

M.Tech.(VLSI & Embedded Systems)
Course Structure and Syllabus
Academic Regulations : 2015-16

Regulation : A15

I YEAR - I Semester

Sl. No.	Code	Subject	L	T	P	Credits	Internal marks	External marks
1.	5T101	VLSI Technology and Design	3	1	-	3	30	70
2.	5T102	CPLD & FPGA Architectures and Applications	3	1	-	3	30	70
3.	5U101	Digital System Design	3	1	-	3	30	70
4.	5U103	Advanced Microprocessors and Microcontrollers	3	1	-	3	30	70
5.	5T103 5T104 5T105	Elective-I	3	1	-	3	30	70
6.	5U104 5T106 5T107	Elective-II	3	1	-	3	30	70
7.	5T108	Research Methodology	1	1	-	1	30	70
8.	5T171	Simulation Lab (VLSI)	-	-	3	2	30	70
9.	5T172	Literature Review Seminar -1	-	-	3	1	25	-
10.	5T173	Literature Review Seminar -2	-	-	3	1	25	-
11.	5T174	Comprehensive Viva-Voce-1	-	-	-	1	50	-
		Total	18	6	9	24	330	520

I YEAR - II Semester

Sl. No.	Code	Subject	L	T	P	Credits	Internal marks	External marks
1.	5T201	System on Chip Architecture	3	1	-	3	30	70
2.	5U201	Design of Fault Tolerant Systems	3	1	-	3	30	70
3.	5T202	Embedded Real Time Operating Systems	3	1	-	3	30	70
4.	5U202	CMOS Analog & Mixed Signal Design	3	1	-	3	30	70
5.	5ZC47 5S120 5S221 5S222	Open Elective	3	1	-	3	30	70
6.	5U105 5U203 5T203	Elective-III	3	1	-	3	30	70
7.	5T271	Embedded Systems Lab	-	-	3	2	30	70
8.	5T272	Literature Review Seminar -3	-	-	3	1	25	-
	5T273	Project Seminar-1	-	-	3	2	25	-
	5T274	Comprehensive Viva-Voce-2	-	-	-	1	50	-
		Total	18	6	9	24	310	450

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II YEAR – I Semester

Sl. No.	Code	Subject	L	T	P	Credits	Internal marks	External Marks
1.	5T371	Project Seminar-2	-	-	-	2	50	-
2.	5T372	Project Seminar-3	-	-	-	2	50	-
3.	5T373	Project Work (Part I) Project Status Report	-	-	-	20	Grading*	-
Total			-	-	-	24	100	-

*Grading – Excellent/ Good/ Satisfactory/ Unsatisfactory

II YEAR – II Semester

Sl. No.	Code	Subject	L	T	P	Credits	Internal marks	External Marks
1.	5T471	Project Seminar-4	-	-	-	2	50	-
	5T472	Pre submission Seminar	-	-	-	2	50	-
2.	5T473	Project Work and Dissertation	-	-	-	20	-	Grading*
Total			-	-	-	24	100	-

*Grading – Excellent / Good/ Satisfactory/ Unsatisfactory

ELECTIVE I

- 1) 5T103 - Hardware Software Co-Design
- 2) 5T104 - Device Modeling
- 3) 5T105 - Algorithms for VLSI Design Automation
- 4) 5T108 - Hardware Description Languages and FPGA Based Design
- 5) 5U101 - Embedded Systems for Wireless and Mobile Communications
- 6) 5T109 - Digital IC Design

ELECTIVE II

- 1) 5U104 - Advanced Digital Signal Processing
- 2) 5T107 - Nanoelectronics
- 3) 5T110 - Embedded Control Systems
- 4) 5T111 - CAD for VLSI Circuits
- 5) 5T112 - Embedded Networking
- 6) 5U206 - RF System Design
- 7) 5T204 - Testing of VLSI Circuits

OPEN ELECTIVE

- 1) 5ZC47 - Entrepreneurship and Innovation
- 2) 5S120 - Network Security & Cryptography
- 3) 5S221 - Advanced Operating Systems
- 4) 5T205 - Embedded Linux

ELECTIVE III

- 1) 5U105 - Image & Video Processing
- 2) 5U203 - Digital Signal Processors and Architectures
- 3) 5T203 - Semiconductor Memory Design & Testing
- 4) 5T106 - Low Power VLSI Design
- 5) 5T206 - ASIC Design
- 6) 5U205 - Adhoc & Wireless Sensor Networks