



RCC Institute of Information Technology, Kolkata
(Autonomous from Academic Session: 2024 – 2025)

Syllabus: M. Tech. in VLSI Design and Microelectronics Technology

First Semester							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
1	Professional Core	RCC- PCT-MVLSI-101	Digital VLSI Circuits and Systems	3	0	0	3
2	Professional Core	RCC-PCT-MVLSI-102	Microelectronics Technology	3	0	0	3
3	Professional Elective	RCC-PET-MVLSI-101A/B	VLSI Architecture	3	0	0	3
			Quantum Computing				
4	Professional Elective	RCC-PET-MVLSI-102A/B	Advanced DSP and System Design	3	0	0	3
			RFIC and MEMS				
7	Project	RCC-PROJ-MVLSI-181	Research Methodology and IPR	2	0	0	2
8	Audit/Mandatory	RCC-AU-MVLSI-181	Techniques and Languages for Research Paper Writing	2	0	0	0
9	Professional Core	RCC-PCL-MVLSI-191	Digital VLSI Design Lab	0	0	4	2
10	Professional Core	RCC-PCL-MVLSI-192	Microelectronics Technology Lab	0	0	4	2
Total							18
Second Semester							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
1	Professional Core	RCC-PCT-MVLSI-201	Analog VLSI Design	3	0	0	3
2	Professional Core	RCC-PCT-MVLSI-202	Quantum and Nano Device	3	0	0	3
3	Professional Elective	RCC-PET-MVLSI-201A/B	Embedded System	3	0	0	3
			CAD Tools for VLSI Design				
4	Professional Elective	RCC-PET-MVLSI-202A/B	Testing and Verification in VLSI Systems	3	0	0	3
			Silicon Photonics				
5	Audit/Mandatory	RCC-AU-MVLSI-281	Pedagogical Practices for Teaching	2	0	0	0
6	Audit/Mandatory	RCC-AU-MVLSI-282	Mental Wellness	0	0	3	0
7	Professional Core	RCC-PCL-MVLSI-291	Analog VLSI Design Lab	0	0	4	2
8	Professional Elective	RCC-PEL-MVLSI-291A/B	Embedded System Lab	0	0	4	2
			CAD Tools for VLSI Design Lab				
9	Project	RCC-PROJ-MVLSI-281	Term Paper leading to Dissertation	0	0	4	2
Total							18



RCC Institute of Information Technology, Kolkata
(Autonomous from Academic Session: 2024 – 2025)

Syllabus: M. Tech. in VLSI Design and Microelectronics Technology

Third Semester							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
1	Professional Core	RCC-PCT-MVLSI-301	Physical VLSI Design	3	0	0	3
2	Professional Elective Core	RCC-PET-MVLSI-301A/B/C	IoT and Edge Computing	3	0	0	3
			Mixed Signal Circuit Design				
			Machine Learning Applications				
3	Project	RCC-PROJ-MVLSI-381	Industrial Training/Internship	0	0	4	2
4	Project	RCC-PROJ-MVLSI-382	Dissertation-I	0	0	16	8
Total							16
Fourth Semester							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
1	Project	RCC-PROJ-MVLSI-481	Dissertation-II	0	0	20	10
2	Project	RCC-PROJ-MVLSI-482	Defense of Dissertation				6
Total							16