

CURRICULUM & SYLLABUS



CHOICE BASED CREDIT SYSTEM (CBCS)
FOR
MASTER OF COMPUTER APPLICATION (MCA)
(2 Year Postgraduate Degree Programme)
IN
COMPUTER SCIENCE
[w. e. f. 2023-2024]

FACULTY OF SCIENCE AND HUMANITIES
SRM UNIVERSITY DELHI-NCR, SONEPAT
39, Rajiv Gandhi Education City, Sonapat
Haryana-131029

COURSE CURRICULUM
COMPUTER SCIENCE
MASTER OF COMPUTER APPLICATION

PROGRAMME COURSES STRUCTURE SEMESTERWISE

SEMESTER – I

Course Code	Category	Course	L	T	P	C
Theory						
21MCA101	CC	Design and Analysis of Algorithm	4	0	0	4
21MCA102	CC	Essentials of Networking	4	0	0	4
21MCA103	CC	Information System Analysis & Design	3	1	0	4
21MCA104	CC	Software Engineering	4	0	0	4
21XXX	OE	Open Elective-I	3	0	0	3
Practical						
21MCA151	P	Design and Analysis of Algorithm Lab	0	0	2	1
21MCA152	P	Networking Lab	0	0	2	1
21MCA154	P	Software Engineering Lab	0	0	2	1
21SS152	SEC	Teamwork & Interpersonal Skills	0	0	2	1
Total			18	1	8	23
Total Contact Hours			27			

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SEMESTER – II

Course Code	Category	Course	L	T	P	C
Theory						
21MCA201	CC	Distributed Operating System	4	0	0	4
21MCA202	CC	Java Programming	4	0	0	4
21MCA203	CC	Cloud Computing	3	1	0	4
21MCA204	CC	Discrete Mathematics & Graph Theory	4	0	0	4
21XXX	OE	Open Elective II	3	0	0	3
Practical						
21MCA252	P	Java Programming Lab	0	0	2	1
21MCA253	P	Cloud Computing Lab	0	0	2	1
21MCA211	LP	Live Project-I	0	0	2	1
21SS254	SEC	Professional Writing Skills & Interpersonal Skills: Strategies	0	0	2	1
21CS0301	SEC	Design thinking and Augmented Virtual Reality-Level-I	0	0	2	1
Total			18	1	10	24
Total Contact Hours			29			

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PROGRAMME COURSES SRUCTURE SEMESTERWISE**

SEMESTER – III

Course Code	Category	Course	L	T	P	C
Theory						
21MCA301	CC	Big Data & Analytics	4	0	0	4
21MCA302	CC	Python Programming	4	0	0	4
21MCA303	CC	Artificial Intelligence	3	1	0	4
21MCA304	CC	Network security	4	0	0	4
21MCA306X	PE	Program Elective-I	4	0	0	4
Practical						
21MCA305	P	Seminar	0	0	2	2
21MCA352	P	Python Programming Lab	0	0	2	1
21MCA353	P	Artificial Intelligence Lab	0	0	2	1
21MCA311	LP	Live Project-II	0	0	2	1
23AR355	SEC	Aptitude and Reasoning	0	0	2	1
Total			19	1	10	26
Total Contact Hours			30			

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PROGRAMME COURSES STRUCTURE SEMESTERWISE
SEMESTER – IV

Course Code	Category	Course	L	T	P	C
Theory						
21MCA401X	PE	Program Elective – II	4	0	0	4
Practical						
21MCA411	LP	Major Project	0	0	16	8
21CS0302	SEC	Big Data Analytics, Tools and Techniques	0	0	2	1
Total			4	0	18	13
Total Contact Hours			22			

**LIST OF OPEN ELECTIVE COURSES –
COURSES FROM OTHER TECHNICAL AREA & EMERGING FIELDS**

Course Code	Category	Course	L	T	P	C
Open Elective -I						
SEC-FT-01	OE	Entrepreneurship and New Venture Management	3	0	0	3
Open Elective –II						
21ESUG202	OE	Sustainable Growth and development	3	0	0	3
21ESUG203	OE	Waste Management	3	0	0	3

LIST OF PROGRAM SPECIFIC ELECTIVE COURSES

Course Code	Category	Course	L	T	P	C
Program Specific Elective -I						
21MCA306A	PE	Distributed Systems	4	0	0	4
21MCA306B	PE	Management Information System	4	0	0	4
21MCA306C	PE	Embedded Systems	4	0	0	4
21MCA306D	PE	Internet of Things	4	0	0	4
Program Specific Elective –II						
21MCA401A	PE	Advanced Database Management System	4	0	0	4
21MCA401B	PE	Enterprise Computing In Java	4	0	0	4
21MCA401C	PE	Combinatorial Optimization	4	0	0	4
21MCA401D	PE	Machine Learning	4	0	0	4

LIST OF SKILL ENHANCEMENT COURSES

Course Code	Category	Course	L	T	P	C
TECHNICAL TRAINING						
21CS0301	SEC	Design thinking and Augmented Virtual Reality	0	0	2	1
21CS0302	SEC	Big Data Analytics, Tools and Techniques	0	0	2	1
SOFT SKILL COURSES						
21SS152	SEC	Teamwork & Interpersonal Skills	0	0	2	1
21SS254	SEC	Professional Writing Skills & Interpersonal Skills: Strategies	0	0	2	1
23AR355	SEC	Aptitude and Reasoning	0	0	2	1