



Maulana Azad
NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003
DEPARTMENT OF MATHEMATICS, BIOINFORMATICS & COMPUTER
APPLICATIONS
Master of Computer Applications
SCHEME OF STUDY

First Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 101	Discrete Mathematics	3	--	---	3
CA 102	Computer Architecture	3	--	--	3
CA 103	Data Structures	3	--	--	3
CA 104	Operating System	3	--	--	3
CA 105	Introduction to Programming	3	--	--	3
HUM 106	Business Communication	2	---	---	2
CA 107	Programming Lab in Data Structure & C++	---	---	8	4
Total Hours 25		Total Credits			21
Total Credits (Cumulative) 21					

Second Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 201	Linear Algebra	3	--	---	3
CA 202	Software Engineering	3	--	--	3
CA 203	Computer Networks	3	--	--	3
CA 204	Database Management System	3	--	--	3
CA 205	Analysis & Design of Algorithm	3	--	--	3
CA 206	RDBMS Lab	---	---	6	3
CA 207	Front End Programming Lab	---	---	4	2
Total Hours 25		Total Credits			20
Total Credits (Cumulative) 41					

Third Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 301	Probability & Statistics	3	--	---	3
CA 302	Internet of Things	3	--	--	3
CA 303	Artificial Intelligence & Neural Network	3	--	--	3
CA 304	Application Development using Java	3	--	--	3
CA 305	DevOps Tool and Chains	3	--	---	3
CA 306	Programming Lab in Java	--	--	4	2
CA 307	Minor Project – I	--	--	6	3
Total Hours 25		Total Credits			20
Total Credits (Cumulative) 61					

Fourth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 401 CA	Optimization Techniques	3	---	---	3
CA 402	Data Mining and Predicative Data Analysis	3	---	---	3
CA 403	Design Patterns	3	---	---	3
CA 404	Machine Learning	3	--	--	3
	Elective – I	3	--	--	3
CA 405	Programming Lab in Python			4	2
CA 406	Minor Project – II	---	---	8	4
Total Hours 27		Total Credits			21
Total Credits (Cumulative) 82					

Fifth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
CA 501	Cloud Computing & Virtualization	3	--	2	4
CA 502	Deep Learning	3	--	-	3
	Elective – II	3	--	2	4
CA 503	Deep Learning Lab	--	---	4	2
CA 504	Minor Project - III	---	---	10	5
Total Hours 27		Total Credits			18
Total Credits (Cumulative) 100					

sixth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
CA 601	Dissertation (Major Project)	--	---	40	20
Total Hours 20		Total Credits			20
Total Credits (Cumulative) 120					

List of Electives

Electives (Theory)	
	CA-701– Big Data
	CA-702 - Information Security
	CA-703 - Natural Language Processing
	CA-704 - Computer Graphics
	CA-705 Enterprise Application Architecture Pattern
	CA-707 Web Search and Information Retrieval
	CA-708 Software Testing Methodologies & Tools
	CA-709 Next Generation Networks
	CA-710 Data Science & Analytics
	CA-711 Agile Software Development
	CA-712 Edge Computing
	CA-713 Service Oriented Architecture
	CA-714 Software Agents
	CA-715 Data Security & Data Privacy
	CA-716 Cyber Security