

Maulana Azad



**NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**M. Tech. in Computer Science & Engineering**

***With Specialization in: Advanced Computing***

**SCHEME OF STUDY (Revised April 2020)**

**First Semester**

Course No.	Subject	Schemes of Studies Periods per week			Total Credits
		L	T	P	
AC 101	Mathematical Foundations of Computer Science	3	1	-	4
AC 102	Advanced Data Structures	3	1	-	4
AC 103	Architecture of Large Systems	3	1	-	4
AC 104	Soft Computing	3	1	-	4
	Elective 1 (A)	3	1	-	4
	Elective 2 (B)	3	1	-	4
AC 105	Lab-I (Advanced Data Structures)	-	-	2	1
AC 106	Seminar-I	-	-	2	1
AC 107	NPTEL/MOOC Communication Skills	2	-	-	2
<b>Total Hours 30</b>		<b>Total Credits</b>			<b>28</b>
<b>Total Credits (Cumulative) 28</b>					

**Second Semester**

Course No.	Subject	Schemes of Studies Periods per week			Total Credits
		L	T	P	
AC 201	High Performance Scientific Computing	3	1	-	4
AC 202	Graph Theory & Algorithms	3	1	-	4
AC 203	Optimization Techniques	3	1	-	4
	Elective 3 (A)	3	1	-	4
	Elective 4 (A)	3	1	-	4
	Elective 5 (C)	3	1	-	4
AC 204	Laboratory – II (High Performance Scientific Computing)	-	-	2	1
AC 205	Research Methodology, Technical Report and Paper Writing	-	2	-	2
AC 206	Seminar-II	-	-	2	1
<b>Total Hours 30</b>		<b>Total Credits</b>			<b>28</b>
<b>Total Credits (Cumulative) 56</b>					

**Third Semester**

Course No.	Subject	Schemes of Studies Periods per week			Total Credits
		L	T	P	
AC 301	Project Phase -I	-	-	24	12
<b>Total Hours 24</b> <b>Total Credits (Cumulative) 68</b>		<b>Total Credits</b>			<b>12</b>

**Fourth Semester**

Course No.	Subject	Schemes of Studies Periods per week			Total Credits
		L	T	P	
AC 401	Project Phase –II / Dissertation	-	-	24	12
<b>Total Hours 24</b> <b>Total Credits (Cumulative) 80</b>		<b>Total Credits</b>			<b>12</b>

**List of Electives**

**Group A Program Electives**

<b>Subject Code</b>	<b>Name</b>
AC 501	Data Mining
AC 502	Operating System & Design
AC 503	Web Search & Information Retrieval
AC 504	Digital Image Processing
AC 505	Embedded Systems
AC 506	Distributed Computing
AC 507	Cluster & Grid Computing
AC 508	Software Engineering
AC 509	Distributed Databases
AC 510	Semantic Web
AC 511	Parallel Algorithms
AC 512	Image Analysis
AC 513	Big Data Analytics

**Group B Department Electives (for other programs of same department only)**

<b>Subject Code</b>	<b>Name</b>
AC 601	Data Mining
AC 602	Web Search & Information Retrieval
AC 603	Digital Image Processing
AC 604	Parallel Algorithms
AC 605	Big Data Analytics

**Group C Institute Electives (for other departments only)**

<b>Subject Code</b>	<b>Name</b>
AC 701	Digital Image Processing
AC 702	Big Data Analytics