



School of Computer Application

Scheme & Syllabus

Master of Computer Applications (MCA) Artificial Intelligence & Machine Learning

(In Association with Samatrix)

Academic Programme

July 2026

JECRC University, Jaipur

Plot No. IS-2036 to IS-2039 Ramchandrapura Industrial Area, Sitapura, Vidhani,
Jaipur, Rajasthan 303905

AIML SAMATRIX Specializations Subjects (MCA)							
Semester	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
I	MCA116A	Decoding Data: Learn AI, ML, DS & Analytics (201)	3	0	0	3	S
I	MCA221B	Data Analytics using Python (400)	2	0	0	2	S
II		Statistical Modelling and Data Reasoning with Python	3	0	0	3	S
II	MCA223A	Data Visualization	3	0	0	3	S
III	MCA224A	Machine Learning and Pattern Recognition	3	0	2	4	S
III	MCA226A	Neural Networks and Deep Learning (Vision and NLP)	3	0	2	4	S
III	MCA225A	Capstone Project	0	0	8	4	S
			17	0	12	23	

MCA

Semester wise Credit				Total Credits	Minimum Credits Required for Degree
I	II	III	IV		
19	21	24	16	80	80

Semester –I

Course Code	Course name	Lecture Credits (Hrs.)	Tutorial Credits (Hrs.)	Practical Credits (Hrs.)	Total Credits (Hrs.)	Course Category
MCA125A	Competitive Programming (Using C++)	3	0	0	3	CORE
MCA129B	Competitive Programming (Using C++) Lab	0	0	4	2	CORE
MCA116A	Decoding Data: Learn AI, ML, DS & Analytics (201)	3	0	0	3	S
MCA121C	Advance Data Structures and Algorithms	3	0	0	3	CORE
MCA221B	Data Analytics using Python	2	0	0	2	S
MCA203B	Advance Data Structures Lab	0	0	4	2	CORE
JIC001A	Entrepreneurship Development	0	0	2	1	SEC
	Departmental Elective 1	3	0	0	3	DE
Total Credits		14	0	10	19	

Semester –II

Cours e Code	Course name	Lecture Credits (Hrs.)	Tutorial Credits (Hrs.)	Practical Credits (Hrs.)	Total Credits (Hrs.)	Course Category
	Statistical Modelling and Data Reasoning with Python	3	0	0	3	S
MCA118A	Advance Database Management System	3	0	0	3	CORE
MCA124A	Project Lab in Advance Database Management Systems	0	0	4	2	CORE
MCA130B	Advance Java	3	0	0	3	CORE
MCA202B	Advance Java Lab	0	0	4	2	CORE
MCA600A	Technical Research Paper Writing	0	0	2	1	CORE
MCA223A	Data Visualization	3	0	0	3	S
	Departmental Elective -2	3	0	2	4	DE
Total Credits		15	0	12	21	

Semester –III

Cours e Code	Course name	Lecture Credits (Hrs.)	Tutorial Credits (Hrs.)	Practical Credits (Hrs.)	Total Credits (Hrs.)	Course Category
MCA312A	Web Technology	3	0	0	3	CORE
MCA313A	Web Technology Lab	0	0	4	2	CORE
MCA314B	Information Security and Hacking/Lab	3	0	2	4	CORE
MCA224A	Machine Learning and Pattern Recognition	3	0	2	4	S
MCA225A	Project	0	0	6	3	S
	Departmental Elective – 4	3	0	2	4	E
MCA226A	Neural Networks and Deep Learning (Vision and NLP)	3	0	2	4	S
Total Credits		15	0	18	24	

Semester -IV

Course Code	Course name	Lecture Credits (Hrs.)	Tutorial Credits (Hrs.)	Practical Credits (Hrs.)	Total Credits (Hrs.)	Course Category
MCA175A	Industrial Training/Internship/Dissertation Capstone Project Presentation	0	0	0	16	CORE