

**13. Courses of Study and Scheme of Assessment
ME VLSI DESIGN**

(2018 REGULATIONS)
(Minimum No. of credits to be earned: 74*)

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
Semester I									
18LV01	Graph Theory and Optimization Techniques	2	2	0	3	50	50	100	PC
18LV02	Device Modelling	3	2	0	4	50	50	100	PC
18LV03	Digital IC Design	3	0	0	3	50	50	100	PC
18LV04	Designing with FPGAs	3	2	0	4	50	50	100	PC
18LV05	Low Power VLSI Design	3	0	0	3	50	50	100	PC
18LV51	VLSI Design Laboratory	0	0	4	2	50	50	100	PC
18LV81	English for Research Paper Writing	0	0	**	Grade	0	0	0	MC
Total 24 Hrs		14	6	4	19	300	3000	600	
Semester II									
18LV06	Analog VLSI Circuits	3	2	0	4	50	50	100	PC
18LV07	VLSI Testing	2	2	0	3	50	50	100	PC
18LV08	Computer Aided Design for VLSI systems	3	0	0	3	50	50	100	PC
18LV09	Hardware Verification Techniques	3	2	0	4	50	50	100	PC
18LV__	Professional Elective - 1	3	0	0	3	50	50	100	PE
18LV__	Professional Elective - 2	3	0	0	3	50	50	100	PE
18LV52	Advanced VLSI Design Laboratory	0	0	4	2	50	50	100	PC
18LV61	Industry Visit & Technical Seminar	0	0	4	2	50	50	100	EEC
18LV82	Research Methodology and IPR	0	0	**	Grade	0	0	0	MC
Total 31 Hours		17	6	8	24	400	400	800	
Semester III									
18LV__	Professional Elective - 3	3	0	0	3	50	50	100	PE
18LV__	Professional Elective - 4	3	0	0	3	50	50	100	PE
18LV__	Professional Elective - 5	3	0	0	3	50	50	100	PE
18LV__	Professional Elective - 6	3	0	0	3	50	50	100	PE
18LV53	VLSI System Design Laboratory	0	0	4	2	50	50	100	PC
18LV71	Project Work I	0	0	6	3	50	50	100	EEC
Total					17	300	300	600	
Semester IV									
18LV72	Project Work II	0	0	28	14	50	50	100	EEC
Total		0	0	28	14	50	50	100	
PROFESSIONAL ELECTIVE THEORY COURSES (Six to be opted)									
18LV21	Mixed Signal VLSI Design	3	0	0	3	50	50	100	PE
18LV22	VLSI Signal Processing	2	2	0	3	50	50	100	PE
18LV23	Semiconductor Memory Design and Testing	3	0	0	3	50	50	100	PE
18LV24	VLSI Technology	3	0	0	3	50	50	100	PE
18LV25	VLSI for Wireless Communication	3	0	0	3	50	50	100	PE
18LV26	RF Circuit Design	3	0	0	3	50	50	100	PE
18LV27	MEMS AND NEMS	3	0	0	3	50	50	100	PE
18LV28	System on Chip Design	3	0	0	3	50	50	100	PE
18LV29	Embedded System Design	2	2	0	3	50	50	100	PE
18LV30	Synthesis and Optimization of Digital Circuits	3	0	0	3	50	50	100	PE
18LV31	High Speed Digital Design	3	0	0	3	50	50	100	PE
18LV32	Nano Scale Devices	3	0	0	3	50	50	100	PE
18LV33	Modelling and Simulation of Nanoscale Transistors	2	2	0	3	50	50	100	PE
18LV34	Advanced Computer Architecture and Parallel Processing	3	0	0	3	50	50	100	PE
18LV35	Hardware security	3	0	0	3	50	50	100	PE
18LV36	VLSI for Biomedical Systems	3	0	0	3	50	50	100	PE
18LV37	Electronic packaging Technologies	3	0	0	3	50	50	100	PE
18LV38	VLSI For IOT Systems	3	0	0	3	50	50	100	PE
18LV39	Quantum Dot Cellular Automata NanoTechnology	3	0	0	3	50	50	100	PE

18LV40	Genetic Algorithms for VLSI Design	3	0	0	3	50	50	100	PE
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*Indicated is the minimum number of credits to be earned by a student.

** - 60 hrs in I semester and 90 hrs in II semester; Grade: Pass/Fail

CAT – Category; PC – Professional Core; PE - Professional Elective EEC – Employability Enhancement Course; MC- Mandatory Course