and Swatch Bharath)									3
		Mentor, Library									2
		<b>Total</b>	<b>16</b>	<b>02</b>	<b>03</b>	<b>21</b>	<b>16</b>	<b>02</b>	<b>06</b>	<b>1</b>	<b>30</b>

**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	2
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	1	0	0	5
<b>GE2</b>		<b>Generic Elective – 2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
SEC 2- Laboratory	XCA405	Data Analytics Laboratory	0	0	1	1	0	0	2	0	2
CC-15	XCA406	Java Programming Laboratory	0	0	1	1	0	0	2	0	2
CC-16	XCA407	Operating Systems Laboratory	0	0	1	1	0	0	2	0	2
UMAN4	XUM004	Entrepreneurship Development	1	0	0	1	1	0	0	1	2
EA		Extension Activities NSS, NCC, NSO, RRC and Swatch Bharath)									2
		Mentor									1
		<b>Total</b>	<b>16</b>	<b>02</b>	<b>03</b>	<b>21</b>	<b>16</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>30</b>

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	0	1	1	0	0	0	1
DSE-1	XCA502A	Software Engineering	4	0	0	4	4	0	0	0	4
	XCA502B	Internet of Things	4	0	0	4	4	0	0	0	4
DSE-2	XCA503A	Unix and Shell Programming	4	0	0	4	4	0	0	0	4
	XCA503B	Web Scripting Framework	4	0	0	4	4	0	0	0	4
DSE-3	XCA504A	Enterprise Resource Planning	4	0	0	4	4	0	0	0	4
	XCA504B	Organizational Behavior	4	0	0	4	4	0	0	0	4
GE 3		Generic Elective – 3	3	0	0	3	3	0	0	0	3
SEC-3-Lab	XCA505	XML and Web Services Lab	0	0	1	1	0	0	2	0	2
DSE-2-Lab	XCA506A	Unix and Shell Programming Lab	0	0	1	1	0	0	2	0	2
	XCA506B	Web Scripting Framework Lab	0	0	1	1	0	0	2	0	2
	XCA507	Inplant Training	0	0	4	4	-	-	-	-	-
<b>Total</b>			<b>16</b>	<b>0</b>	<b>06</b>	<b>22</b>	<b>16</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>20</b>

SEMESTER – VI

Category	Course Code	Course Title	Credits				Hours				
			L	T	P	Total	L	T	P	SS	Total
U-MAM	XUMA 601	Cyber Security	3	0	0	3	3	0	0	0	3
SEC-4	XCA602	Introduction to Python	1	1	0	2	1	1	0	0	2
DSE-4	XCA603A	.NET Technologies	4	0	0	4	4	0	0	0	4
	XCA603B	Programming with PHP and MySQL	4	0	0	4	4	0	0	0	4
DSE-5	XCA604A	Mobile Computing	4	0	0	4	4	1	0	0	5
	XCA604B	Data Science	4	0	0	4	4	1	0	0	5
	XCA604C	Block Chain	4	0	0	4	4	1	0	0	5
SEC-4 Lab	XCA605	Introduction to Python Lab	0	0	1	1	0	0	2	0	2
DSE-4 Lab	XCA606A	.Net Technologies Lab	0	0	1	1	0	0	2	0	2
	XCA606B	Programming with PHP and MySQL Lab	0	0	1	1	0	0	2	0	2
DSE-6	XCA607	Project Work	0	0	6	6	0	0	8	8	8
<b>Total</b>			<b>12</b>	<b>1</b>	<b>8</b>	<b>21</b>	<b>12</b>	<b>2</b>	<b>12</b>	<b>8</b>	<b>26</b>

**MCA Curriculum Reg. 2023****SEMESTER- I**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>C</b>
YCA101	Database Management Systems	3	0	0	3	3
YCA102	Cryptography and Network Security	3	0	0	3	3
YCA103	Python Programming	3	1	0	4	4
YCA104	Mathematical Foundation for Computer Applications	4	1	0	5	5
YCA105	Software Engineering	3	0	0	3	3
YCA106	Database Management Systems Laboratory	0	0	4	4	2
YCA107	Python Programming Laboratory	0	0	4	4	2
YCA108	Soft Skill Development	2	0	0	2	2
<b>Total</b>		<b>18</b>	<b>02</b>	<b>8</b>	<b>28</b>	<b>24</b>

**SEMESTER- II**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>C</b>
YCA201	Big Data Analytics	3	1	0	4	4
<b>YCAME2*</b>	<b>Elective-I</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>
YCA203	Advanced Data Structures	3	1	0	4	4
YCA204	Object Oriented Programming Language	3	0	0	3	3
<b>YCABE5*</b>	<b>Elective –II</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>
YCA206	Big Data Analytics Laboratory	0	0	4	4	2
YCA207	Object Oriented Programming Language Laboratory	0	0	4	4	2
YCA208	Data Visualization Laboratory	0	0	2	2	2
<b>Total</b>		<b>12</b>	<b>2</b>	<b>10</b>	<b>25</b>	<b>21</b>

**MCA Curriculum Reg. 2020****MCA – MASTER OF COMPUTER APPLICATIONS  
REGULATION 2020****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
<b>Total</b>		<b>17</b>	<b>0</b>	<b>13</b>	<b>30</b>	<b>25</b>

**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
<b>Total</b>		<b>3*(SS)</b>	<b>0</b>	<b>06</b>	<b>09</b>	<b>15</b>

**Elective I**

Course Code	Course Title	L	T	P	H	C
YCAME2A	Optimization Techniques	3	0	0	3	3
YCAME2B	Automata Theory	3	0	0	3	3
YCAME2C	Numerical Methods	3	0	0	3	3
YCAME2D	Combinatorics	3	0	0	3	3

**Elective II**

Course Code	Course Title	L	T	P	H	C
YCABE5A	Foundations of Decision Processes	3	0	0	3	3
YCABE5B	Corporate Planning	3	0	0	3	3
YCABE5C	Management of Software Projects	3	0	0	3	3
YCABE5D	Enterprise Resource Planning	3	0	0	3	3

**IT Elective II**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>C</b>
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

**BM Elective II**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>C</b>
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