

# Course Structure (2 Years Syllabus)

## MCA (Choice Based)

### SEMESTER - I

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			Total
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	
MCA11	Mathematical Foundation for Computer Science 1	3	--	1	3	--	1	4
MCA12	Advanced Java	3	--	--	3	--	--	3
MCA13	Advanced Database Management System	3	--	--	3	--	--	3
MCA14	Software Project Management	3	--	1	3	--	1	4
MCAL11	Data Structures Lab with C and / C++	--	4	--	--	2	--	2
MCAL12	Advanced Java LAB	--	2	--	--	1	--	1
MCAL13	Advanced Database Management System LAB	--	2	--	--	1	--	1
MCAL14	Web Technologies	--	4	--	--	2	--	2
MCAP11	Mini Project – 1 A	--	2	--	--	1	--	1
<b>Total</b>		<b>12</b>	<b>14</b>	<b>2</b>	<b>12</b>	<b>07</b>	<b>2</b>	<b>21</b>

### SEMESTER - II

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			Total
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	
MCA21	Mathematical Foundation for Computer Science 2	3	--	1	3	--	1	4
MCA22	Artificial Intelligence and Machine Learning	3	--	--	3	--	--	3
MCA23	Information Security	3	--	--	3	--	--	3
MCAE24	Elective - 1	3	--	--	3	--	--	3
MCAE25	Elective - 2	3	--	1	3	--	1	4
MCAL21	Artificial Intelligence and Machine Learning Lab	--	2	--	--	1	--	1
MCAL22	Soft Skill Development Lab	--	2	--	--	1	--	1
MCAL23	Elective 1 Lab	--	2	--	--	1	--	1
MCAL24	Skill based Lab Course AWT Lab	--	4	--	--	2	--	2
MCAL25	Skill based Lab Course User Interface Lab	--	2	--	--	1	--	1
MCAL26	Skill based Lab Course Networking with Linux Lab	--	2	--	--	1	--	1
MCAP21	Mini Project 1-B	--	2	--	--	1	--	1
<b>Total</b>		<b>15</b>	<b>16</b>	<b>2</b>	<b>15</b>	<b>8</b>	<b>2</b>	<b>25</b>

### ELECTIVE 1

Sr. No.	Course Code	Course Name	Lab Course Code
1	MCAE241	Image Processing	MCAL231
2	MCAE242	Internet Of Things	MCAL232
3	MCAE243	Robotic Process Automation	MCAL233
4	MCAE244	Computer Vision	MCAL234
5	MCAE245	Embedded Systems	MCAL235

### ELECTIVE 2

Sr. No.	Course Code	Course Name
1	MCAE251	Natural Language Processing
2	MCAE252	Geographic Information System
3	MCAE253	Design and Analysis of Algorithm
4	MCAE254	Digital Marketing and Business Analytics
5	MCAE255	Research Methodology

### SEMESTER - III

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			Total
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	
MCA31	Big Data Analytics and Visualization	3	--	--	3	--	--	3
MCA32	Distributed System and Cloud Computing	3	--	--	3	--	--	3
MCAE33	Elective - 3	3	--	--	3	--	--	3
MCAE34	Elective - 4	3	--	1	3	--	1	4
MCAL31	Big Data Analytics and Visualization Lab	--	2	--	--	1	--	1
MCAL32	Distributed System and Cloud Computing Lab	--	2	--	--	1	--	1
MCALE33	Elective 3 Lab	--	2	--	--	1	--	1
MCAL34	Skill based Lab Mobile Computing Lab	--	4	--	--	2	--	2
MCAL35	Software Testing Quality Assurance Lab	--	2	--	--	1	--	1
MCAP31	Mini Project: 2 A	--	2	--	--	1	--	1
<b>Total</b>		<b>12</b>	<b>14</b>	<b>1</b>	<b>12</b>	<b>07</b>	<b>1</b>	<b>20</b>

### ELECTIVE 3

Sr. No.	Course Code	Course Name	Lab Course Code
1	MCAE331	Blockchain	MCALE331
2	MCAE332	Deep Learning	MCALE332
3	MCAE333	Game Development	MCALE333
4	MCAE334	Ethical Hacking	MCALE334
5	MCAE335	Quantum Computing	MCALE335

### ELECTIVE 4

Sr. No.	Course Code	Course Name
1	MCAE341	Intellectual Property Rights
2	MCAE342	Green Computing
3	MCAE343	Management Information System
4	MCAE344	Cyber Security and Digital Forensics
5	MCAE345	Entrepreneurship Management

### SEMESTER - IV

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			Total
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	
MCAI41	Internship	--	40	--	--	15	--	15
MCAR42	Research Paper	1	--	--	1	--	--	1
MCAM43	Online Course- (MOOC)	4#	--	--	4	--	--	4!
MCAS44	Institute Social Responsibility*	--	--	--	--	--	--	2*
<b>Total</b>		<b>5</b>	<b>40</b>		<b>5</b>	<b>15</b>		<b>20+2*</b>

# Work load only for students

! Credits transferred from MOOC courses

\* Credits allotted in semester IV based on the (ISR) work done in semesters I, II, III