 KLE Technological University Creating Value Leveraging Knowledge	FORM ISO 9001: 2008	Document #: FMCD2005	Rev: 1.0
	Department of Master of Computer Applications		Page 1 of 7
Curriculum Structure with Content- Course wise (1 st Year)			Year: 2019-22

Curriculum Structure (2019-22)

I Semester MCA

Sl. No.	Code	Course	Category	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
							ISA	ESA	ISA	ESA	
1	19ECAH701	Professional Communication	HSC	2-1-0	3	4	50	50	--	--	3 hours
2	15ECAC703	Discrete Mathematical Structures	PSC	4-0-0	4	4	50	50	--	--	3 hours
3	19ECAC701	Data Structures using C	PSC	3-1-0	4	5	50	50	--	--	3 hours
4	18ECAC705	Software Engineering	PSC	4-0-0	4	4	50	50	--	--	3 hours
5	18ECAC702	Web Programming	PSC	2-1-0	3	4	50	50	--	--	3 hours
6	19ECAP701	Data Structures using C Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
7	19ECAP702	Rich Internet Application Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
8	19ECAP703	Unix & Shell Programming Lab.	PSC	0-0-2	2	4	--	--	100	--	3 hours
Total				15-3-5	23	31	250	250	300	--	

ISA: In Semester Assessment, **ESA:** End Semester Assessment, **L:** Lecture **T:** Tutorials **P:** Practical,
PSC: Program Scheme Core, **HSC:** Humanities Scheme Core, **BS:** Basic Science,

II Semester – MCA (19-22)

Department of Master of Computer Applications


Page 2 of 7

Curriculum Structure with Content- Course wise (1st Year)

Year: 2019-22


Sl. No.	Code	Course	Category	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
							ISA	ESA	ISA	ESA	
1	19ECAC702	Operating Systems	PSC	3-0-1	4	5	50	50	--	--	3 hours
2	18ECAC703	Object Oriented Programming in C++	PSC	2-1-0	3	4	50	50	--	--	3 hours
3	19ECAC703	Database Management Systems	PSC	3-0-0	3	3	50	50	--	--	3 hours
4	19ECAC704	Computer Networks	PSC	4-0-0	4	4	50	50	--	--	3 hours
5	17ECAC703	PHP Programming	PSC	3-0-1	4	5	50	50	--	--	3 hours
6	19ECAP704	C++ Programming Lab.	PSC	0-0-1	1	2	--	--	100	--	3 hours
7	19ECAP705	Database Management Systems Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
8	19ECAP706	Computer Networks Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
Total				15-1-6	22	29	250	250	300		

ISA: In Semester Assessment, **ESA:** End Semester Assessment, **L:** Lecture **T:** Tutorials **P:** Practical,
PSC: Program Scheme Core, **HSC:** Humanities Scheme Core, **BS:** Basic Science,

 KLE Technological University <small>Creating Value Leveraging Knowledge</small>	FORM ISO 9001: 2008	Document #: FMCD2005	Rev: 1.0
	Department of Master of Computer Applications		Page 3 of 7
Curriculum Structure with Content- Course wise (1st Year)			Year: 2019-22


III Semester MCA (19-22)

Sl. No.	Code	Course	Category	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
							ISA	ESA	ISA	ESA	
1	19ECAC801	Cloud Computing	PSC	3-0-1	4	5	50	50	--	--	3 hours
2	17ECAC801	Programming using Java	PSC	2-1-0	3	4	50	50	--	--	3 hours
3	19ECAC802	Information Security	PSC	3-0-1	4	5	50	50	--	--	3 hours
4	17ECAC805	Data Mining	PSC	3-0-1	4	5	50	50	--	--	3 hours
5	17ECAC804	Python Programming	PSC	3-0-1	4	5	50	50	--	--	3 hours
6	16ECAP801	Java Programming Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
7	16ECAP805	PL/SQL Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
8	18ECAP801	Mini Project -1	PSC	0-0-2	2	4	--	--	100	100	3 hours
Total				14-1-9	24	34	250	250	300	100	

 KLE Technological University <small>Creating Value Leveraging Knowledge</small>	FORM ISO 9001: 2008	Document #: FMCD2005	Rev: 1.0
	Department of Master of Computer Applications		Page 4 of 7
Curriculum Structure with Content- Course wise (1st Year)			Year: 2019-22

IV Semester MCA (19-22)

Sl.No.	Code	Course	Category	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
							ISA	ESA	ISA	ESA	
1	19ECAC803	Mobile Application Development	PSC	3-0-1	4	5	50	50	--	--	3 hours
2	17ECAC806	Programming in C# with .NET	PSC	2-1-0	3	4	50	50	--	--	3 hours
3	15ECAH801	Mathematical Thinking & Logical Reasoning	HSC	3-0-0	3	3	50	50	--	--	1.5 hours
4	1XECAE8XX	Elective-1	PSE	2-0-1	3	4	50	50	--	--	3 hours
5	1XECAE8XX	Elective-2	PSE	2-0-1	3	4	50	50	--	--	3 hours
6	16ECAP804	Programming in C# with .NET Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
7	19ECAP801	Object Oriented Modeling & Design Lab.	PSC	0-0-1.5	1.5	3	--	--	100	--	3 hours
8	18ECAP802	Mini Project-2	PSC	0-0-2	2	4	--	--	100	100	3 hours
Total				12-1-8	21	30	250	250	300	100	

