

**Faculty of IT & Computer Application**

**Scheme**

 **Master of Computer Applications (MCA)**

**Academic Programme**

**July 2021-22**

**MCA**

|  |  |  |
| --- | --- | --- |
| **Semester wise Credit** | **Total Credits** | **Minimum Credits Required for Degree** |
| **III**  | **IV**  | **V**  | **VI**  |
| **22** | **23** | **19** | **16** | **80** | **80** |

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| --- | --- |
| **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 | MCA208 | Programming in Python  | 3 | 0 | 0 | 3 | CORE |
| MCA203 | Data Structures and Algorithms  | 3 | 1 | 0 | 4 | F | MCA209 | Data Structures Lab Using JAVA-II | 0 | 0 | 2 | 1 | F |
| AWS001A | Cloud Computing Fundamentals | 4 | 0 | 0 | 4 | CORE | MCA210 | Advance Database Management System | 3 | 0 | 0 | 3 | CORE |
| MCA204 | Software Testing Lab  | 0 | 0 | 2 | 1 | CORE | AWS002A | AWS Academy Cloud Foundation Course | 3 | 0 | 0 | 3 | CORE |
| MCA205 | Project Lab in Java  | 0 | 0 | 2 | 1 | CORE | MCA211 | Project Lab in Python  | 0 | 0 | 2 | 1 | CORE |
| MCA206 | Data Structures Lab -I | 0 | 0 | 2 | 1 | F | MCA212 | Project Lab in Advance Database Management Systems | 0 | 0 | 2 | 1 | CORE |
| MCA207 | Computer Programming Lab |   |   | 2 | 1 | F | MCA213 | Minor Project  | 0 | 0 | 4 | 2 | CORE |
|   | Communication Skills | 2 | 0 | 2 | 3 | ID |  | Program Elective – II | 3 | 0 | 2 | 4 | CORE |
|  | Open Elective -I | 3 | 0 | 0 | 3 | GE |   | Life Skills-I (Aptitude) | 1 | 0 | 0 | 1 | F |
|  |  |  |  |  |  |  |   | Life Skills-I Lab | 0 | 0 | 2 | 1 | F |
|  |  |  |  |  |  |  |   | Open Elective -II | 3 | 0 | 0 | 3 | GE |
|   | **Total** | 5 | 0 | 10 | 22 |  |  | **Total** | 15 | 0 | 8 | 23 |  |

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| **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** |
| MCA214 | Statistical Computing Using R | 2 | 0 | 0 | 2 | CORE | MCA218 | Industrial Training/Internship/Dissertation Project Presentation | 0 | 0 | 16  | CORE |
| MCA215 | Internet Security and Cryptography | 3 | 0 | 0 | 3 | CORE |
| AWS 003A | Cloud Security  | 3 | 0 | 0 | 3 | CORE |
| MCA216 | Project Lab in Statistical Computing Using R  | 0 | 0 | 2 | 1 | CORE |
| MCA217 | Cryptography Lab  | 0 | 0 | 2 | 1 | CORE |
| AWS 005 | AWS Academy Cloud Developing(Elective) | 4 | 0 | 0 | 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** | **15** | **0** | **8** | **19** |  |

**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 Lab | 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 Administration |  |  |
| MCA238 | Linux Server Administration and Automation |  |  |
| MCA239 | Software Development Using OpenShift Architecture |  |  |
| MCA240 | Network Virtualization Using OpenStack |  |  |
|  |  |  |  |