



Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
(Deemed to be University)
Maduravoyal, Chennai - 600 095, Tamilnadu, India.
(An ISO 9001 : 2015 Certified Institution)



MCA 2016, 2019 & 2020

CURRICULUM AND

ELECTIVE LIST



C. B. Palanivelu
REGISTRAR
Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
(Deemed to be University)
Periyar E.V.R. High Road,
Maduravoyal, Chennai 600 095



MCA – Computer Applications (Full Time)
Curriculum & Syllabus
2016 Regulations

I SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MMA160012*	Mathematical Foundations for Computer Science	3	0	0	3
2.	MCA16G001*	Data Structures And Algorithms	3	0	0	3
3.	MCA16G002	Computer Organizations	3	0	0	3
4.	MCA16G003	Database Technologies	3	0	0	3
5.	MCA16G004	Object Oriented Programming	3	0	0	3
6.	MCA16GL01*	Data Structures Laboratory	0	0	8	3
7.	MCA16GL02	Database Laboratory	0	0	8	3
Total			15	0	16	21

II SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16G005	Microprocessor and Its Applications	3	0	0	3
2.	MCA16G006*	Software Engineering	3	0	0	3
3.	MCA16G007*	Computer Networks	3	0	0	3
4.	MCA16G008*	Operating System	3	1	0	4
5.	MCA16G009*	Java Programming	3	1	0	4
6.	MCA16GL03*	Java Programming Laboratory	0	0	8	3
7.	MCA16GL04*	Operating System Laboratory	0	0	8	3
Total			15	2	16	23



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III SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16G010*	Enterprise Resource Planning	3	0	0	3
2.	MCA16G011	Mobile Application Development	3	1	0	4
3.	MCA16GEXX	Elective-I	3	1	0	4
4.	MCA16G012*	Computer Graphics And Multimedia Systems	3	0	0	3
5.	MCA16G013	Web Programming	3	0	0	3
6.	MCA16GL05*	Computer Graphics And Multimedia Laboratory	0	0	8	3
7.	MCA16GL06	Web Programming Laboratory	0	0	8	3
8.	MCA16G003	Database Technologies**	3	0	0	3
9.	MCA16GL02	Database Laboratory**	0	0	8	3
Total			15+3**	2	16+8**	23+6**

**Only for Lateral Entries

IV SEMESTER						
S.N O	Sub.Code	Title of the Subject	L	T	P	C
1.	MMA160021*	Resource Management Techniques	3	1	0	4
2.	MBA16AE01*	Professional Ethics	3	1	0	4
3.	MCA16GEXX	Elective II	3	1	0	4
4.	MCA16G014*	C# And .Net Framework	3	0	0	3
5.	MCA16G015	Internet Programming	3	0	0	3
6.	MCA16GL07*	C# and .Net Laboratory	0	0	8	3
7.	MCA16GL08	Internet Programming Laboratory	0	0	8	3
8.	MCA16G009*	Java Programming**	3	1	0	4
Total			15+3**	3+1**	16	24+4**

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V SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MBA16AE02	Entrepreneurship Development	3	0	0	3
2.	MCA16G016*	Object Oriented Analysis And Design	3	0	0	3
3.	MCA16G017	Virtual Reality	3	1	0	4
4.	MCA16GEXX	Elective III	3	1	0	4
5.	MCA16GEXX	Elective IV	3	1	0	4
6.	MCA16GL09*	Case Tools and Software Testing Laboratory	0	0	8	3
7.	MCA16GL10	Mini Project	0	0	8	3
8.	MCA16G008*	Operating System**	3	1	0	4
Total			15+3**	3+1**	16	24+4**

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VI SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16GL11*	Project Work	0	0	45	15
Total			0	0	45	15



MCA 2016 LIST OF ELECTIVES

Elective I						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16GE01	Game Programming	3	1	0	4
2.	MCA16GE02	Distributed Systems	3	1	0	4
3.	MCA16GE03	Accounting And Financial Management	3	1	0	4
4.	MCA16GE04	Security Computing	3	1	0	4
5.	MCA16GE05	Numerical And Statistical Methods	3	1	0	4

