

B N M Institute of Technology

An Autonomous Institution under VTU Approved by AICTE

Department: Electronics and Communication Engineering

Scheme of Teaching and Examination-Autonomous Effective from Academic year 2025-26

I Semester M. Tech (VLSI Design and Embedded Systems)

Sl. No.	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours/Week				Hours/Week	Examination			
					L	T	P	J		Credits	CIA Marks	SEA Marks	Total Marks
1	PCC	25VDE211	Custom IC Design	ECE	4	-	-	-	4	4	50	50	100
2	PCL	25VDE212	QNX-based Embedded RTOS Design	ECE	2	-	4	-	6	4	50	50	100
3	PCI	25VDE213	Modern CMOS Circuit Design	ECE	3	-	2	-	5	4	50	50	100
4	PBL	25VDE214	System Verilog for Design and Verification	ECE	2	-	2	2	6	4	50	50	100
5	PEC	25VDEP215X	25VDEP2151	ECE	3	-	0	-	3	3	50	50	100
	25VDEP2152		Hybrid AI models for Power-Efficient VLSI System										
	25VDEP2153		Memory design for Low Power VLSI System.										
	25VDEP2154		Power semiconductor devices and Technology										
	PEC		Computer Aided Design of VLSI Circuits										
6	PCC	25VDE216	Research Methodology & IPR	ECE	3	-	-	-	3	3	50	50	100
TOTAL					17	0	8	2	27	22	300	300	600

L-Theory lecture, **T**-Tutorial, **P**-Practical, **J**-Project, **NCMC**-Non-Credit Mandatory Course
CIA: Continuous Internal Assessment, **SEA**: Semester End Assessment

Note: PCC: Professional Core Course, HSS: Humanity and Social Science & Management Courses, PCI: Professional Core Integrated, PCL: Professional course with Lab
PBL: Project-Based Learning, **AEC**: Ability Enhancement Courses, **PEC**: Professional Elective, **INT**: Summer Internship, **PRJ**: Project Work

Credit definition: 1 hour Lecture (L) per week = 1 Credit
 2 hours Tutorial (T) per week = 1 Credit
 2 hours Practical/Drawing (P) per week = 1 Credit
 2 hours Project Component (J) per week = 1 Credit

(a) 4 Credit courses are to be designed for 50 hours of the Teaching-Learning process. (b) 3 Credit courses are to be designed for 40-hour teaching-learning process.
 (c) 2 Credit courses are to be designed for 25 hours Teaching-Learning process (d) 1 Credit course are to be designed for 12-15 hours Teaching-Learning process

Yashraj

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Principal

Additional Director & Principal
 B N M Institute of Technology
 Bangalore-560 079

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II Semester M. Tech (VLSI Design and Embedded Systems)

Sl. No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours /Week				Hours / Week	Examination			
					L	T	P	J		Credits	CIA Marks	SEA Marks	Total Marks
1	PCC	25VDE221	VLSI Testing and Testability	ECE	4	-	-	-	4	4	50	50	100
2	PCI	25VDE222	Enhancement Techniques in Chip Design	ECE	3	-	2	-	5	4	50	50	100
3	PCI	25VDE223	Analog/Mixed-mode signal IC design	ECE	3	-	2	-	5	4	50	50	100
4	PBL	25VDE224	Advanced functional verification Methodologies	ECE	2	-	2	2	6	4	50	50	100
5	PEC	25VDEP2 25X	25VDEP2251	Quantum Driven VLSI Design	ECE	3	-	-	3	3	50	50	100
	PEC		25VDEP2252	Scripting for EDA tool Automation									
	PEC		25VDEP2253	Embedded AI									
	PEC		25VDEP2254	AMS Verification									
	PEC		25VDEP2255	AI-based control of Electrical Drives									
6	PCC	25VDE226	Neuromorphic Chip Design and Computing	ECE	4	-	-	-	4	3	50	50	100
TOTAL					19	0	6	2	27	22	300	300	600

Summer Internship to be carried out during the vacation between II & III Semester

Summer Internship - I (25VDEI235): All the students registered to II year of MTech shall have to undergo mandatory internship of 4 weeks during II semester or III semester vacation. Semester End Assessment will be conducted in III semester and the prescribed credit will be included. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Yashappa

Additional Director & Principal
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