

Maulana Azad



NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003
DEPARTMENT OF MATHEMATICS, BIOINFORMATICS &
COMPUTER APPLICATIONS
Master of Computer Applications
SCHEME OF STUDY (Revised April 2020)

First Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 101 CA	Discrete Mathematics	3	1	---	4
CA 102	Computer Architecture & System Software	3	--	--	3
CA 103	Data Structures	3	--	2	4
CA 104	Operating System	3	--	--	3
CA 105	C Programming	3	--	--	3
HUM 106 CA	Business Communication	3	1	---	4
CA 107	Web Development Lab- I	---	---	4	2
CA 108	Programming Lab in C	---	---	6	3
Total Hours 32		Total Credits			26
Total Credits (Cumulative) 26					

Second Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 201 CA	Linear Algebra	3	1	---	4
CA 202	Software Engineering	3	1	--	4
CA 203	Computer Networks	3	--	--	3
CA 204	Database Management System	3	1	--	4
CA 205	Object Oriented Design Using UML	3	--	--	3
CA 206	Python Programming	3	--	--	3
CA 207	Web Development Lab- II	---	---	4	2
CA 208	Programming Lab in Python	---	---	6	3
Total Hours 31		Total Credits			26
Total Credits (Cumulative) 52					

Third Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 301 CA	Probability & Applied Statistics	3	1	---	4
CA 302	Software Architecture	3	--	--	3
CA 303	Analysis & Design of Algorithm	3	--	--	3
CA 304	Application Development using JAVA	3	--	--	3
CA 305	Enterprise Resource Planning and Supply Chain Management	3	1	---	4
CA 306	Development and Operational Tools (Devops)	-	1	4	3
CA 307	Programming Lab in JAVA	--	--	4	2
CA 308	Minor Project – I	--	--	8	4
Total Hours 34		Total Credits			26
Total Credits (Cumulative) 78					

Fourth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 401 CA	Optimization Methods for Analytics	3	1	---	4
CA 402	Data Warehousing and Data Mining	3	--	---	3
CA 403	Artificial Intelligence & Neural Network	3	---	--	3
CA 404	Service Management	3	1	---	4
CA 405	Data Science	3	1	--	4
	Elective – I	3	--	--	3
	Elective Lab- I	---		4	2
CA 406	Minor Project - II	---	---	6	3
Total Hours 31		Total Credits			26
Total Credits (Cumulative) 104					

Fifth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
CA 501	Cloud Computing & Virtualization	3	1	---	4
CA 502	Machine Learning	3	--	2	4
CA 503	Big Data & Analytics	3	--	2	4
	Elective – II	3	1	---	4
	Elective – III	3	1	---	4
	Elective Lab-II	---	---	4	2
CA 504	Minor Project - III	---	---	8	4
Total Hours 34		Total Credits			26
Total Credits (Cumulative) 130					

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 40		Total Credits			20
Total Credits (Cumulative) 150					

List of Electives

<u>Electives (Theory)</u>	CA-701– Internet of Things CA-702 - Software Project Management CA-703 - Mobile Application Development CA 704 – Design Patterns CA-801 User Interface Design CA-802 Natural Language Processing CA-803 Deep learning CA-804 Information Retrieval CA-805 Computer Graphics CA-806 Block Chain CA-901 Service Oriented Architecture CA-902 Robotics Process Automation CA-903 Software Testing Methodologies & Tools CA-904 Next Generation Networks CA-905 Information Security CA-906 Multimedia & Virtual Reality
<u>Electives (Labs)</u>	CA-705 – Mobile Application Development Lab CA-706 - Internet of Things Lab CA-707 - Computer Aided Software Engineering Tools Lab CA-708- Design Pattern Lab CA-807 – Next Generation Networks Lab CA-808 - Machine Learning & Deep Learning Lab CA-809 - Big Data & Virtualization Lab CA-810- Information Retrieval Lab CA-811- Software Testing Lab