Elective II						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16GE06	Data Mining And Warehousing	3	1	0	4
2.	MCA16GE07	Knowledge Management	3	1	0	4
3.	MCA16GE08*	Service Oriented Architecture	3	1	0	4
4.	MCA16GE09	M-Commerce	3	1	0	4
5.	MCA16GE10*	Healthcare Information Systems	3	1	0	4

Elective-III						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16GE11*	Software Project Management	3	1	0	4
2.	MCA16GE12*	E-Publishing	3	1	0	4
3.	MCA16GE13*	E-Learning techniques	3	1	0	4
4.	MCA16GE14	Geological Information System	3	1	0	4
5.	MCA16GE15	BigData Analytics	3	1	0	4

Elective IV						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA16GE16	Cloud Computing	3	1	0	4
2.	MCA16GE17*	Ethical Hacking And Digital Forensics	3	1	0	4
3.	MCA16GE18	Soft Computing	3	1	0	4
4.	MCA16GE19	Semantic Web	3	1	0	4
5.	MCA16GE20	Software Testing And Quality Assurance	3	1	0	4



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I SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19ETL1	Object Oriented Programming	2	-	4	4
2.	MCA19G001	Database Technologies	3	1	-	4
3.	MCA19G002	Computer Organizations	3	1	-	4
4.	MCA19G003	Software Engineering	3	1	-	4
5.	MMA190012	Mathematical Foundations for Computer Science	3	1	-	4
6.	MCA19GL01	Database Laboratory	-	-	4	2
Total						22

II SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19ETL2	Data Structures And Algorithms	2	-	4	4
2.	MCA19G004	Java Programming	3	1	-	4
3.	MCA19G005	Computer Graphics and Multimedia Systems	3	1	-	4
4.	MCA19G006	Data Communication and Networks	3	1	-	4
5.	MCA19G007	Operating System	3	1	-	4
6.	MCA19GL02	Java Programming Laboratory	-	-	4	2
TOTAL						22



III SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19ETL3	Object Oriented Analysis And Design	2	-	4	4
2.	MCA19G008	Advanced Java Programming	3	1	-	4
3.	MCA19G009	Enterprise Resource Planning	3	1	-	4
4.	MCA19G010	Data Mining And Warehousing	3	1	-	4
5.	MCA19GEXX	Elective-I	3	1	-	4
6.	MCA19GLXX	Online Courses				2
7.	MCA19GL03	Advanced Java Programming Laboratory	-	-	4	2
						24

IV SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19ETL4	Web Programming	2	-	4	4
2.	MCA19G011	PHP Programming with MYSQL	3	1	-	4
3.	MCA19G012	Mobile Application Development	3	1	-	4
4.	MMA190021	Resource Management Techniques	3	1	-	4
5.	MCA19GEXX	Elective II	3	1	-	4
6.	MCA19GL04	PHP Programming Laboratory	-	-	4	2
TOTAL						22

V SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19ETL5	Python Programming	2	-	4	4
2.	MCA19G013	C# And .Net Framework	3	1	-	4
3.	MCA19G014	Open Source Software	3	1	-	4
4.	MCA19G015	Entrepreneurship Development	3	1	-	4
5.	MCA19GEXX	Elective III	3	1	-	4
6.	MCA19GLXX	Online Courses	-	-	-	2
7.	MCA19GL05	C# and .Net Programming Laboratory	-	-	4	2
TOTAL						24

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VI SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P / R	C
1.	MCA19GL06	Internship	-	-	-	1
2.	MCA19GL07	Project Work	-	-	15/15	15
						16



MCA2019 LIST OF ELECTIVES

Electives						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1.	MCA19GE01	Internet of Things and Wireless Sensor Networks	3	1	0	4
2.	MCA19GE02	Grid and Cloud Computing	3	1	0	4
3.	MCA19GE03	Data Analysis and Business Intelligence	3	1	0	4
4.	MCA19GE04	Image Processing	3	1	0	4
5.	MCA19GE05	Soft Computing	3	1	0	4
6.	MCA19GE06	Semantic Web	3	1	0	4
7.	MCA19GE07	Service Oriented Architecture and Web Services	3	1	0	4
8.	MCA19GE08	Progressive Web Application Development	3	1	0	4
9.	MCA19GE09	Data Visualization	3	1	0	4
10	MCA19GE10	Embedded Systems	3	1	0	4
11	MCA19GE11	Big Data Analytics	3	1	0	4
12	MCA19GE12	Software Project Management	3	1	0	4
13	MCA19GE13	Software Project Management	3	1	0	4
14	MCA19GE14	Game Programming				
15	MCA19GE15	Distributed Systems				
16	MCA19GE16	Knowledge Management				
17	MCA19GE17	M-Commerce				
18	MCA19GE18	Healthcare Information System				



