

Bridge Course for Non-IT /CS Students

Course Code	Course Name	Group	Examination Scheme							
			Theory					Practical		Total
			Internal Assessment			End Sem	Exam. Duration	Pract	Oral	
			CA	Test	Total		In Hrs			
MCABR1	Java Programming	Major	25	25	50	50	2	--	--	100
MCABR2	Data Structures	Major	25	25	50	50	2	--	--	100
MCABR3	Operating Systems	Major	25	25	50	50	2	--	--	100
MCABR4	Computer Networks	Major	25	25	50	50	2	--	--	100
MCABR5	Discrete Mathematics	Major	25	25	50	50	2	--	--	100
	Total									500

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MCA SEMESTER I

Course Code	Category	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
			Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total Credits
MCA11	Major (Mandatory)	Mathematical Foundation for Computer Science	3	--	1	3	--	1	4
MCA12	Major (Mandatory)	Advanced Java	3	--	--	3		--	3
MCA13	Major (Mandatory)	Advanced Database Management System	3	--	--	3	--	--	3
MCA14	Major (Mandatory)	Software Project Management	3	--	--	3	--	--	3
MCAE15	Major (Elective)	Elective - 1	3		1	3		1	4
MCAL11	Major (Mandatory)	Advanced Data Structures Lab	--	4	--	--	2	--	2
MCAL12	Major (Mandatory)	Advanced Java Lab	--	2	--	--	1	--	1
MCAL13	Major (Mandatory)	Advanced Database Management System Lab	--	2	--	--	1	--	1
MCAL14	Major (Mandatory)	Web Technologies Lab	--	4	--	--	2	--	2
MCAP11	OJT/FP	Mini Project – 1A	--	2	--	--	1	--	1
		Total	15	14	2	15	7	2	24

MCA SEMESTER I

Course Code	Category	Course Name	Examination Scheme						
			Theory			Practical		End Term Exam	Total Marks
			Internal Assessment			Term Work	Practical Exam		
			CA	Test	Total				
MCA11	Major (Mandatory)	Mathematical Foundation for Computer Science	25	25	50	25	--	50	125
MCA12	Major (Mandatory)	Advanced Java	25	25	50	--	--	50	100
MCA13	Major (Mandatory)	Advanced Database Management System	25	25	50	--	--	50	100
MCA14	Major (Mandatory)	Software Project Management	25	25	50	--	--	50	100
MCAE15	Major (Elective)	Elective - 1	25	25	50	25	--	50	125
MCAL11	Major (Mandatory)	Advanced Data Structures Lab	--	--	--	50	50	--	100
MCAL12	Major (Mandatory)	Advanced Java Lab	--	--	--	50	50	--	100
MCAL13	Major (Mandatory)	Advanced Database Management System Lab	--	--	--	50	50	--	100
MCAL14	Major (Mandatory)	Web Technologies Lab	--	--	--	50	50	--	100
MCAP11	OJT/FP	Mini Project – 1A	--	--	--	25	25	--	50
		Total	125	125	250	275	225	250	1000

MCA Semester I Electives

Elective - 1		
Sr. No.	Course Code	Course Name
1	MCAE151	Accounting & Managerial Economics
2	MCAE152	Optimization Techniques
3	MCAE153	Digital Marketing and Business Analytics
5	MCAE154	e-Commerce

