

M Tech in VLSI Design and Embedded Systems

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH 513	Computational Techniques	3	-	-	3
VE 511	VLSI Design	3	-	-	3
VE 512	Computer Aided Design of Digital Systems	3	-	-	3
VE 513	Embedded Systems	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
VE 514	Lab-I (Embedded and System Design Lab)	-	-	2	1
VE 515	Seminar-I	-		2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
VE 521	Low power VLSI Design	3	-	-	3
VE 522	VLSI Technology	3	-	-	3
VE 523	Testing of VLSI circuits	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
MTH 524	Research Methodology	1	1	-	2
VE 525	Laboratory-II (VLSI Design Lab)	-	-	2	1
VE 526	Seminar-II	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
VE 611	Dissertation Phase - I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
VE 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
VE 551	Digital System Design	ARP - 581	Introduction to Urban Planning
VE 552	Mixed Signal Design	BSE – 581	Bioprocess Engineering
VE 553	Design for Testability	BSE – 582	Biophysics Tools and Techniques
VE 554	Design of Semiconductor Memories	CHE – 581	Analytical Techniques
VE 555	CMOS Active Filter Design	CHE – 582	Green Technology & Processes
VE 556	Design of Analog IC	CE – 581	Solid Waste Management
VE 557	CMOS RF Circuit Design	CE – 582	Basic Concept of GIS
VE 558	Device Modeling and Simulation	CE – 583	Road Safety
VE 559	Physical Design Automation	CSE – 581	Machine Learning
VE 560	High Speed System Design	CSE – 582	Advanced Data Structures and Algorithms
VE 561	Optimization Techniques	PHY – 581	Nanotechnology and Nanoscience
VE 562	Fuzzy Logic	EE – 581	Electric Machines & Applications
VE 563	Neural Networks	EE – 582	Control and Instrumentation
VE 564	Queuing Theory	EC - 581	Energy Resource Technologies
VE 565	Biomedical Signal Processing	HUM – 581	Intellectual Property Rights for Engineers
VE 566	Operation Research	HUM – 582	Applied Psychology: Human Centered Design and Engineering
VE 567	Wavelet Transforms	MTH – 581	Advanced Operations Research
List of Departmental Electives B		MTH – 582	Computing Technologies
DC 511	Digital Signal Processing & Its Applications	ME – 581	Value Engineering
DC 512	Digital Communication Techniques	ME – 582	Design Thinking
DC 513	Micro strip Antenna Design	ME - 583	Mechatronics and NDT in Engineering
DC 551	Signal Theory	MME – 581	Advanced Instrumentation methods for Material Analysis
DC 552	Mobile Communication	MME – 582	Smart Materials and their application
DC 553	Optical Networks	MBA-581	Engineering Startup Management
DC 554	Video Signal Processing		
DC 555	Statistical Signal processing		
DC 556	Satellite Communication		
DC 557	Modern Telecom Switching Systems		
DC 558	Data Compression & Cryptography		
DC 559	Wireless Communication		
DC 560	Microwave Communication		
DC 561	Computer vision and pattern recognition		
DC 562	Communication Networks		
DC 563	Information Theory and Coding		
DC 564	Multi rate Signal Processing		