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I SEMESTER						
S.NO	Sub.Code	Title of the Subject	T/L/ETL	T/SLr	P/R	C
1.	MMA200012	Mathematical Foundations for Computer Science	3	1	0	4
2.	MCA20ETL1	Programming fundamentals with C++ (ETL)	2	0	1	3
3.	MCA20G001	Data Structures And Algorithms	3	1	0	4
4.	MCA20G002	Software Engineering	3	1	0	4
5.	MCA20G003	Database Technologies	3	1	0	4
6.	MCA20GL01	Database Laboratory	0	0	2	2
7.	MCA20GL02	Data Structures Laboratory	0	0	2	2
Total						23

II SEMESTER						
S.NO	Sub.Code	Title of the Subject	T/L/E TL	T/SL r	P/R	C
1.	MCA20ETL2	Object Oriented Analysis And Design (ETL)	2	0	1	3
2.	MCA20G004	Advanced Java Programming	3	1	0	4
3.	MCA20GEXX	Elective - I	3	1	0	4
4.	MCA20G005	Internet Technologies	3	1	0	4
5.	MCA20G006	Enterprise Resource Planning	3	1	0	4
6.	MCA20GL03	Advanced Java Programming Laboratory	0	0	2	2
7.	MCA20GL04	Internet Programming Laboratory	0	0	2	2
						23
TOTAL						



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III SEMESTER						
S.NO	Sub.Code	Title of the Subject	T/L/ETL	T/SLr	P/R	C
1.	MCA20ETL3	Data Analytics and R Programming (ETL)	2	0	1	3
2.	MCA20G007	Entrepreneurship Development	3	0	0	3
3.	MCA20GEXX	Elective - II	3	1	0	4
4.	MCA20G008	C# and .Net Framework	3	1	0	4
5.	MCA20G009	Python Programming	3	1	0	4
6.	MCA20GL05	C# and .Net Framework Laboratory	0	0	2	2
7.	MCA20GL06	Python Programming Laboratory	0	0	2	2
8.	MCA20GL07	Implant Training / Internship	0	0	2	2
						24

IV SEMESTER						
S.NO	Sub.Code	Title of the Subject	T/L/ETL	T/SLr	P/R	C
1.	MCA20GEXX	(Elective-III)	3	1	0	4
2.	MCA20GEXX	(Elective-IV)	3	1	0	4
3.	MCA20P001	Project Work	0	0	15	15
TOTAL						23



MCA 2020 LIST OF ELECTIVES

Electives						
S.No	Sub.Code	Title of the Subject	L	T	P	C
1	MCA20GE01	Data Communication Networks	3	1	0	4
2.	MCA20GE02	Internet of Things and Wireless Sensor Networks	3	1	0	4
3	MCA20GE03	Grid and Cloud Computing	3	1	0	4
4	MCA20GE04	Data Analysis and Business Intelligence	3	1	0	4
5	MCA20GE05	Image Processing	3	1	0	4
6	MCA20GE06	Soft Computing	3	1	0	4
7	MCA20GE07	Semantic Web	3	1	0	4
8	MCA20GE08	Service Oriented Architecture and Web Services	3	1	0	4
9	MCA20GE09	Progressive Web Application Development	3	1	0	4
10	MCA20GE10	Data Visualization	3	1	0	4
11	MCA20GE11	Embedded Systems	3	1	0	4
12	MCA20GE12	Big Data Analytics	3	1	0	4
13	MCA20GE13	Software Project Management	3	1	0	4
14	MCA20GE14	Game Programming	3	1	0	4
15	MCA20GE15	Distributed Systems	3	1	0	4
16	MCA20GE16	Knowledge Management	3	1	0	4
17	MCA20GE17	M-Commerce	3	1	0	4
18	MCA20GE18	Healthcare Information System	3	1	0	4
19	MCA20GE19	Computer Graphics & Multimedia Systems	3	1	0	4
20	MCA20GE20	Data Mining And Warehousing	3	1	0	4



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