MCA SEMESTER II

Course Code	Category	Course Name	Teaching Scheme			Credits Assigned			
			(Contact Hours)			The ory	Practi cal	Tuto rial	Total Credits
			The ory	Practi cal	Tutor ial				
MCA21	Research Methodology (RM)	Research Methodolog y	3	--	1	3	--	1	4
MCA22	Major (Mandatory)	Artificial Intelligence and Machine Learning	3	--	--	3	--	--	3
MCA23	Major (Mandatory)	Information Security	3	--	--	3	--	--	3
MCAE24	Major (Elective)	Elective - 2	3	--	--	3	--	--	3
MCAE25	Major (Elective)	Elective - 3	3	--	1	3	--	1	4
MCAL21	Major (Mandatory)	Soft Skill Developmen t	--	2	--	--	1	--	1
MCAL22	Major (Mandatory)	Artificial Intelligence and Machine Learning Lab	--	2	--	--	1	--	1
MCAL23	Major (Mandatory)	Devops Lab	--	2	--	--	1	--	1
MCALE24	Major (Elective)	Elective - 2 Lab	--	2	--	--	1	--	1
MCAL25	Major (Mandatory)	Advanced Web Technologie s (AWT) Lab	--	4	--	--	2	--	2
MCAL26	Major (Mandatory)	User Interface Lab	--	2	--	--	1	--	1
MCAL27	Major (Mandatory)	Networking with Linux Lab	--	2	--	--	1		1
MCAP21	OJT/FP	Mini Project – 1B	--	2	--	--	1	--	1
		Total	15	18	2	15	9	2	26

MCA SEMESTER II

Course Code	Category	Course Name	Examination Scheme						
			Theory			Term Work	Practical Exam	End Term Exam	Total Marks
			Internal Assessment						
			CA	Test	Total				
MCA21	Research Methodology (RM)	Research Methodology	25	25	50	25	--	50	125
MCA22	Major (Mandatory)	Artificial Intelligence and Machine Learning	25	25	50			50	100
MCA23	Major (Mandatory)	Information Security	25	25	50			50	100
MCAE24	Major (Elective)	Elective - 2	25	25	50			50	100
MCAE25	Major (Elective)	Elective - 3	25	25	50	25		50	125
MCAL21	Major (Mandatory)	Soft Skill Development				50			50
MCAL22	Major (Mandatory)	Artificial Intelligence and Machine Learning Lab				50	50		100
MCAL23	Major (Mandatory)	Devops Lab				50	50		100
MCALE24	Major (Elective)	Elective - 2 Lab				50	50		100
MCAL25	Major (Mandatory)	Advanced Web Technologies (AWT) Lab				50	50		100
MCAL26	Major (Mandatory)	User Interface Lab				50	50		100
MCAL27	Major (Mandatory)	Networking with Linux Lab				50	50		100
MCAP21	OJT/FP	Mini Project – 1B				25	25		50
		Total	125	125	250	425	325	250	1250

MCA Semester II Electives

Elective - 2				
Sr. No.	Course Code	Course Name	Lab Course Code	Lab Course Name
1	MCAE241	Internet of Things	MCALE241	Internet of Things Lab
2	MCAE242	Robotic Process Automation	MCALE242	Robotic Process Automation Lab
3	MCAE243	Natural Language Processing	MCALE243	Natural Language Processing Lab
4	MCAE244	Design and Analysis of Algorithm	MCALE244	Design and Analysis of Algorithm Lab

Elective - 3		
Sr. No.	Course Code	Course Name
1	MCAE251	Green Computing & Sustainability
2	MCAE252	Management Information System
3	MCAE253	Cyber Security
4	MCAE254	Soft Computing

MCA SEMESTER III

Course Code	Category	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
			Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total Credits
MCA31	Major (Mandatory)	Big Data Analytics and Visualization	3	--	--	3	--	--	3
MCAE32	Major (Elective)	Elective - 4	3	--	--	3	--	--	3
MCAE33	Major (Elective)	Elective - 5	3	--	--	3	--	--	3
MCAE34	Major (Elective)	Elective - 6	3	--	1	3	--	1	4
MCAL31	Major (Mandatory)	Big Data Analytics and Visualization Lab	--	2	--	--	1	--	1
MCALE32	Major (Elective)	Elective - 4 Lab	--	2	--	--	1	--	1
MCALE33	Major (Elective)	Elective - 5 Lab	--	2	--	--	1	--	1
MCAL34	Major (Mandatory)	Mobile Computing Lab	--	4	--	--	2	--	2
MCARP31	Research Project (RP)	Research Project (RP)	--	--	--	--	4	--	4
MCAFP31	Field Project (FP)	Individual Social Responsibility (ISR)							1*
Total			12	10	1	12	9	1	23

