Maulana Azad

NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003

DEPARTMENT OF MATHEMATICS, BIOINFORMATICS & COMPUTER APPLICATIONS

Master of Computer Applications

SCHEME OF STUDY (Revised 2025)

First Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC MT 1101	Discrete Mathematics	3	--	---	3
MC CA 1102	Computer Architecture	3	--	--	3
MC CA 1103	Data Structures	3	--	--	3
MC CA 1104	Operating System	3	--	--	3
MC CA 1105	Introduction to Programming	3	--	--	3
HS PG 1106	Business Communication	2	---	---	2
MC CA 1107	Programming Lab in Data Structure & C++	---	---	8	4
Total Hours 25 **Total Credits (Cumulative) 21**		**Total Credits**			**21**

Second Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC MT 2201	Linear Algebra	3	--	---	3
MC CA 2202	Software Engineering	3	--	--	3
MC CA 2203	Computer Networks	3	--	--	3
MC CA 2204	Database Management System	3	--	--	3
MC CA 2205	Analysis & Design of Algorithm	3	--	--	3
MC CA 2206	RDBMS Lab	---	---	6	3
MC CA 2207	Front End Programming Lab	---	---	4	2
Total Hours 25 **Total Credits (Cumulative) 41**		**Total Credits**			**20**

Third Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC MT 3301	Probability & Statistics	3	--	---	3
MC CA 3302	Internet of Things	3	--	--	3
MC CA 3303	Artificial Intelligence & Neural Network	3	--	--	3
MC CA 3304	Application Development using Java	3	--	--	3
MC CA 3305	DevOps Tool and Chains	3	--	---	3
MC CA 3306	Programming Lab in Java	--	--	4	2
MC CA 3307	Minor Project – I	--	--	6	3
Total Hours 25 **Total Credits (Cumulative) 61**		**Total Credits**			**20**

Fourth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC MT 4401	Optimization Techniques	3	---	---	3
MC CA 4402	Data Mining and Predicative Data Analysis	3	---	---	3
MC CA 4403	Design Patterns	3	---	---	3
MC CA 4404	Machine Learning	3	--	--	3
	Elective – I	3	--	--	3
MC CA 4405	Programming Lab in Python			4	2
MC CA 4406	Minor Project – II	---	---	8	4
Total Hours 27 **Total Credits (Cumulative) 82**		**Total Credits**			**21**

Fifth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC CA 5501	Cloud Computing & Virtualization	3	--	2	4
MC CA 5502	Deep Learning	3	--	-	3
	Elective – II	3	--	2	4
MC CA 5503	Deep Learning Lab	--	---	4	2
MC CA 5504	Minor Project - III	---	---	10	5
Total Hours 27 **Total Credits (Cumulative) 100**		**Total Credits**			**18**

Sixth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MC CA 6601	Dissertation (Major Project)	--	---	40	20
Total Hours 20 **Total Credits (Cumulative) 120**		**Total Credits**			**20**

List of Electives

Electives	MC CA 4701 Big Data MC CA 4702 Information Security MC CA 4703 Natural Language Processing MC CA 4704 Computer Graphics MC CA 4705 Enterprise Application Architecture Pattern MC CA 4706 Web Search and Information Retrieval MC CA 4707 Software Testing Methodologies & Tools MC CA 4708 Next Generation Networks MC CA 5801 Data Science & Analytics MC CA 5802 Agile Software Development MC CA 5803 Edge Computing MC CA 5804 Service Oriented Architecture MC CA 5805 Software Agents MC CA 5806 Data Security & Data Privacy MC CA 5807 Cyber Security