



MAULANA AZAD
NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL – 462003
COMPUTER SCIENCE AND ENGINEERING DEPARTMENT
M Tech in in Advanced Computing

SCHEME OF STUDY (w.e.f. July 2022)

First Semester:

Course No.	Subject	Schemes of studies periodsper week			Total Credits
		L	T	P	
AC 511	Mathematical Foundations of Computer Science	3	-	-	3
AC 512	Advanced Data Structures & Algorithms	3	-	-	3
AC 513	Architecture of Large Systems	3	-	-	3
AC 514	Soft Computing	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
AC 515	Lab-I (Advanced Data Structures & Algorithms)	-	-	2	1
AC 516	Seminar-I	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Schemes of studies periodsper week			Total Credits
		L	T	P	
AC 521	High Performance Computing	3	-	-	3
AC 522	Graph Theory & Algorithms	3	-	-	3
AC 523	Optimization Techniques	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
MTH524	Research Methodology	1	1	-	2
AC 525	Lab-II (High Performance Computing)	-	-	2	2
AC 526	Seminar-II	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

Third Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
AC 611	Dissertation Phase-I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
AC 621	Dissertation Phase-II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

List of Program Electives A		List of Open Electives C	
AC 551	Data Mining	ARP 581	Introduction to Urban Planning
AC 552	Operating System & Design	BSE 581	Bioprocess Engineering
AC 553	Web Search & Information Retrieval	BSE 582	Biophysics Tool and Engineering
AC 554	Digital Image Processing	CHE 581	Analytical Techniques
AC 555	Embedded Systems	CHE 582	Green Technology and Processes
AC 556	Distributed Systems	CE 581	Solid Waste Management
AC 557	Cluster & Grid Computing	CE 582	Basic Concept of GIS
AC 558	Software Engineering	CE 583	Road Safety
AC 559	Distributed Databases	PHY 581	Nanotechnology and Nanoscience
AC 560	Semantic Web	EE 581	Electric Machines and Applications
AC 561	Parallel Algorithms	EE 582	Control and Instrumentation
AC 562	Image Analysis	ECE 581	Introduction to Fuzzy Logic
AC563	Big Data Technologies	ECE 582	Neural Networks and Applications
AC 564	Quantum Computing	EC 581	Energy Resource Technologies
List of Departmental Electives B		HUM 581	Intellectual Property Rights for Engineers
AI 513	Machine Learning	HUM 582	Applied Psychology: Human Centered Design and Engineering
AI 552	Reinforcement Learning	MTH 581	Advanced Operations Research
IS 513	Cybercrime & Information Warfare	MTH 582	Computing Technologies
CN 512	Computer & Network Security	ME 581	Value Engineering
CN 514	Wireless Networking	ME 582	Design thinking
CN 552	Cloud Computing	ME 583	Mechatronics and NDT Engineering
CN 555	Information Theory and Coding	MME 581	Advanced Instrumentation Methods for Material Analysis
		MME 582	Smart Materials and their Applications
		MBA 581	Engineering Startup Management