



JECRCTM
UNIVERSITY
BUILD YOUR WORLD

**Faculty of IT & Computer Application
Scheme**

**Master of Computer Applications (MCA)-Cloud Computing and Full
stack Development (In Association with IBM)
Academic Programme- July 2021-22**

MCA

| Semester wise Credit | | | | Total Credits | Minimum Credits Required for Degree |
|-----------------------------|-----------|-----------|-----------|--------------------------|--|
| III | IV | V | VI | | |
| 22 | 22 | 20 | 16 | 80 | 80 |

| Semester – I | | | | | | | Semester – II | | | | | | |
|--------------|--|---------|---------|---------|---------|------|---------------|--|---------|---------|---------|---------|------|
| Course Code | Course Name | L (Hr.) | T (Hr.) | P (Hr.) | Credits | Type | Course Code | Course Name | L (Hr.) | T (Hr.) | P (Hr.) | Credits | Type |
| MCA201 | Programming in Java | 4 | 0 | 0 | 4 | CORE | MCA209 | Data Structures Lab Using JAVA-II | 0 | 0 | 2 | 1 | F |
| MCA203 | Data Structures and Algorithms | 3 | 1 | 0 | 4 | F | MCA210 | Advance Database Management System | 3 | 0 | 0 | 3 | CORE |
| MCA204 | Software Testing Lab | 0 | 0 | 2 | 1 | CORE | MCA212 | Project Lab in Advance Database Management Systems | 0 | 0 | 2 | 1 | CORE |
| MCA205 | Project Lab in Java | 0 | 0 | 2 | 1 | CORE | MCA213 | Minor Project | 0 | 0 | 4 | 2 | CORE |
| MCA206 | Data Structures Lab -I | 0 | 0 | 2 | 1 | F | MIBM12A | IBM Cloud Fundamentals – Services (32) | 3 | 0 | 0 | 3 | CORE |
| MCA207 | Computer Programming Lab | | | 2 | 1 | F | MIBM13A | Web Services(32) | 3 | 0 | 0 | 3 | CORE |
| MIBM11A | Web Development Using HTML(8), Java Script(8) and Node JS(12)* | 3 | 1 | 0 | 4 | CORE | MIBM14A | Angular JS (32) and Spring Framework (32) | 3 | 0 | 2 | 4 | CORE |
| | Communication Skills | 2 | 0 | 2 | 3 | ID | | Life Skills-I (Aptitude) | 1 | 0 | 0 | 1 | F |
| | Open Elective -I | 3 | 0 | 0 | 3 | GE | | Life Skills-I Lab | 0 | 0 | 2 | 1 | F |
| | | | | | | | | Open Elective -II | 3 | 0 | 0 | 3 | GE |
| | Total | 8 | 1 | 10 | 22 | | | Total | 16 | 0 | 12 | 22 | |

All the certificates related to each subject of specialization are mandatory and credits will be awarded on submission of a copy of certificate.

*Web Development Using HTML, Java Script , Node JS

| Semester – III | | | | | | | Semester – IV | | | | | |
|----------------|---|-----------|----------|----------|-----------|------|---------------|--|---------|---------|---------|------|
| Course Code | Course Name | L (Hr.) | T (Hr.) | P (Hr.) | Credits | Type | Course Code | Course Name | L (Hr.) | P (Hr.) | Credits | Type |
| MCA215 | Internet Security and Cryptography | 3 | 0 | 0 | 3 | CORE | MCA218 | Industrial Training/Internship/Dissertation Project Presentation | 0 | 0 | 16 | CORE |
| MCA217 | Cryptography Lab | 0 | 0 | 2 | 1 | CORE | | | | | | |
| MIBM15A | Dockers and Kubernetes Implementation(28)*** | 3 | 0 | 0 | 3 | CORE | | | | | | |
| MIBM16A | Deployment of Private Cloud and Cognitive Computing(32) | 3 | 0 | 2 | 4 | CORE | | | | | | |
| MIBM17A | DevOps and Design Thinking(32) ** | 3 | 0 | 2 | 4 | CORE | | | | | | |
| | Life Skills-II (Personality Development) | 1 | 0 | 0 | 1 | F | | | | | | |
| | Life Skills-II -Lab | 0 | 0 | 2 | 1 | F | | | | | | |
| | Open Elective -III | 3 | 0 | 0 | 3 | GE | | | | | | |
| | | | | | | | | | | | | |
| | Total | 16 | 0 | 8 | 20 | | | | | | | |

List of Elective Courses

| Elective-II/IV | | Elective-I/III | |
|----------------|-------------------------------------|----------------|---|
| Course Code | Course name | Course Code | Course name |
| MCA219 | Programming in ASP.Net | MCA241 | Data warehousing and Data Mining |
| MCA220 | Programming in R | MCA242 | Data Science and Analytics |
| MCA221 | Programming in C# | MCA243 | Distributed Computing |
| MCA222 | Professional Java | MCA244 | Big Data Analytics |
| MCA223 | MEAN Fullstack Development | MCA245 | Cloud Computing |
| MCA224 | Programming Using Ruby On Rails | MCA246 | Introduction to Salesforce |
| MCA225 | Programming Using Scala | MCA247 | Big Data Analytics using Hadoop |
| MCA226 | Design & Analysis of Algorithms | MCA248 | System and Network Administrator |
| MCA227 | Machine Learning | MCA249 | Artificial Intelligence and Expert System |
| MCA228 | Programming in ASP.Net Lab | MCA250 | Compiler Design |
| MCA229 | Programming in R Lab | MCA251 | Advance Computer Network |
| MCA230 | Programming in C# Lab | MCA252 | Theory of Computation |
| MCA231 | Professional Java Lab | MCA253 | Robotics Process Automation |
| MCA232 | MEAN Fullstack Development Lab | MCA254 | Advance Computer Architecture |
| MCA233 | Programming Using Ruby On Rails | MCA255 | Agile Software Development |
| MCA234 | Programming Using Scala Lab | MCA256 | Introduction to Blockchain |
| MCA235 | Design & Analysis of Algorithms Lab | MCA257 | Software Project Management |
| MCA236 | Machine Learning Lab | | |
| MCA237 | Introduction to Linux System | | |
| MCA238 | Linux Server Administration and | | |
| MCA239 | Software Development Using | | |
| MCA240 | Network Virtualization Using | | |
| | | | |