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 periodsper 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 periodsper 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	
AC 551	Data Mining
AC 552	Operating System & Design
AC 553	Web Search & Information Retrieval
AC 554	Digital Image Processing
AC 555	Embedded Systems
AC 556	Distributed Systems
AC 557	Cluster & Grid Computing
AC 558	Software Engineering
AC 559	Distributed Databases
AC 560	Semantic Web
AC 561	Parallel Algorithms
AC 562	Image Analysis
AC563	Big Data Technologies
AC 564	Quantum Computing
List of Departmental Electives B	
AI 513	Machine Learning
AI 552	Reinforcement Learning
IS 513	Cybercrime & Information Warfare
CN 512	Computer & Network Security
CN 514	Wireless Networking
CN 552	Cloud Computing
CN 555	Information Theory and Coding

List of Open Electives C	
ARP 581	Introduction to Urban Planning
BSE 581	Bioprocess Engineering
BSE 582	Biophysics Tool and Engineering
CHE 581	Analytical Techniques
CHE 582	Green Technology and Processes
CE 581	Solid Waste Management
CE 582	Basic Concept of GIS
CE 583	Road Safety
PHY 581	Nanotechnology and Nanoscience
EE 581	Electric Machines and Applications
EE 582	Control and Instrumentation
ECE 581	Introduction to Fuzzy Logic
ECE 582	Neural Networks and Applications
EC 581	Energy Resource Technologies
HUM 581	Intellectual Property Rights for Engineers
HUM 582	Applied Psychology: Human Centered Design and Engineering
MTH 581	Advanced Operations Research
MTH 582	Computing Technologies
ME 581	Value Engineering
ME 582	Design thinking
ME 583	Mechatronics and NDT Engineering
MME 581	Advanced Instrumentation Methods for Material Analysis
MME 582	Smart Materials and their Applications
MBA 581	Engineering Startup Management