

DEPARTMENT OF ECE, MANIT, BHOPAL
PROPOSED SCHEME FOR BTECH (ECE)
(Revised April 2020)

Third Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH4301	Mathematics – 3	3	1	-	4
EC4302	Electronic circuits and devices	3	1	-	4
EC4303	Digital Circuit Design (basic design Principles)	3	1	-	4
EC4304	Network Analysis and Synthesis	3	1	-	4
EC4305	Instrumentation and Control	3	1	-	4
EC4306	Lab-1(Network Lab)	-	-	2	1
EC4307	Lab-2 (Instrumentation & Control)	-	-	2	1
EC4308	Circuit Design Lab-I	-	-	4	2
EC4302	Minor-1(Electronic circuits and devices)	3	1	-	4 (Extra)
Total Hours = 28		15	5	8	24
Total Credits (Cumulative)					69

(Extra for other deptt not for parent)

Fourth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM4401	Fundamentals of Entrepreneurship	3	1	-	4
EC4402	Mathematics of Signals& Systems	3	1	-	4
EC4403	Linear Integrated Circuits	3	1	-	4
EC4404	Microprocessors and Microcontrollers	3	1	-	4
EC4405	EM Fields and Transmission Lines	3	1	-	4
EC4406	Lab-3 (Linear Integrated Circuits)	-	-	2	1
EC4407	Lab-4 (Microprocessors and Micro controllers Lab)	-	-	2	1
EC4408	Circuit Design Lab-II	-	-	4	2
EC4405	Minor-2 (EM Fields and Transmission Lines)	3	1	-	4 (Extra)
Total Hours = 28		15	5	8	24
Total Credits (Cumulative)					93

(Extra for other deptt not for parent)

Fifth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
EE4501	Industrial Electronics	3	1	-	4
CS4502	Data Structures	3	-	2	4
EC4503	Communication Systems	3	1	-	4
EC4504	Digital Signal Processing	3	1	-	4
EC4505	VLSI Design	3	-	2	4
EC4506	Lab-5 (Communication Lab)	-	-	2	1
EC4507	Lab-6 (Digital Signal Processing)	-	-	2	1
EC4508	Project -1 phase1	-	-	4	2
EC4509	Internship/Training	-	2	-	1
EC4502	Minor3 (Communication Systems)	3	1	-	4 (Extra)
Total Hours = 33		15	6	12	25
Total Credits (Cumulative)					118

(Extra for other deptt not for parent)

Sixth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ME4601	Engineering Management	3	1	-	4
EC4602	Digital Image Processing	3	-	2	4
EC4603	Optical Communication	3	1	-	4
EC4604	Microwave Engineering	3	1	-	4
	Department Elective-1(A)	3	1	-	4
EC4605	Lab-7 (Optical communication)	-	-	2	1
EC4606	Lab-8 (Microwave Engineering)	-	-	2	1
EC4607	Project -1 phase 2	-	-	4	2
EC4603	Minor-4 (Optical Communication)	3	1	-	4 (Extra)
Total Hours = 29		15	4	10	24
Total Credits (Cumulative)					142

(Extra for other deptt not for parent)

Seventh Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM4701	Engineering Economics & IPR	3	1	-	4
	Department Elective-2(A)	3	1	-	4
EC4702	Antenna and Wave Propagation	3	-	-	3
EC4703	Wireless Communication	3	-	-	3
	Open Elective – 1(C)	3	-	-	3
EC4704	Lab-9 (Antennas& wave propagation, Wireless communication)	-	-	2	1
EC4705	Project-2 phase-1	-	-	2	1
EC4706	Internship/Training	-	2	-	1
EC4703	Minor-5(Wireless Communication)	3	-	-	3 (Extra)
Total Hours = 23		15	4	4	20
Total Credits (Cumulative)					162

(Extra for other deptt not for parent)

Eighth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
	Department Elective-3(A)	3	-	-	3
	Department Elective-4(A)	3	-	-	3
	Department Elective-5(A)	3	-	-	3
	Department Elective-6(A)	3	-	-	3
	Department Elective-7(A)	3	-	-	3
EC4801	Project-2 phase-2	-	-	4	2
EC4802	General Proficiency	-	-	2	1
	Minor-6 (Elective)	3	-	-	3 (Extra)
Total Hours = 21		15	-	6	18
Total Credits (Cumulative)					180

(Extra for other deptt not for parent)

List of Electives

Group A Department Electives

Subject Code	Name
EC501	Fuzzy Logic
EC502	VLSI Technology
EC503	Computer Networks
EC504	Information Theory and coding
EC505	Digital system Design
EC506	Satellite Communication
EC507	Design of Analog IC
EC508	Broadband Optical Communication
EC509	Computer Aided Design of Digital Systems
EC510	Telecom switching system
EC511	Computer Vision and Pattern Recognition
EC512	Optimization Techniques
EC513	Neural Networks
EC514	Introduction to IOT
EC515	Internet technology
EC516	Machine Learning
EC517	Mobile Communication
EC518	Physical Design Automation
EC519	RADAR & Navigation Systems
EC520	Video Signal Processing
EC521	Computer Engineering
EC522	Low Power VLSI Design
EC523	Advance Instrumentation
EC524	Multirate Signal Processing
EC525	Micro Electro Mechanical Systems
EC526	Nano Technology
EC527	CMOS RF Circuit Design
EC528	Power electronics
EC529	Statistical signal processing
EC530	Biomedical Signal Processing
EC531	Embedded Systems

Group C Open Electives (for other departments)

All subjects offered by EC Department are included in 1(C), subject to fulfillment of prerequisites of the respective courses.

Subject Code	<u>Name</u>
EC701	Fuzzy Logic
EC702	VLSI Technology
EC703	Computer Networks
EC704	Information Theory and coding
EC705	Digital system Design
EC706	Satellite Communication
EC707	Design of Analog IC
EC708	Broadband Optical Communication
EC709	Computer Aided Design of Digital Systems
EC710	Telecom switching system
EC711	Computer Vision and Pattern Recognition
EC712	Optimization Techniques
EC713	Neural Networks
EC714	Introduction to IOT
EC715	Internet technology
EC716	Machine Learning
EC717	Mobile Communication
EC718	Physical Design Automation
EC719	RADAR & Navigation Systems
EC720	Video Signal Processing
EC721	Computer Engineering
EC722	Low Power VLSI Design
EC723	Advance Instrumentation
EC724	Mutilate Signal Processing
EC725	Micro Electro Mechanical Systems
EC726	Nano Technology
EC727	CMOS RF Circuit Design
EC728	Power electronics
EC729	Statistical signal processing
EC730	Biomedical Signal Processing
EC731	Embedded Systems