



**JECRC**<sup>TM</sup>  
**UNIVERSITY**  
BUILD YOUR WORLD

**School of Computer Application**

**Master of Computer Applications (MCA)**

**Scheme & Syllabus**

**Data Science & Data Analytics**

**(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

## MCA

<b>Semester wise Credit</b>				<b>Total Credits</b>	<b>Minimum Credits Required for Degree</b>
<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>		
<b>20</b>	<b>21</b>	<b>23</b>	<b>16</b>	<b>80</b>	<b>80</b>

## Data Science & Data Analytics -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	4	0	0	4	S
II	MCA223A	Data Visualization	4	0	0	4	S
III		MLOps: AI Productization and Deployment	3	0	2	4	S
III		Big Data Engineering with Spark & Cloud	3	0	2	4	S
III	MCA225A	Capstone Project	0	0	6	3	S
			19	0	10	24	

### 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 (400)	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
<b>Total Credits</b>		<b>14</b>	<b>0</b>	<b>10</b>	<b>19</b>	

## Semester –II

Course Code	Course name	Lecture Credits (Hrs.)	Tutorial Credits (Hrs.)	Practical Credits (Hrs.)	Total Credits (Hrs.)	Course Category
	<b>Statistical Modelling and Data Reasoning with Python</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>S</b>
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
	Departmental Elective – 2	3	0	2	4	DE
<b>MCA227A</b>	<b>Data Visualization</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
<b>Total Credits</b>		<b>16</b>	<b>0</b>	<b>12</b>	<b>22</b>	

### Semester –III

Course 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/315B	Information Security and Hacking	3	0	2	4	CORE
	<b>MLOps: AI Productization and Deployment</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>S</b>
<b>MCA225A</b>	<b>Project</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>S</b>
	Departmental Elective – 4	3	0	2	4	DE
	<b>Big Data Engineering with Spark &amp; Cloud</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>S</b>
<b>Total Credits</b>		<b>14</b>	<b>0</b>	<b>18</b>	<b>23</b>	

### 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