

ECE/578
9/4/24

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
UNDER GRADUATE (B.Tech.) SCHEME AND SYLLABUS

III Semester

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH231	Applied Numerical Methods	3	1	-	4
ME252	Fundamentals of Design Methods	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	Signals and Systems	3	-	-	3
ECE 215	Network Lab	-	-	2	1
ECE 216	Digital Circuit Design Lab	-	-	2	1
ECE 217	Electronics Circuit Lab	-	-	2	1
ECE 211	Professional Practices	-	2	-	2
	Minor-1 (Electronic circuits and devices)	3	-	-	3*
Total Hours: 27		17	4	6	24
Total Credits (Cumulative)					65
Additional Subject: - National Cadet Corps (NCC)					
NCC 251	National Cadet Corps III	1	5	1	7
Total Credits (Cumulative)					11

IV Semester

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
HUM251	Fundamentals of Entrepreneurship	3	-	-	3
ECE 221	Digital Signal Processing				
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 Lab1	-	-	2	1
ECE 221	Minor-2 (Digital Signal Processing)	3	-	-	3*
Total Hours: 26		18	0	8	22
Total Credits (Cumulative)					87
Additional Subject: - National Cadet Corps (NCC)					
NCC 252	National Cadet Corps IV	2	-	1	3
Total Credits (Cumulative)					14

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Head, Department of Electronics & Communication Engineering

V Semester

Course No.	Subject	Scheme of studies periods per week			Total 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
	Departmental 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*
Total Hours: 28		18	2	8	24
Total Credits (Cumulative)					111

Additional Subject: - National Cadet Corps (NCC)

NCC 351	National Cadet Corps V	1	5	1	7
Total Credits (Cumulative)					21

VI Semester

Course No.	Subject	Scheme of studies periods per week			Total 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
	Departmental 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	-	-	2	1
ECE 322	Minor-4* (Optical Communication)	3	-	-	3*
Total Hours: 27		18	1	8	20
Total Credits (Cumulative)					131

Additional Subject: - National Cadet Corps (NCC)

NCC 352	National Cadet Corps VI	2	-	1	3
Total Credits (Cumulative)					24

List of Departmental Electives A (3rd Year)

ECE 331	VLSI Technology
ECE 332	Digital system Design
ECE 333	Design of Analog IC
ECE 334	Telecom switching system
ECE 335	Satellite Communication
ECE 336	Optimization Techniques
ECE 337	Computer Networks
ECE 338	Computer Engineering

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VII Semester

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
HUM 451	Engineering Economics and IPR	3	-	-	3
ECE 411	RF and Antenna Design	3	-	-	3
	Departmental Elective-3(A)	3	-	-	3
	Departmental Elective-4(A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
ECE 412	RF & Antenna 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*
Total Hours: 23		15	-	8	19
Total Credits (Cumulative)					150

VIII Semester

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
	Departmental Elective -5 (A) (NPTEL/SWAYAM Courses Only)	3	-	-	3
	Departmental Elective-6(A) (NPTEL/SWAYAM Courses Only)	3	-	-	3
ECE 421/ ECE 422	Internship/Project 2	-	-	16	8
ECE 423	General Proficiency	-	-	-	1
Total Hours: 22		6	-	16	15
Total Credits (Cumulative)					165

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List of Departmental Electives A (4th Year)

ECE 440	Physical Design Automation	ECE 450	RADAR & Navigation Systems
ECE 441	CMOS RF Circuit Design	ECE 451	Video Signal Processing
ECE 442	Low Power VLSI Design	ECE 452	Advance Instrumentation
ECE 443	Computer Aided Design of Digital Systems	ECE 453	Multirate Signal Processing
ECE 444	Nano Technology	ECE 454	Micro Electro Mechanical Systems
ECE 445	Embedded Systems	ECE 455	Statistical signal processing
ECE 446	Broadband Optical Communication	ECE 456	Biomedical Signal Processing
ECE 447	Wireless Communication	ECE 457	IOT and Applications
ECE 448	Computer Vision and Pattern Recognition	ECE 458	Internet technology
ECE 449	Mobile Communication	ECE 459	Biomedical Instrumentation

List of Open Electives C (4th Year)

ECE 460	Neural Networks
ECE 461	Fuzzy Logic
ECE 462	Probability theory and Random process
ECE 463	Artificial Intelligence and Machine Learning
ECE 464	RF Design and Planning

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