Course Number: ELX501 Course Name: Microcontrollers & Application

Unique CO Number	Course Outcome (CO) Statement
EXC5611	Recall behaviors of Microcontrollers
EXC5612	Describe the various RISC and CISC Microcontrollers
EXC5613	To apply appropriate instructions to develop software logic for appropriate microcontroller hardware
EXC5614	To classify different input output peripherals interfaced with microcontrollers as per their application
EXC5615	To select appropriate hardware software co-design techniques for microcontroller based embedded system
EXC5616	To create microcontroller based Application

Course Number: ELX502 Course Name: Digital Communication

Unique CO Number	Course Outcome (CO) Statement
EXC5511	Recall the knowledge of mathematics, science and engineering to analyze and design digital communication systems.
EXC5512	Describe the concept of different modulation and coding techniques.
EXC5513	Compute various parameters of digital signals and their modulation techniques.
EXC5514	Examine the performance of different modulation and coding methods.

EXC5515	Assess the efficiency of different modulation and coding schemes.
EXC5516	Discuss the various advanced digital communication techniques through presentation.

Course Number: ELX503 Course Name: Electromagnetic Engineering

Unique CO Number	Course Outcome (CO) Statement
EXC5541	Define basic laws and fundamentals of Electromagnetic waves.
EXC5542	Explain different concepts of Electromagnetic waves.
EXC5543	Apply different mechanism of wave propagation.
EXC5544	Analyze behavior of Electromagnetic waves in different media.
EXC5545	Evaluate analytical and computational techniques of electromagnetic field distribution.
EXC5546	Solve different parameters of a radiating system and transmission lines.

Course Number: ELX504 Course Name: Design with Linear Integrated circuits

Unique CO Number	Course Outcome (CO) Statement
EXC5341	Recognize and examine the fundamentals of integrated circuits
EXC5342	Classify and explain various circuits based on linear applications of Operational Amplifiers
EXC5343	Construct and explain various circuits based on Non linear applications of Operational Amplifiers.
EXC5344	Examine and analyze building up of specific circuits and their corresponding ICs based upon the principles of basic operational amplifier circuits.

EXC5345	Select and assess the use of appropriate ICs to build up a complex circuit for given application.
EXC5346	Develop and design specialized applications using knowledge of analog integrated circuits.

Course Number: ELXDLO5011 Course Name: Database Management System

Unique CO Number	Course Outcome (CO) Statement
EXC5631	Describe the basic concept and applications of Database System
EXC5632	Demonstrate Modeling of given database application using standard techniques
EXC5633	Solve Relational Algebra and SQL queries
EXC5634	Analyze and apply concepts of normalization to relational database design
EXC5635	Justify transaction management and concurrency issues in DBMS
EXC5636	Design the given database application using ER Model, normalization approach and implement using Relational database software

Course Number: ELXDLO5013 Course Name: ASIC Verification

Unique CO Number	Course Outcome (CO) Statement

EXC 5761	Describe the learner system verilog concepts for verification
EXC 5762	Identify the significance of verification in VLSI industry
EXC 5763	Compare features of Verilog and System Verilog algorithms
EXC 5764	Identify advanced verification features to solve practical problems
EXC 5765	Analyze the given problems using randomization algorithms
EXC 5766	Design systems using various algorithms

LO STATEMENTS

Course Number:ELXL501 Course Name:Microcontroller & Appliations Laboratory

Unique LO Number	Lab Outcome (LO) Statement
EXL5611	Write assembly language programs and implement on Microcontroller
EXL5612	Write and implement assembly programs for 8051 using Keil.
EXL5613	Write assembly program to demonstrate on chip features of 8051

EXL5614	Write assembly program to interface peripheral IC's to 8051
EXL5615	Design 8051 based System

Course Number: ELXL502 Course Name: Digital Communication Laboratory

Unique LO Number	Lab Outcome (LO) Statement
EXL5511	To analyze digital modulation techniques.
EXL5512	To analyze different coding techniques.
EXL5513	To identify the advantages of different data formats.
EXL5514	To make use of different simulation tools
EXL5515	To select the topic for presentation.
EXL5516	To document a report for the presentation.

Course Number:ELXL503 Course Name: Design with Linear Integrated circuits

Unique LO Number	Lab Outcome (LO) Statement
EXL 5341	Build the circuit and analyze performance of the various linear applications of IC 741 such as Data converter, Integrator, differentiator, peak detector.
EXL 5342	Build the circuit and analyze performance of the various non-linear applications of IC 741 such as comparator, Schmitt trigger, precision rectifier.

EXL 5343	Analyze the behavior of Timer IC 555 as monostable, astable multivibrator and IC 723 as voltage regulator.
EXL 5344	Implement and measure oscillation frequency of Wein bridge oscillator, RC phase shift oscillator and waveform generator and compare with the corresponding theoretical frequencies.
EXL 5345	Design and simulate various filter circuits and analyze its frequency response using MultiSim..
EXL 5346	Design and implement miniature projects using special purpose Integrated Circuits.

Course Number: ELX505 Course Name: Business Communication and Ethics

Unique LO Number	Lab Outcome (LO) Statement
EXL5051	Design a technical document using precise language, suitable vocabulary, and apt style.
EXL5052	Develop the life skills/ interpersonal skills to progress professionally by building stronger relationships.
EXL5053	Demonstrate awareness of contemporary issues, knowledge of professional and ethical responsibilities.
EXL5054	Apply the traits of a suitable candidate for a job/higher education, upon being trained in the techniques of holding a group discussion, facing interviews and writing resume/SOP.
EXL5055	Deliver formal presentations effectively, implementing the verbal and non-

	verbal skills.
EXL5056	Demonstrate skills for participating in meetings and prepare its documentation.

Course Number: ELXLDLO5011 Course Name: Database management Laboratory

Unique LO Number	Lab Outcome (LO) Statement
EXL5631	Identify Entities and Attributes.
EXL5632	Apply Conceptual ER modelling techniques for given DBMS application.
EXL5633	Tabulate DBMS application using SQL commands.
EXL5634	Select information using complex SQL queries.
EXL5635	Illustrate ACID properties.
EXL5636	Design and implement real life project.

Course Number: ELXL DLO5013 Course Name: ASIC Verification Lab

Unique LO Number	Lab Outcome (LO) Statement

EXL 5761	Demonstrate an understanding of Verilog and system Verilog methodologies
EXL 5762	Exploit new constructs in SV and advanced ASIC verification techniques
EXL 5763	Create test benches for digital designs in system verilog
EXL 5764	Carryout design successfully using simulators
EXL 5765	Test design using test bench approach
EXL 5766	Implement system design using Verilog/system verilog