



Course Level Content Beyond Syllabus

Assessment Year 2025-2026

Sl. No.	Course Name	Curriculum Gap Identified	Action Taken
1.	Microwave Engineering and Antenna Theory	Limited awareness to basic Concepts of rectangular and Circular waveguides	"Session on Study of TM _{mn} waves and TE _{mn} waves for Rectangular and Circular Waveguides."
2.	Computer Networks and Protocols	Key 6G Technologies & Protocols	Technical Talk was organised
3.	Digital Signal Processing	IIR Filter Design on the TMS320C54x DSP	Technical talk & Simulation
4.	Digital Communication	Limited awareness on implementation of digital communication algorithms using HDL	Session Simulation of Digital Communication algorithms using Verilog.
5.	Electronic Principles and Circuits	Limited practical exposure to Waveform Generation Circuits	Simulation of Waveform Generation Circuits using TINA TI
6.	Network Analysis	WAVEFORM SYNTHESIS USING MATLAB	Given the waveform synthesis as collaborative learning.
7.	Computer Organization and Architecture	Limited controller awareness and its application	Technical awareness about Embedded Controller and Application
8.	VLSI Design and Testing	Limited exposure to Current Trends in VLSI design	Session on High Performance VLSI Design Concepts
9.	Digital Image Processing	Software tool usage for Image Processing operations	Make use of MATLAB tool to perform various image processing operations
10.	Principles Of Communication Systems	Modulation Techniques for 6G network	Technical talk was organised
11.	Control Systems	Lead lag compensator	Technical talk was organised
12.	Microcontrollers	Exploring modern IDE tools/compiler features to develop, test and debug Microcontroller based applications.	Demonstration of the IDE tools/compiler features to develop, test and debug Microcontroller based applications.

Assessment Year 2024-2025

Sl. No.	Course Name	Curriculum Gap Identified	Action Taken
1.	Digital System Design using Verilog.	Limited exposure to Mixed Language Programming	Technical Talk on Design and implementation of digital circuits using VHDL and mixed language descriptions
2.	Electronic Circuits and Principles	Limited practical exposure to Waveform Generation Circuits	Session on Simulation of waveform generation circuits using TINA TI
3.	Network Analysis	Limited exposure to networks simulation	Session on Simulation on waveform synthesis using MATLAB
4.	Computer organization and Architecture	Limited exposure to Design and Implementation of Processor	Session on Use of Modern tool to design and implement Processor Architecture
5.	MATLAB Programming	Limited practical exposure to Basic Operations and Simple Programming Tasks	Handson session on Exploring MATLAB: Basic Operations and Simple Programming Tasks
6.	Electromagnetic Theory	Need practical exposure to understand Electromagnetics concepts	Session on Simulation of Electromagnetics concepts using MATLAB
7.	Principles of Communication Systems	Limited practical exposure to digital modulation techniques to incorporate technological change	Session on Simulation of Digital Communication algorithms Using MATLAB and modulation techniques for 6G Network.
8.	Control Systems	Limited awareness of Lead Lag compensation circuits	Session on Lead lag compensator
9.	Microcontrollers, Embedded System Design	Limited industry aligned design of embedded/microcontroller based system	Workshop on Embedded System Design and Testing
10.	Digital Signal Processing	Limited practical implementation of applications on DSP Processor	Session on Develop and implement digital filter using TMS320C6713 processor
11.	Digital Communication	Limited awareness on implementation of digital communication algorithms using HDL	Session on Simulation of Digital Communication Algorithms using Verilog
12.	Data Structures using C++	Limited practical exposure to C++ Concepts	Session on Demonstration of C++ codes using IDE - DEV C++
13.	Research	Limited awareness on	Session on Replication Crisis in

	Methodology	Replication crisis	scientific research
14.	Research Methodology	Limited knowledge on Role of IPR and Patents	Expert talk on “From Idea to Invention: The Role of IPR and Patent Filing”
15.	VLSI Design and Testing	Limited industry trends in VLSI Design	Session on High performance VLSI Design Concepts
16.	Wireless Communication	Limited exposure to System architecture and access technologies in current scenario	Session on 6G Wireless Technology
17.	Wireless Communication	Limited practical exposure to implementation of wireless communication	Student development Program on Development of Wireless Communications using MATLAB and Simulink
18.	Application Specific Integrated Chip	Limited awareness to Advanced verification features for VLSI chips	Session on OOP Features for Advanced Verification
19.	Network Security	Limited awareness to email security concepts	Session on Email security.
20.	Digital Image Processing	Need for Practical exposure to processing of images.	Session on MATLAB Image Processing ToolBox – Perform Image, Visualization, Analysis

