

Maulana Azad National Institute of Technology, Bhopal - 462003
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHEME FOR B.TECH. (Electronics and Communication 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
ECE 211	Electronic circuits and devices	3	-	-	3
ECE 212	Digital Circuit Design	3	-	-	3
ECE 213	Network Analysis and Synthesis	3	-	-	3
ECE 214	Mathematics of Signals & Systems	3	-	-	3
ECE 215	Network Lab	-	-	2	1
ECE 216	Digital Ckt design Lab	-	-	2	1
ECE 217	Electronics Circuit Lab	-	-	2	1
ECE 218	Professional Practices	-	2	-	2
ECE 211	Minor-1*(Electronic circuits and devices)	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
ECE 221	Digital Signal Processing	3	-	-	3
ECE 222	Linear Integrated Circuits	3	-	-	3
ECE 223	Microprocessors and Microcontrollers	3	-	-	3
ECE 224	EM Fields and Transmission Lines	3	-	-	3
ECE 225	Electronic Instrumentation and Measurement	3	-	-	3
ECE 226	Linear Integrated Circuits lab	-	-	2	1
ECE 227	Microprocessors and Micro Controllers Lab	-	-	2	1
ECE 228	Digital Signal Processing Lab	-	-	2	1
ECE 229	Project Based Lab-1	-	-	2	1
ECE 224	Minor-2 * (EM Fields and Transmission Lines)	3	-	-	3* (Extra)
Total Hours =26		18	-	8	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	
CS 352	Data Structures and Algorithm	3	1	-	4
ECE 311	Information theory and coding	3	1	-	4
ECE 312	Control Systems	3	-	-	3
ECE 313	Communication Systems	3	-	-	3
ECE 314	VLSI Design	3	-	-	3
	Programme Elective-1(A)	3	-	-	3
ECE 315	Communication Systems Lab	-	-	2	1
ECE 316	Control and instrumentation lab	-	-	2	1
ECE 317	VLSI Design Lab	-	-	2	1
ECE 318	Internship / Industrial Training	-	-	2	1
ECE 313	Minor-3* (Communication 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
ECE 321	Digital Image Processing	3	1	-	4
ECE 322	Optical Communication	3	-	-	3
ECE 323	Microwave Engineering	3	-	-	3
	Programme Elective-2(A)	3	-	-	3
ECE 324	Digital Image Processing Lab	-	-	2	1
ECE 325	Optical communication lab	-	-	2	1
ECE 326	Microwave Engineering lab	-	-	2	1
ECE 327	Project-1			4	2
ECE 322	Minor-4* (Optical Communication)	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
ECE 411	Antenna and Wave Propagation	3	-	-	3
	Programme Elective-3 (A)	3	-	-	3
	Programme Elective-4 (A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
ECE 412	Antenna & Wave Propagation Lab	-	-	2	1
ECE 413	Project Based Lab - 2	-	-	4	2
ECE 414	Industrial / Field Training	-	-	2	1
	Minor-5 (Any core or Elective)	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
ECE 421 / ECE 422	Project-2 / Internship	-	-	16	8
ECE 423	General Proficiency	-	-	-	1
	Minor-6* (Any Elective)	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 3rd year

Course Code	Course Name
ECE 351	VLSI Technology
ECE 352	Digital system Design
ECE 353	Design of Analog IC
ECE 354	Telecom switching system
ECE 355	Satellite Communication
ECE 356	Optimization Techniques
ECE 357	Computer Networks
ECE 358	Computer Engineering

For 4th year

ECE 451	Physical Design Automation
ECE 452	CMOS RF Circuit Design
ECE 453	Low Power VLSI Design
ECE 454	Computer Aided Design of Digital Systems
ECE 455	Nano Technology
ECE 456	Embedded Systems
ECE 457	Broadband Optical Communication
ECE 458	Wireless Communication
ECE 459	Computer Vision and Pattern Recognition
ECE 460	Mobile Communication
ECE 461	RADAR & Navigation Systems
ECE 462	Video Signal Processing
ECE 463	Advance Instrumentation
ECE 464	Multirate Signal Processing
ECE 465	Micro Electro Mechanical Systems
ECE 466	Statistical signal processing
ECE 467	Biomedical Signal Processing
ECE 468	Fuzzy Logic
ECE 469	Neural Networks
ECE 470	IOT and Applications
ECE 471	Internet technology
ECE 472	Probability theory and Random process
ECE 473	Artificial Intelligence and Machine Learning