

## **MASTER OF COMPUTER APPLICATIONS (MCA)**

### **SEMESTER I**

Object Oriented Programming Using Java  
Mathematical Foundations for Computer Applications I  
Advanced Operating Systems  
Advanced Computer Networks  
Python Programming  
Advanced DBMS  
Cultural Education

### **SEMESTER II**

Data structures and Algorithms  
Advanced Web Technologies and Mean Stack  
Mathematical Foundations for Computer Applications II  
Data mining and Applications  
Elective-I  
Elective-II  
Research Methodologies and Case Study  
Data Structures and Algorithms Lab

### **SEMESTER III**

Machine Learning  
Software Engineering and Design Patterns  
Elective III  
Elective IV  
Elective V  
IoT and Cloud Lab  
Open Lab  
Dissertation Phase I

### **SEMESTER IV**

Dissertation Phase II

### **ELECTIVES**

Artificial Intelligence  
Mobile Application Development  
Cryptography  
Compiler Design  
Big data Analytics and Visualization  
C# and .NET  
Parallel and Distributed Computing  
Advanced Algorithms  
Deep Learning

Software Testing  
Natural Language Processing  
Wireless Networks  
Bioinformatics  
Network Management and System Administration  
Digital Image Processing  
Information Retrieval  
Semantic Web  
Software Defined Networks  
Open-Source Systems  
Network Security  
Database Administration  
Pattern Recognition  
Block Chain Technologies  
Operations Research and Optimization Techniques

#### **MANAGEMENT ELECTIVES**

Principles of Economics and Management  
Software Project Management  
Management Information Systems  
Management and Organizational Behavior  
Business Intelligence

#### **OPEN LAB**

R Programming  
MATLAB Programming  
High Performance Computing Lab  
Natural Language Processing Lab  
Cyber Security Lab  
Deep Learning Lab

#### **STREAM BASED ELECTIVES**

##### **Data Science**

Artificial Intelligence  
Big Data Analytics and Visualization  
Deep Learning  
Natural Language Processing  
Digital Image Processing  
Pattern Recognition

##### **Cyber Security**

Cryptography  
Network Management and System

Administration  
Open-Source Systems  
Network Security  
Database Administration  
Block Chain Technologies

**Next Generation Networks**

Parallel and Distributed Computing  
Wireless Networks  
Software Defined Networks