 KLE Technological University <small>Creating Value Leveraging Knowledge</small>	FORM ISO 9001: 2008	Document #: FMCD2005	Rev: 1.0
	Department of Master of Computer Applications		Page 5 of 7
Curriculum Structure with Content- Course wise (1st Year)			Year: 2019-22

Elective Courses IV Sem

Sl.No.	Code	Elective Course	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
						ISA	ESA	ISA	ESA	
1	18ECAE801	Information Storage & Management	2-0-1	3	4	50	50	--	--	3 hours
2	18ECAE807	RESTful Web Services	2-0-1	3	4	50	50	--	--	3 hours
3	18ECAE803	Digital Image Processing	2-0-1	3	4	50	50	--	--	3 hours
4	19ECAE802	Machine Learning	2-0-1	3	4	50	50	--	--	3 hours
5	18ECAE805	Software Practices and Testing	2-0-1	3	4	50	50	--	--	3 hours
6	18ECAE808	DevOps	2-0-1	3	4	50	50	--	--	3 hours
7	19ECAE803	GIS Data Management	2-0-1	3	4	50	50	--	--	3 hours
8	18ECAE802	User Interface Design	2-0-1	3	4	50	50	--	--	3 hours

ISA: In Semester Assessment, **ESA:** End Semester Assessment, **L:** Lecture **T:** Tutorials **P:** Practical,

PSC: Program Scheme Core, **HSC:** Humanities Scheme Core, **BS:** Basic Science **PSE:** Program Scheme Elective

Note: Students are advised to select any two electives from **Data Science** Group: **Software Design & Development** Group for specialization.

Department of Master of Computer Applications


Page 6 of 7

Curriculum Structure with Content- Course wise (1st Year)

Year: 2019-22

V Semester – MCA (19-22)

Sl. No	Code	Course	Category	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
							ISA	ESA	ISA	ESA	
1	17ECAC901	Big Data Analytics	PSC	3-0-1	4	5	50	50	--	--	3 hours
2	16ECAC902	Advanced Java Programming	PSC	2-1-0	3	4	50	50	--	--	3 hours
3	19ECAC901	Block Chain Technologies	PSC	3-0-1	4	5	50	50	--	--	3 hours
4	1XECAE9XX	Elective-3	PSE	2-0-1	3	4	50	50	--	--	3 hours
5	1XECAE9XX	Elective-4	PSE	2-0-1	3	4	50	50	--	--	3 hours
6	17ECAP901	ASP .Net Lab.	PSC	0-0-1	1	2	--	--	100	--	3 hours
7	15ECAP902	Advance Java Programming Lab.	PSC	0-0-1	1	2	--	--	100	--	3 hours
8	18ECAP901	Mini Project-3	PSC	0-0-2	2	4	--	--	100	100	3 hours
Total				12-1-8	21	30	250	250	300	100	

 KLE Technological University Creating Value Leveraging Knowledge	FORM ISO 9001: 2008	Document #: FMCD2005	Rev: 1.0
	Department of Master of Computer Applications		Page 7 of 7
Curriculum Structure with Content- Course wise (1 st Year)			Year: 2019-22

Elective Courses V Sem.

Sl. No.	Code	Elective Course	L-T-P	Credits	Contact Hours	Theory		Lab		Exam Duration
						ISA	ESA	ISA	ESA	
1.	18ECAE901	Internet of Things	2-0-1	3	4	50	50	--	--	3 hours
2.	18ECAE902	Information Retrieval	2-0-1	3	4	50	50	--	--	3 hours
3.	18ECAE903	Web Mapping	2-0-1	3	4	50	50	--	--	3 hours
4.	18ECAE904	Full Stack Development-MEAN	2-0-1	3	4	50	50	--	--	3 hours
5.	18ECAE906	Wireless & Mobile Computing	2-0-1	3	4	50	50	--	--	3 hours
6.	19ECAE901	Linux Administration	2-0-1	3	4	50	50	--	--	3 hours
7.	19ECAE902	Cyber Security & Forensics	2-0-1	3	4	50	50	--	--	3 hours
8.	19ECAE903	Service Oriented Architecture	2-0-1	3	4	50	50	--	--	3 hours

ISA: In Semester Assessment, **ESA:** End Semester Assessment, **L:** Lecture **T:** Tutorials **P:** Practical, **PSC:** Program Scheme Core, **HSC:** Humanities Scheme Core, **BS:** Basic Science, **PSE:** Program Scheme Elective

Note: Students are advised to select any two electives from **Data Science** Group or **Software Design & Development** Group for specialization.

VI Semester – MCA (19-22)

Sl. No.	Code	Course	Category	L-T-P	Credits	Contact Hours	ISA Marks	ESA Marks		Total Marks	Exam Duration
								Dissertation	Viva		
1	19ECAP902	Project Work	PSC	0-0-19	19	30	100	100	50	250	3 hours
2	17ECAP904	Robotic Process Automation.	PSC	0-0-2	2	30	100	--	--	100	
Total				0-0-21	21	60	200	100	50	350	

The students shall undergo certification on Robotic Process Automation (RPA) during the IV or V semester vacation by choosing **Automation Anywhere** or **UiPath** course or both. The evaluation for the course shall be done after successful completion of certification on any one or both during VI semester followed by internal assessment.