



SAVEETHA ENGINEERING COLLEGE

AUTONOMOUS


Affiliated to Anna University | Approved by AICTE

REGULATIONS 2019

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

M.E - VLSI DESIGN

CURRICULUM and SYLLABUS

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits	Prerequisite
				L	T	P		
1	FC	19MMA01	Applied Mathematics for Electronics Engineers	4	0	0	4	-
2	PC	19MVL01	VLSI Technology	3	0	0	3	-
3	PC	19MVL02	Digital CMOS VLSI Design	3	0	0	3	-
4	PC	19MVL03	Device Modeling	3	0	0	3	-
5	PC	19MAE01	Advanced Digital System Design	3	0	0	3	-
6	PC	19MVL27	VLSI Design Laboratory I	0	0	4	2	-
7	PC	19MCN19	Advanced Digital Image Processing	3	0	0	3	-
8	PC	19MVL04	Low Power VLSI Design	3	0	0	3	-
9	PC	19MVL05	CAD for VLSI Circuits	3	0	0	3	-
10	PC	19MVL06	Analog IC Design	4	0	0	4	-
11	PC	19MVL28	VLSI Design Laboratory II	0	0	4	2	-
12	PC	19MVL07	MEMS and NEMS	3	0	0	3	-
13	EEC	19MVL30	Project Work Phase I	0	0	12	6	-
14	EEC	19MVL29	Term Paper Writing and Seminar	0	0	2	1	-
15	EEC	19MVL31	Project Work Phase II	0	0	24	12	-
16	PE	19MVL08	DSP Integrated Circuits	3	0	0	3	-
17	PE	19MVL09	Nano Scale Devices	3	0	0	3	-
18	PE	19MVL10	ASIC and FPGA Design	3	0	0	3	-
19	PE	19MVL11	Solid State Device Modeling and Simulation	3	0	0	3	-
20	PE	19MVL12	Design of Semiconductor Memories	3	0	0	3	-
21	PE	19MVL13	VLSI Signal Processing	3	0	0	3	-
22	PE	19MVL14	RF VLSI Design	3	0	0	3	-
23	PE	19MVL15	Digital HDL Design and Verification	3	0	0	3	-
24	PE	19MVL16	Testing of VLSI Circuits	3	0	0	3	-
25	PE	19MVL17	Fundamentals and Application of MEMS	3	0	0	3	-
26	PE	19MVL18	Network on Chip	3	0	0	3	-
27	PE	19MVL19	Analog and Digital Interface	3	0	0	3	-
28	PE	19MVL20	Artificial Intelligence and Optimization Techniques	3	0	0	3	-
29	PE	19MVL21	Neural Networks for VLSI	3	0	0	3	-
30	PE	19MVL22	High Speed VLSI	3	0	0	3	-
31	PE	19MVL23	Electronic Design Automation Tools	3	0	0	3	-
32	PE	19MAE02	Embedded System Design	3	0	0	3	-
33	PE	19MVL24	IP based VLSI Design	3	0	0	3	-
34	PE	19MVL25	Analog and Mixed Mode VLSI Design	3	0	0	3	-
35	PE	19MVL26	Hardware Software Co-Design	3	0	0	3	-

SEMESTER I						
S.No.	Course Code	Course Title	Contact Hours per Week			Credits
			L	T	P	
1	19MMA01	Applied Mathematics for Electronics Engineers	4	0	0	4
2	19MVL01	VLSI Technology	3	0	0	3

3	19MVL02	Digital CMOS VLSI Design	3	0	0	3
4	19MVL03	Device Modeling	3	0	0	3
5	19MAE01	Advanced Digital System Design	3	0	0	3
6		Professional Elective – I	3	0	0	3
7	19MVL27	VLSI Design Laboratory I	0	0	4	2
Total			19	0	4	21

S.No.	Course Code	Course Title	Contact Hours per Week			Credits
			L	T	P	
1	19MCN19	Advanced Digital Image Processing	3	0	0	3
2	19MVL04	Low Power VLSI Design	3	0	0	3
3	19MVL05	CAD for VLSI Circuits	3	0	0	3
4	19MVL06	Analog IC Design	4	0	0	4
5		Professional Elective – II	3	0	0	3
6		Professional Elective – III	3	0	0	3
7	19MVL28	VLSI Design Laboratory II	0	0	4	2
8	19MVL29	Term Paper Writing and Seminar	0	0	2	1
Total			19	0	6	22

Semester III						
S.No.	Course Code	Course Title	Contact Hours per Week			Credits
			L	T	P	
1	19MVL07	MEMS and NEMS	3	0	0	3
2		Professional Elective IV	3	0	0	3
3		Professional Elective V	3	0	0	3
4	19MVL30	Project Work Phase I	0	0	12	6
5		Total	9	0	12	15

Semester IV						
S.No.	Course Code	Course Title	Contact Hours per Week			Credits
			L	T	P	
1	19MVL31	Project Work Phase II	0	0	24	12
Total			0	0	24	12

TOTAL CREDITS: 70