* Credits allotted in semester III based on the (ISR) work done during program

MCA SEMESTER III

Course Code	Category	Course Name	Examination Scheme						
			Theory			Practical		End Term Exam	Total Marks
			Internal Assessment			Term Work	Practical Exam		
		CA	Test	Total					
MCA31	Major (Mandatory)	Big Data Analytics and Visualization	25	25	50			50	100
MCAE32	Major (Elective)	Elective - 4	25	25	50			50	100
MCAE33	Major (Elective)	Elective - 5	25	25	50			50	100
MCAE34	Major (Elective)	Elective - 6	25	25	50	25		50	125
MCAL31	Major (Mandatory)	Big Data Analytics and Visualization Lab				50	50		100
MCALE32	Major (Elective)	Elective - 4 Lab				50	50		100
MCALE33	Major (Elective)	Elective - 5 Lab				50	50		100
MCAL34	Major (Mandatory)	Mobile Computing Lab				50	50		100
MCARP31	Research Project (RP)	Research Project (RP)				75	75		150
MCAFP31	Field Project (FP)	Individual Social Responsibility (ISR)							
Total			100	100	200	300	275	200	975

MCA Semester III Electives

Elective - 4				
Sr. No.	Course Code	Course Name	Lab Course Code	Lab Course Name
1	MCAE321	Computer Vision	MCALE321	Computer Vision Lab
2	MCAE322	Deep Learning	MCALE322	Deep Learning Lab
3	MCAE323	Distributed System and Cloud Computing	MCALE323	Distributed System and Cloud Computing Lab

Elective - 5				
Sr. No.	Course Code	Course Name	Lab Course Code	Lab Course Name
1	MCAE331	Software Testing Quality Assurance	MCALE331	Software Testing Quality Assurance Lab
2	MCAE332	Ethical Hacking	MCALE332	Ethical Hacking Lab
3	MCAE333	Blockchain	MCALE333	Blockchain Lab

Elective - 6		
Sr. No.	Course Code	Course Name
1	MCAE341	Design Thinking & Innovation Skills
2	MCAE342	Digital Forensics
3	MCAE343	Entrepreneurship Management

MCA SEMESTER IV

Course Code	Category	Course Name	Teaching Scheme		Credits Assigned		
			(Contact Hours)				
			Theory	Practical	Theory	Practical	Total Credits
MCAIP41	On Job Training (OJT)	Internship Project	--	40	--	12	12
MCARP42	Research Project (RP)	Research Paper / Product / Patent	2	--	2	--	2
MCAMS43	MOOCS	Massive Open Online Course (MOOC)	6#	--	6	--	6!
Total			6	40	8	12	20

MOOC: SWAYAM-NPTEL/MKCL /NITTER/ISRO/NIELIT/Institute having NIRF ranking within 100/Government Institutions etc.

Work load only for students

! Credits transferred from MOOC courses

Note: Internal assessment of tutorials to be done separately and term work marks to be given out of 25 for those courses where tutorial is mentioned.

*For guides of Sem 3 & 4 Research Project as well as Sem 4 Internship Project one hour workload per week can be considered for 5 to 6 students.

MCA SEMESTER IV

Course Code	Category	Course Name	Examination Scheme			
			Internal Assessment		University Assessment	Total Marks
			Mid term Presentation I	Mid term Presentation II	Final Presentation	
MCAIP41	On Job Training (OJT)	Internship Project	75	75	150	300
MCARP42	Research Project (RP)	Research Paper / Product / Patent	50	50	--	100
MCAMS43	MOOCS	Massive Open Online Course (MOOC)	--	--	--	--
Total			125	125	150	400