Department of ECE
M. Tech VLSI
Description of Course Outcomes
2019-2021

S.NO	COURSE CODE	COURSE NAME	Cos	COURSE OUTCOME
1	18EC5131	IC Fabrication	1	Ability to understand the Concepts of fabrication and steps following for fabrication
			2	Understand different modelling technologies and materials used for fabrication
			3	Ability to understand the concepts of lithography and deposition
			4	Analyze the various etching technologies for preparation of ICs
2	18EC5130	HDL & PLD Architectures	1	Understand the basics concepts of digital system design, their modeling techniques in Verilog HDL.
			2	Design of various Combinational & Sequential Logic realizations using Verilog HDL.
			3	Compare and analysis of different PLD's and CPLD's architectures.
			4	Memorize and analysis of different FPGA architectures.
			5	Create and Analysis of digital modules through project oriented approach
3	18EC5128	MOS CIRCUIT DESIGN	1	Understand the basics concepts of digital system design, their modeling techniques in Verilog HDL.
			2	Design of various Combinational &Sequential Logic realizations using Verilog HDL and design flow
			3	Characteristics of inverter and calculation of different delays
			4	Design of different combinational and sequential circuits
			5	Create and Analysis of digital modules through project oriented approach
4	18EC5129	ALGORITHMS FOR VLSI	1	Ability to understand the Concepts of design methodologies in routing and layout
			2	Understand different levels of modelling of digital circuits and scheduling
			3	Ability to understand the FPGA Technologies for development of physical

		DESIGN		design
			4	Analyze the routing and distribution of cells in ICs
5	18EC51Q4	Nano Electronics	1	Ability to understand the Concepts nano Electronics
			2	Understand different Architectures and equipment for nano electronics
			3	Ability to understand the spintronics
			4	Analyze the various memory devices and sensors in nano electronics
6	18EC51R3	Semiconductor Device Modeling	1	Understand the basics concepts of MOS transistors
			2	Calculation of threshold voltage, delay, sensitivity
			3	Characteristics Bipolar devices
			4	Design of different combinational circuits
1	18EC5232	Advanced Analog IC Design	1	Understand the operation of different current mirrors
			2	Analyze the frequency response of different Amplifiers.
			3	Design of two stage Op-Amp using single stage Op-Amp
			4	Describe the various Feedback topologies.
			5	Understand and apply the concepts of Non Linear Analog circuits.
2	18EC5233	Low Power VLSI Circuits	1	Understand power dissipations concepts related to VLSI circuits
			2	Evaluate the performance of different circuits using simulation & probabilistic power analysis.
			3	Analyze low power techniques at logical, circuit, architectural and systems level
			4	Analyze Clock Distribution techniques, Special techniques
			5	Project based lab
3	18EC5234	VLSI System Design	1	Ability to understand the importance Programmable devices in VLSI
			2	Understand difference between Data path sub system and array subsystem
			3	Ability to understand the methodology of interconnects
			4	Analyze synchronization of clock and synthesis of different disigns
4	18EC5235	Testing of VLSI Circuits	1	Understanding and application user-defined primitives in Fault dominance, understanding various simulation and Gate level event-driven simulation for digital circuits.

			2	Understanding, Test generation for various Combinational logic circuits and ability to design its Testable Combinational circuits.
			3	Design for Testability, Generic scan based design and Classical scan based design
			4	Analyze and ability to Testable various BIST– MBIST, LBIST. Fault Diagnosis of digital circuits and Diagnosis by UUT reduction.
5	18EC52S3	ADVAN CED VLSI DESIGN		UNDERSTAND THE CONCEPTS OF MOS CIRCUIT DESIGN
				Analyze different types of buffers in mos circuits
				Analyze the layouts of MOS circuits
				Analyze total circuit design of MOS circuits
6	18EC52T4	ASIC Design Flow		Develop Program of different logic circuits using Verilog Programming and analyze different types of Faults in logic circuits.
				Analyze different types of ASIC design methodologies and Different CPLD
				Analyze ASIC design flow of customized ASICs
				Analyze Physical design flow of ASIC, Extraction the final circuit