Assessment Year 2023-2024

Sl no	Course Name	Curriculum Gap Identified	Action Taken
1.	Digital System Design using Verilog.	Limited exposure to Mixed Language Programming	Technical Talk on Design and implementation of digital circuits using VHDL and mixed language descriptions
2.	Electronic Circuits and Principles	Limited practical exposure to Waveform Generation Circuits	Session on Simulation of waveform generation circuits using TINA TI
3.	Network Analysis	Limited exposure to networks simulation	Session on Simulation on Circuit simulations using MATLAB Simulink
4.	Computer organization and Architecture	Limited exposure to Design and Implementation of Processor	Session on Use of Modern tool to design and implement Processor Architecture
5.	Electromagnetic Theory	Need practical exposure to applications of Maxwell equations	Session on Simulation of Electromagnetics principles
6.	Principles of Communication	Limited practical exposure to digital modulation techniques	Session on Simulation of Digital Communication algorithms

	Systems	to incorporate technological change	Using MATLAB and modulation techniques for 6G Network.
7.	Control Systems	Limited awareness of Lead Lag compensation circuits	Session on Lead lag compensator
8.	Digital Signal Processing	Limited practical implementation of applications on DSP Processor	Session on Develop and implement digital filter using TMS320C6713 processor
9.	Digital Communication	Limited practical awareness on implementation of digital communication	Session on Make use of MATLAB to implement various concepts in the construction of Communication Systems
10.	Technological Innovation Management and Entrepreneurship	Limited awareness to Emerging management techniques	Expert Talk on Industry Connect, Entrepreneurship and Microchip
11.	Microwave and Antennas	Limited awareness to basic Concepts of rectangular and Circular waveguides	Session on Study of TM _{mn} waves and TE _{mn} waves for Rectangular and Circular Waveguides.
12.	VLSI Design and Testing	Limited industry trends in VLSI Design	Session on High performance VLSI Design Concepts
13.	Embedded System Design	Limited exposure to advanced features of ARM Microcontrollers	Session on Advanced architectural features in ARM Microcontrollers
14.	Python Programming	Limited exposure to applications of regular expressions	Session on Demonstration of applications based on regular expressions using IDLE
15.	Computer Networks	Limited exposure to routing protocols	Session on Ad hoc on-demand Distance Vector (AODV)
16.	Advanced VLSI Design	Limited awareness to Advanced VLSI architectures	Expert Talk on Energy-efficient 2.5D Architectures for Machine Learning Applications
17.	Network Security	Limited awareness to email security concepts	Session on Vulnerabilities, Threats and firewall configuration in Email Security.
18.	Satellite Communication	Limited awareness of modern satellite technologies.	Session on Modern satellite technologies
19.	Python Programming	Limited exposure to fundamentals of Artificial Intelligence and Machine Learning	Expert Talk on Fundamentals of Artificial Intelligence and Machine Learning.
20.	Technological Innovation Management and Entrepreneurship	Need for effective Communication Skills	Expert talk on Soft Skill Effective Communication & Public Speaking
21.	Python Programming	Need for building python applications for electronic	Student Development Programme on "Python-Driven Predictive

		devices.	Analytics: Machine Learning and Deep Learning for Electronics Device Energy Optimization",
22.	VLSI Design	Limited awareness to current VLSI Design Trends.	Expert talk on VLSI Design Trends & Opportunities
23.	Microcontrollers	Limited exposure to recent processors	Handson session on Vega processor and Applications
24.	Advanced VLSI Design	Limited awareness to emerging technological trends	Expert Talk on emerging trends and technology in the real world

Assessment Year 2022-2023

Sl. No.	Course Name	Gap	Action Taken
1.	Cryptography	Implementation of Cryptography algorithms	Implementation of Miller Rabin Algorithm
2.	Satellite Communication	Remote Sensing applications	Application of Satellite in Remote sensing
3.	Digital Image Processing	Implementation of Filters using modern tools	Design of Filters for Image Processing Applications
4.	Multimedia Communication	Implementation of Compression Techniques	Implementation of Compression Techniques Using any programming language.
5.	Digital Signal Processing	DSP Applications	DSP and its Applications
6.	VLSI Design	Current trends in VLSI Design	High performance VLSI Design Concepts
7.	Verilog HDL	Hardware design using Verilog	Hardware modelling using Verilog
8.		Design of digital systems using Finite state machine	Digital design using Finite state machine
9.		Design of digital systems using Finite state machine	Digital design using Finite state machine
10.	Information Theory Coding	Simulation of ITC Algorithms	Simulation of ITC Algorithms using MATLAB
11.	Electromagnetic Waves	Simulations of Electromagnetics	MATLAB EXERCISES IN ELECTROMAGNETICS
12.	Technological Innovation Management and Entrepreneurship	Case Study	IOT Business Models
13.	Principles of Communication Systems	Simulation of Modulation and Demodulation Techniques	Simulation of Modulation and Demodulation Techniques using MATLAB
14.	Digital System	Mixed Language Programming	Knowledge of VHDL, mixed language

