Maulana Azad National Institute of Technology,
Bhopal – 462003

Computer Science and Engineering Department

M.Tech. Advance Computing (Part Time)

Proposed Scheme July 2024

First Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
PAC24511	Advanced Data Structures	3	-	-	3
PAC24512	Architecture of Large Systems	3	-	-	3
	Department Elective-1	3	-	-	3
PAC24513	Lab-1(Based on Core Subjects)	-	-	2	1
PAC24514	Seminar-I	-	-	2	1
PAC24515	Minor Project- I (Self Learning)	-	-	-	2
	Communication Skills/ Research Methodology (from NPTEL)	-	-	-	0
Total Hours:13 Total Credits:13		Total Semester Credits			13

Second Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
PAC24521	High Performance Computing	3	-	-	3
PAC24522	Parallel Algorithms	3	-	-	3
	Department Elective-2	3	-	-	3
PAC24523	Lab-II (Based on Core Subjects)		-	2	1
PAC24524	Seminar-2	-		2	1
PAC24525	Minor Project- II (Self Learning)	-	-	-	2
	Communication Skills/ Research Methodology (from NPTEL)	-	-	-	0
Total Hours:13 Total Credits:13		Total Semester Credits			13

Third Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
PAC24611	Quantum Computing	3	-	-	3
	Department Elective-3	3	-	-	3
PAC24612	Lab-III (Based on Core or Elective Subject)	-	-	2	1
PAC24613	Pre-Dissertation Phase-I	-	-	12	6
TotalHours:20 TotalCredits:13		Total Semester Credits			13

Fourth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
	Department Elective-4	3	-	-	3
	Open Elective	3	-	-	3
PAC24621	Lab –IV (Based on Elective Subjects)	-	-	2	1
PAC24622	Pre-Dissertation Phase-II	-	-	12	6
Total Hours:20 TotalCredits:13		Total Semester Credits			13

Fifth Semester:

Subject Code	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
PAC24711	Dissertation Phase-I	-	-	28	14
Total Hours:28 Total Credits:14		Total Semester Credits			14

Sixth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
PAC24721	Dissertation Phase-II	-	-	28	14
Total Hours:28 Total Credits:14		Total Semester Credits			14
Total Credits I, II, III, IV, V, VI Semester					**80**

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List of Department Elective		List of Open Elective	
PAC24551	Statistical Methods	ARP24581	Introduction to Urban Planning
PAC24552	Machine Learning	BSE24581	Bioprocess Engineering
PAC24553	Soft Computing	BSE24582	Biophysics Tool and Engineering
PAC24554	Wireless Networking	CHE24581	Analytical Techniques
PAC24555	Cryptography	CHE24582	Green Technology and Processes
PAC24556	Computer Network and Security	CE24581	Solid Waste Management
PAC24557	Research Methodology	CE24582	Basic Concept of GIS
PAC24558	Cloud Computing	CE24583	Road Safety
PAC24559	Cluster & Grid Computing	PHY24581	Nanotechnology and Nanoscience
PAC24560	Web Search & Information Retrieval	EE24581	Electric Machines and Applications
PAC24561	Embedded Systems	EE24582	Control and Instrumentation
PAC24562	Deep Learning	ECE24581	Introduction to Fuzzy Logic
PAC24563	Computer Vision	ECE24582	Neural Networks and Applications
PAC24564	Stochastic Process and queuing Theory	EC24581	Energy Resource Technologies
PAC24565	Graph Theory and Network Algorithms	HUM24581	Intellectual Property Rights for Engineers
PAC24566	Privacy and Database Security	HUM24582	Applied Psychology: Human Centered Design and Engineering
PAC24567	Optimization Techniques	MTH24581	Advanced Operations Research
PAC24568	Operating System & Design	MTH24582	Computing Technologies
PAC24569	Distributed Systems	ME24581	Value Engineering
PAC24570	Big Data Technologies	ME24582	Design thinking
PAC24571	Heterogeneous Computing	ME24583	Mechatronics and NDT Engineering
PAC24572	Internet Of Things	MME24581	Advanced Instrumentation Methods for Material Analysis
PAC24573	Sensors, Microcontrollers and Embedded System	MME24582	Smart Materials and Their Applications
PAC24574	Fundamental of Robotics	MBA24581	Engineering Startup Management