

M. TECH.: VLSI & Microelectronics

FIRST SEMESTER						
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC501	Device Modelling	PEC	3	0	3
2	EC502	Analog IC Design	PEC	3	0	3
3	EC503	Digital IC Design	PEC	3	0	3
4	ECxxx	Elective 1	PEC	3	0	3
5.	ECxxx	Elective 2	PEC	3	0	3
6	EC504	Device Modelling Practice	PCL	0	3	2
7	EC505	Analog IC Design Practice	PCL	0	3	2
8	EC506	Digital IC Design Practice	PCL	0	3	2
7.	EC596	Project Seminar	PCD	-	-	2
Total No. of Credits						23

SECOND SEMESTER						
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC507	Mixed Signal Integrated Circuits	PEC	3	0	3
2.	EC508	VLSI Physical Design Automation	PEC	3	0	3
3.	EC509	Digital Signal Processing and Architecture	PEC	3	0	3
5.	ECxxx	Elective 3	PEC	0	0	3
6.	ECxxx	Elective 4	PEC	0	0	3
7	EC510	Mixed Signal Integrated Circuits Practice	PCL	0	3	2
8	EC511	VLSI Physical Design Automation Practice	PCL	0	3	2
9	EC512	Digital Signal Processing and Architecture Practice	PCL	0	3	2
7.	EC597	Project Technical Writing	PCD	-	-	2
Total No. of Credits						23

THIRD SEMESTER						
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC598	Dissertation Phase I	PEC	-	-	12
Total No. of Credits						12

FOURTH SEMESTER						
S. No.	Course Code	Course Name	Category Code	I	P	C
1.	EC599	Dissertation Phase II	PEC	-	-	12
Total No. of Credits						12

Elective Courses

List of Electives						
S. No.	Course Code	Course Name	Category Code	I	P	C
1	EC540	Reliable Digital Communication System Design	PEE	3	0	3
2	EC541	Artificial intelligence and Machine Learning	PEE	3	0	3
3	EC542	Satellite Communication	PEE	3	0	3
4	EC543	Cognitive Communication Networks	PEE	3	0	3
5	EC544	Software Defined Radio	PEE	3	0	3
6	EC545	Detection and Estimation Theory	PEE	3	0	3
7	EC546	Digital Image Processing	PEE	3	2	4
8	EC547	Electromagnetic Interference and Compatibility	PEE	3	0	3
9	EC548	MIMO Communication Systems	PEE	3	0	3
10	EC549	Numerical Techniques in Electromagnetics	PEE	3	0	3
11	EC550	Artificial Intelligence	PEE	3	0	3
12	EC551	Mobile Communication and Networking	PEE	3	2	4
13	EC552	Edge, Cloud, and Distributed Computing	PEE	3	2	4
14	EC553	Deep Learning	PEE	3	0	3
15	EC554	Machine Learning	PEE	3	0	3
16	EC555	DIGITAL SPEECH SIGNAL PROCESSING	PEE	3	0	3
17	EC556	DIGITAL SPEECH SIGNAL PROCESSING PRACTICE	PEE	0	3	2
18	EC557	Multidimensional Digital Signal Processing	PEE	3	0	3
19	EC558	Embedded Machine Learning	PEE	3	0	3
20	EC559	Machine Learning for Signal Processing	PEE	3	0	3
21	EC560	Machine Learning for Signal Processing Practice	PEE	0	3	2
22	EC561	5G Communication Systems	PEE	3	0	3
23	EC562	5G Communication Systems Practice	PEE	0	3	2
24	EC563	Principles and Techniques of Modern Radar Systems	PEE	3	0	3
25	EC566	Analog and Mixed Signal Circuit Design	PEE	3	0	3
26	EC567	Communication Protocols for Electronic System Design	PEE	3	0	3
27	EC568	RF and Microwave Integrated Circuits	PEE	3	0	3
28	EC569	Testing and Testability	PEE	3	0	3
29	EC570	VLSI Technology	PEE	3	0	3
30	EC571	Signal and Power Integrity	PEE	3	0	3
31	EC572	Advanced Computer Architecture	PEE	3	0	3
32	EC573	FPGA-based System Design	PEE	2	2	3
33	EC574	VLSI Physical Design and Automation	PEE	3	0	3
34	EC575	Low Power VLSI Design	PEE			

35	EC576	VLSI Verification and Testing	PEE	3	2	4
36	EC577	Embedded Systems and Architectures	PEE			
37	EC578	RFIC Design	PEE	3	0	3
38	EC579	Mixed Signal Design	PEE	3	2	4
39	EC580	Compound Semiconductors Devices and Applications	PEE	3	0	3
40	EC581	Organic Electronics	PEE	3	0	3
41	EC585	Circuits for Electronics System Design	PEE	3	0	3
42	EC586	Design of Switched Mode Power Supply	PEE	3	0	3
43	EC587	Electrical Drives	PEE	2	2	3
44	EC588	Power Electronics	PEE	3	0	3
45	EC589	Design of IoT System	PEE	3	0	3
46	EC590	Electric Vehicle Technology	PEE	3	0	3
47	EC591	Navigation System	PEE	3	0	3
48	EC592	Embedded System Design	PEE	3	2	4
49	EC593	Sensing and Instrumentation	PEE	1	3	3
50	EC594	Autonomous system	PEE	3	2	4