

Maulana Azad National Institute of Technology, Bhopal - 462003

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHEME FOR B.TECH. (Computer Science and Engineering)

(2021 admitted batch onwards)

First Year Credits (Cumulative) 45

THIRD SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH 231	Mathematics-3	3	1	-	4
ME 252	Fundamentals of Design	2	1	-	3
CSE 211	Data Structures	3	-	-	3
CSE 212	Data Base Management Systems	3	-	-	3
CSE 213	Principles of Programming Languages	3	-	-	3
CSE 214	Digital Circuit Design	3	-	-	3
CSE 215	Data Structures Lab	-	-	2	1
CSE 216	Data Base Management Systems Lab	-	-	2	1
CSE 217	Principles of Programming Languages Lab	-	-	2	1
CSE 218	Professional Practices	-	2	-	2
CSE 212	Minor-1 Data Base Management Systems*	3	-	-	3* (Extra)
Total Hours =27		17	4	6	24
Total Credits (Cumulative)					69
Additional Subject: - National Cadet Corps (NCC)					
NCC 251	National Cadet Corps III	1	5	1	7
Total Credits (Cumulative)					11

* (Minor-1 Extra for other dept. not for parent)

FOURTH SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM 251	Fundamentals of Entrepreneurship	3	-	-	3
CSE 221	Algorithm Design & Analysis	3	-	-	3
CSE 222	Computer System Organization	3	-	-	3
CSE 223	Theory of Computation	3	-	-	3
CSE 224	Data Communication	3	-	-	3
CSE 225	Software Engineering	3	1	-	4
CSE 226	Algorithm Design & Analysis Lab	-	-	2	1
CSE 227	Project Based Lab-1	-	-	2	1
CSE 228	Computer System Organization Lab	-	-	2	1
CSE 222	Minor-2 Computer System Organization *	3	-	-	3* (Extra)
Total Hours =25		18	1	6	22
Total Credits (Cumulative)					91
Additional Subject: - National Cadet Corps (NCC)					
NCC 252	National Cadet Corps IV	2	-	1	3
Total Credits (Cumulative)					14

* (Minor-2 Extra for other dept. not for parent)

FIFTH SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
CSE 311	Operating Systems	3	-	-	3
CSE 312	Compiler Design	3	-	-	3
CSE 313	Computer Networks	3	-	-	3
CSE 314	Statistical Models for Data Interpretation and Analysis	3	1	-	4
CSE 315	Artificial Intelligence	3	1	-	4
	Programme Elective-1(A)	3	-	-	3
CSE 316	Operating Systems Lab	-	-	2	1
CSE 317	Compiler Design Lab	-	-	2	1
CSE 318	Internship / Industrial Training	-	-	2	1
CSE 319	Computer Networks Lab	-	-	2	1
CSE 311	Minor-3 Operating Systems*	3	-	-	3* (Extra)
Total Hours =28		18	2	8	24
Total Credits (Cumulative)					115
Additional Subject: - National Cadet Corps (NCC)					
NCC 351	National Cadet Corps V	1	5	1	7
Total Credits (Cumulative)					21

*(Minor-3 Extra for other dept. not for parent)

SIXTH SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
ME 351	Engineering Management	3	-	-	3
CSE 321	Machine Learning	3	-	-	3
CSE 322	Digital Image Processing	3	-	-	3
CSE 323	Network & System Securities	3	1	-	4
	Programme Elective-2(A)	3	-	-	3
CSE 324	Machine Learning lab	-	-	2	1
CSE 325	Digital Image Processing Lab	-	-	2	1
CSE 326	Hadoop & CUDA Lab	-	-	2	1
CSE 327	Project-1			4	2
CSE 321	Minor-4 Machine Learning*	3	-	-	3* (Extra)
Total Hours =26		15	1	10	21
Total Credits (Cumulative)					136
Additional Subject: - National Cadet Corps (NCC)					
NCC 352	National Cadet Corps VI	2	-	1	3
Total Credits (Cumulative)					24

*(Minor-4 Extra for other dept. not for parent)

SEVENTH SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM 451	Engineering Economics and IPR	3	-	-	3
CSE 411	Data Warehousing & Mining	3	-	-	3
	Programme Elective-3 (A)	3	-	-	3
	Programme Elective-4 (A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
CSE 412	Data Warehousing & Mining Lab	-	-	2	1
CSE 413	Project Based Lab-2	-	-	4	2
CSE 414	Industrial / Field Training	-	-	2	1
CSE 411	Minor-5 Data Warehousing & Mining	3	-	-	3* (Extra)
Total Hours =23		15	-	8	19
Total Credits (Cumulative)					155

*(Minor-5 Extra for other dept. not for parent)

EIGHTH SEMESTER:

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
	Programme Elective-5 (A)	3	-	-	3
	Programme Elective-6 (A)	3	-	-	3
CSE 421 / CSE 422	Project-2 / Internship	-	-	16	8
CSE 423	General Proficiency	-	-	-	1
	Minor-6 (Any Elective from above*)	3	-	-	3* (Extra)
Total Hours =22		6	-	16	15
Total Credits (Cumulative)					170

*(Minor-6 Extra for other dept. not for parent)

LIST OF PROGRAMME ELECTIVES (GROUP A)

For III year [1(A) & 2(A)]

S. No.	Course Code	Course Name
1	CSE 351	Advanced Computer Architecture
2	CSE 352	Computer Graphics
3	CSE 353	UNIX Internals & Shell Programming
4	CSE 354	Randomized Algorithms
5	CSE 355	Object-Oriented Design & Modelling
6	CSE 356	Software Testing
7	CSE 357	Advanced Data Structures
8	CSE 358	Data Science

For IV year [3(A), 4(A), 5(A) & 6(A)]

S. No.	Course Code	Course Name
1	CSE 451	Parallel Algorithms
2	CSE 452	Cryptography
3	CSE 453	Ethical Hacking
4	CSE 454	Big Data Technologies
5	CSE 455	Internet of Things
6	CSE 456	Web Search and IR
7	CSE 457	TCP/IP and Web Technology
8	CSE 458	Computer Vision
9	CSE 459	Mobile Computing
10	CSE 460	Information Theory & Coding
11	CSE 461	Distributed System
12	CSE 462	High Performance Computing
13	CSE 463	Embedded Systems
14	CSE 464	Natural Language Processing
15	CSE 465	Quantum Computing
16	CSE 466	Optimization Techniques
17	CSE 467	Cybercrime and Information Warfare
18	CSE 468	Wireless Networks
19	CSE 469	Biometrics