	Design using Verilog		and mixed style descriptions
15.	Analog Electronics Circuits	Simulation of Analog Electronic Circuits	Simulation of Analog Electronic Circuits using Multisim
16.	Basic Signal Processing	Concepts of Fourier Series	Study and Analysis of discrete time signal
17.	Microwave and Antenna	Concepts of modes of wave propagation in Waveguides	Study of TM and TE mode of Propagation
18.	Wireless Communication	Implementation of OFDM using modern tools	Implementation of OFDM with FFT based for Oversampling
19.	Network Security	Concept of Email Security using modern tools	Firewall Configuration and Importance of email security
20.		Concept of Email Security	Email Security
21.	Circuits and Controls	Simulation of Networks	Simulation of Networks using TINA TI
22.	Digital Signal Processing	Implementation of filters using DSP Processor	To verify the filtering operation using DSK6713 processor
23.	Embedded System	Concept of ARM Microcontroller features in IoT Applications	ARM Microcontroller features in IoT Applications
24.	Communication Theory	Simulation of Communication System	Simulation of Communication System Concepts
25.	Digital Communications	Practical Implementation of MIMO	Implementation of MIMO

Academic Year 2021-2022

Sl. No.	Course Name	Gap	Action Taken
1.	VLSI Design	High performance VLSI Design Concepts	High performance VLSI Design Concepts
2.	Digital Signal Processing	Design of Filters	Design and Implementation of Chebyshev filters
3.	Technological Innovation Management and Entrepreneurship	Case Study	Construction of Business Models
4.	Electromagnetic waves	Simulations of Electromagnetic	MATLAB EXERCISES IN ELECTROMAGNETICS
5.	Power Electronics and Instrumentation	Permanent Magnet Moving Coil	Working of PMMC

6.	Verilog HDL	System design	System design using FSM
7.	Python Programming	Machine Learning Applications	Implementation of machine learning applications using Python
8.	Principles of Communication Systems	Simulation of Modulation and Demodulation Techniques	Simulation of Modulation and Demodulation Techniques using MATLAB
9.	Information Theory Coding	Simulation of ITC Algorithms	Simulation of ITC Algorithms using MATLAB
10.	Image Processing	Image Enhancement Techniques	Simulation of various image enhancement techniques using MATLAB
11.	Network Analysis	Simulation of Networks using TINATI	Simulation of Networks using TiNATi
12.	Digital System Design	Implementation of Digital system on FPGA	Design and Implementation of combinational circuits on FPGA
13.	Power Electronics	Simulation of Power Electronics Circuits	Power Electronic Circuits Simulation, real time implementation and application
14.	Operating Systems	Scheduling Algorithms	Awareness of Scheduling Algorithms
15.	Wireless Communication	Analysis of Maximal ratio combination Techniques	Implementation and study analysis of Maximal ratio combination techniques
16.	Artificial Neural Networks	Implementation of ANN Algorithms	Demonstration of codes using PYTHON
17.	Python Programming	Tool usage for python codes	Demonstration of codes using IDLE
18.	Embedded Systems	Recent Trends in Embedded Systems	IoT and Embedded Systems
19.	Microwave Antenna	High gain Amplifiers for Microwave Frequencies	Klystron Amplifier
20.	Engineering statistics and Linear Algebra	Modern Tool usage for ESLA Concepts	Simulation of ESLA concepts using MATLAB
21.	Signals and Systems	Higher order Difference equation solutions	Solution to difference equation using time domain and Z domain
22.	Control Systems	Modern Tool usage for Control systems Concepts	Simulation of control systems using MATLAB
23.	Analog Circuits	Practical applications of OPAMP	Demonstration of waveform generation circuits using Tina-Tl simulator
24.	Microcontroller	C Language Constructs for Embedded Applications	Bridge class on use of C Language constructs in Embedded C and Project development using Keil IDE
25.	Multimedia Communication	Simulation of Image Processing Techniques	Simulation on Compression techniques using MATLAB
26.	Cryptography	Simulation of cryptosystems	Simulation of public key cryptosystems using RSA calculator and application
27.	Electronic Devices	Fabrication Techniques	Advanced Fabrication Techniques

