

CURRICULUM
POST GRADUATE PROGRAM
M.Sc.-Electronics with VLSI design



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
TIRUCHIRAPPALLI
Tiruchirappalli – 620 012,
Tamil Nadu, India

CREDIT DISTRIBUTION

Sl. No.	Program	Semester				
		1	2	3	4	Total
1.	M.Sc.-Electronics with VLSI design	20	19	21	10	70

M.Sc. SYLLABUS – ELECTRONICS with VLSI DESIGN

Semester	Subject Code	Subject Name	L	T	P	C
I	EC 7101	Graph Theory and optimization	3	0	0	3
	EC 7102	Advanced Digital Systems Design	3	0	0	3
	EC 7103	Electronic Circuits	3	0	0	3
	EC 7104	Introduction to Python Programming	3	0	2	4
	E1	Elective – 1	3	0	0	3
	EC 7105	Digital Systems Design with HDL Programming Laboratory	0	0	4	2
	EC 7106	Electronic Circuits Laboratory	0	0	4	2
II	EC 7151	Semiconductor Device Modeling	3	0	0	3
	EC 7152	Digital Signal Processing	3	0	0	3
	EC 7153	VLSI Process Technology	3	0	0	3
	E2	Elective – 2	3	0	0	3
	E3	Elective – 3	3	0	0	3
	EC 7154	Device Modeling Practice Laboratory	0	0	4	2
	EC 7155	Digital Signal Processing Laboratory	0	0	4	2
III	EC 8101	Communication Theory	3	0	0	3
	EC 8102	Artificial Intelligence and Machine Learning	3	0	2	4
	EC 8103	VLSI Signal Processing	3	0	0	3
	EC 8104	Low power VLSI Design	3	0	0	3
	E4	Elective – 4	3	0	0	3
	E5	Elective – 5	3	0	0	3
	EC 8105	Project Work Phase-I	0	0	4	2
IV	EC 8151	Project Work Phase-II	-	-	-	10
		Grand Total	48	0	22	70

L: LECTURE | T: TUTORIAL | P: PRACTICAL | C: Credits

LIST OF ELECTIVES

Subject Code	Subject Name	L	T	P	C
ELECTIVE – I					
EC 7111	Solid state circuits	3	0	0	3
EC 7112	Modelling and Synthesis with Verilog HDL / VHDL	3	0	0	3
EC 7113	CAD for VLSI	3	0	0	3
EC 7114	5G Wireless technology	3	0	0	3
EC 7115	FPGA-Based System Design	3	0	0	3
EC 7116	Embedded System Design	3	0	0	3
EC 7117	Design of Semiconductor Memories	3	0	0	3
EC 7118	Design of Cognitive Radio	3	0	0	3
EC 7119	Testing of VLSI Circuits	3	0	0	3
EC 7120	High Performance VLSI/IC Systems	3	0	0	3
ELECTIVE – II & III					
EC 7121	Physics and Modeling of MOS Transistors	3	0	0	3
EC 7122	Nano-Scale Devices: Modelling and Circuits	3	0	0	3
EC 7123	Physical Design Automation	3	0	0	3
EC 7124	ASIC Design	3	0	0	3
EC 7125	Field Programmable Gate Arrays based system Design	3	0	0	3
EC 7126	Advanced Memory Technology	3	0	0	3
EC 7127	Nanoscale Transistors	3	0	0	3
EC 7128	Sub-micron VLSI Design	3	0	0	3
EC 7129	Mixed-signal IC Design	3	0	0	3
EC 7130	Data Converters	3	0	0	3
ELECTIVE – IV & V					
EC 8111	DSP Architectures	3	0	0	3
EC 8112	Advanced Electronic Circuit Design	3	0	0	3
EC 8113	Computer systems organization	3	0	0	3
EC 8114	Introduction to Programming Systems Design	3	0	0	3
EC 8115	Analysis of Algorithms	3	0	0	3
EC 8116	Cyber-Physical Systems: A Computing Perspective	3	0	0	3
EC 8117	Software Design and Optimization	3	0	0	3
EC 8118	Parallel Programming	3	0	0	3
EC 8119	High Speed Computer Arithmetic				
EC 8120	Hardware Security & Advance Computer Architecture	3	0	0	3

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