

Sardar Vallabhbhai National Institute of Technology, Surat
Department of Electronics Engineering

M. Tech. (VLSI & Embedded Systems) for working Professionals
(Hybrid Mode)

Course Structure and Scheme of Evaluation (Semester-wise)

S. No.	Subjects	Code	Scheme L-T-P	Credits (Min.)
First Semester				
1.	Digital VLSI Design	VL101	3-1-2	5
2.	Elective-I	VL6XX	3-0-0	3
			Total	8
Second Semester				
1.	VLSI System Design	VL102	3-1-2	5
2	Elective-II	VL6XX	3-0-0	3
			Total	8
Third Semester				
1.	Embedded System	VL201	3-1-2	5
2.	Elective-III	VL6XX	3-0-0	3
			Total	8
Fourth Semester				
1.	Real-Time Systems	VL202	3-0-0	3
2	Elective-IV	VL6XX	3-0-0	3
3	Desertion Phase – I	VL204	0-0-4	2
			Total	8
Fifth Semester				
			-	
1.	Dissertation Phase – II	VL301		20
			Total	20
Sixth Semester				
1.	Dissertation Phase – III	VL302		20
				72+08**
			Total	80

** Two SWAYAM/ NPTEL (MOOC) Courses of 8 credits, as decided by the DAAC of the respective department, to be completed within the first two years.

LIST OF SUBJECTS FOR ELECTIVE I and III (Semester I & III):		
1.	Semiconductor IC Technology	VL601
2.	Hardware Description Language	VL603
3.	Processor Architecture	VL605
4.	Nanoelectronics	VL607
5.	Advanced Material Characterization Techniques	VL609
6.	Advance DSP	VL611
7.	Information Theory & Coding	VL613
8.	Machine Learning and Applications	VL615
9.	MOS Devices and Technology	VL617

LIST OF SUBJECTS FOR ELECTIVE II and IV (Semester – II & IV)		
1.	Solar Photovoltaic Technology	VL602
2.	MEMS	VL604
3.	Foundations of VLSI CAD	VL606
4.	Semiconductor Device Modelling	VL608
5.	Fundamentals of Semiconductor Package Manufacturing and Test	VL610
6.	Low Power VLSI Design	VL612
7.	VLSI Architectures for DSP	VL614
8.	SOC Design	VL616
9.	CMOS RF IC Design	VL618
10.	Nanoscale Devices	VL620
11.	Semiconductor Packaging	VL622
12.	Neuromorphic Computing	VL624
13.	Mixed Signal IC Design	VL626
14.	Memory Technology	VL628
15.	High-Speed Interconnect	VL630
16.	Image Processing & Computer Vision	VL632
17.	Wireless Communication	VL634
18.	Microwave Integrated Circuits	VL636
19.	Speech Processing and Applications	VL638
20.	Analog VLSI Design	VL640