Academic Year 2020-2021

Sl. No.	Course Name	Gap	Action Taken
1.	Power Electronics and Instrumentation	Permanent Magnet Moving Coil	Working of PMMC
2.	Power Electronics and Instrumentation	Simulation of Power Electronics Circuits	Power Electronic Circuits Simulation, real time implementation and application
3.	Digital System Design	Implementation of Digital system on FPGA	Design and Implementation of combinational circuits on FPGA
4.	Electronics Devices	Fabrication Techniques	Advanced Fabrication techniques
5.	Technological Innovation Management and Entrepreneurship	Case Study	Construction of Business Models
6.	Principles of Communication System	Simulation of Modulation and Demodulation Techniques	Simulation of Modulation and Demodulation Techniques using MATLAB
7.	Digital Signal Processing	Simulation of DSP Algorithms	Simulation of DSP Algorithm using MATLAB
8.	Electromagnetic wave	Simulations of Electromagnetic	MATLAB EXERCISES IN ELECTROMAGNETICS
9.	Information Theory Coding	Simulation of ITC algorithm using MATLAB	Simulation of ITC algorithm using MATLAB
10.	Wireless Combination	Analysis of Maximal ratio combination Techniques	Implementation and study analysis of Maximal ratio combination techniques

11.	Analog Circuits	Practical applications of OPAMP	Demonstration of waveform generation circuits using Tina-TI simulator
12.	Python Programming	Tool usage for python codes	Demonstration of codes using IDLE
13.	Embedded System	Recent Trends in Embedded Systems	IoT and Embedded Systems
14.	Microcontroller	Pipelining and hazards	RISC Instruction Pipeline and its Hazards
15.	Signals and Systems	Higher order Difference equation solutions	Solution to difference equation using time domain and Z domain
16.	Engineering statistics and Linear Algebra	Modern Tool usage for ESLA Concepts	Simulation of ESLA concepts using MATLAB
17.	Control System	Modern Tool usage for Control systems Concepts	Simulation of control systems using MATLAB
18.	Network Analysis	Simulation of Networks	Simulation of Networks using TINATI
19.	Verilog HDL	System design	System design using FSM

Academic Year 2019-2020

Sl. No.	Course Name	Gap	Action Taken
1.	Digital System Design	Demonstration of BCD Decoders and Encoders	Demonstration of BCD decoders and Encoders
2.	Digital Signal Processing	Simulation of DSP Algorithms using MATLAB	Simulation of DSP Algorithm using MATLAB
3.	Power Electronics	Power Electronics Circuit Simulation using MATLAB/Simulink	Power Electronics Circuit Simulation using MATLAB/Simulink
4.	Satellite Communication	Recent Advances in Satellite Communication, Issues and Challenges	Recent Advances in Satellite Communication, Issues & Challenges

5.	Digital Image Processing	Demonstration of Basic Operations on Images using MATLAB	Demonstration of Basic operations on Images using MATLAB
6.	Power Electronics & Instrumentation	Over Current and under Voltage Protection Schemes	Over current and under voltage protection schemes
7.	Computer Organization and Architecture	Memory Utilization Analysis in Android Mobile using System Analyzer App	Memory utilization analysis in Android Mobile using system Analyzer app
8.	Programming in C++	Simulation of Airline Reservation System	Simulation of Airline reservations system
9.	RADAR and Microwaves	Microstrip Patch Antennas for Broad Band Indoor Wireless Systems	Micro Strip Patch antennas for Broadband indoor wireless systems
10.	Information Theory and Coding	Simulation of ITC Algorithms using MATLAB	Simulation of ITC algorithm using MATLAB
11.	Programming in C++	Implementation of Banking application using OOPs Concept	Implementation of Banking application using oops concept
12.	Network Analysis	Simulation of Networks	Simulation of Networks using TINATI
13.	Verilog HDL	User Defined Primitives	User defined primitives in Verilog
14.	Electronics Devices	Advanced Fabrication Techniques	Advanced Fabrication techniques
15.	Basic Electronics	Introduction to Multisim & Virtual Lab - Simulation of Analog & Digital Circuits	Introduction to Multisim & Virtual Lab - Simulation of Analog & Digital Circuits
16.	Wireless Communication	Analysis of Maximal ratio combination Techniques	Implementation and study analysis of Maximal ratio combination techniques
17.	Digital Communication	Simulation of Digital Modulation Techniques	Comparison of Various Digital Modulation Techniques and their Applications using MATLAB
18.	Control System	Simulation of second order Control System	MATLAB Code implementation for second order system
19.	Signals and System	Simulation of Signals using MATLAB	Simulation of Signals using MATLAB
20.	Microcontroller	Pipelining Concepts	RISC Instruction Pipeline and its Hazards

21.	VLSI Design	Simulation of Digital Circuits	Simulation of CMOS circuits using DSch and Microwind
22.	Analog Circuits	Simulation of waveform Generation Circuits	Demonstration of waveform generation circuits using Tina-Tl simulator
23.	ARM Microcontroller	Bus Architecture for Embedded System	AMBA Bus - A Platform for SOC design