Narasu's Sarathy
Institute of Technology
Approved by AICTE | Accredited By NAAC | Affiliated to Anna University
Salem Bengaluru Highway NH - 7, Poosaripatty, Kadayampatty Taluk, Salem - 636305.
Admin Office: 93449-72274, Admission Cell: 93449-72275,73977-56003,
admin@nsit.edu.in,www.nsit.edu.in

COURSE OUTCOMES (COs)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

2.6.1 Teachers and students are aware of the stated Programme and course outcomes of the

Programmes offered by the institution.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VISION

To impart quality education by providing adequate training to students, both in theory and Practice, in Emerging Engineering and Communication fields, utilizing effectively the services of Qualified and experienced faculty and state-of-art facilities

MISSION

- Providing an intellectually inspiring environment for learning, innovation, creativity and professional training, incorporating ethical and moral values.

- Providing a strong foundation in the basic subjects of electronics and communication engineering.

- Providing an efficient teaching-learning process with a focus on application-oriented problem solving skills.

- Ensuring availability of best facility, infrastructure, and environment to students, researchers and faculty members and creating an ambience conducive for excellence in technical education and research.

PROGRAM SPECIFIC OUTCOMES (PSOs):

1.Apply basic knowledge related to electronic circuits, embedded & communication systems and signal processing to solve engineering/societal problems.

2.Design, verify and validate electronic functional elements for a variety of applications, with skills to interpret and communicate results.

3.Use engineering & management concepts to analyze specifications and prototype electronic experiments/projects either independently or in teams.

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2.6 Student Performance and Learning Outcomes

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PROGRAMME EDUCATIONAL OBJECTIVES:

PEO-1: To provide a foundation in fundamental engineering principles together with in-depth knowledge and solid foundation in mathematical, scientific and engineering fundamentals required to succeed in technical profession.

PEO-2: To train with a broad-based scientific and engineering knowledge so as to comprehend, analyze, design, and create innovative products and solutions for the real life problems.

PEO-3: To inculcate professional and ethical attitude with a strong character and to uphold the spiritual and cultural values, effective communication skills, teamwork skills, multidisciplinary approach, and an ability to relate engineering issues to broader social context.

PEO-4: To provide an academic environment aware of advanced technological growth leading to life-long learning needed for a successful professional career, excellence and leadership.

PROGRAMME OUTCOMES:

PO 1: Engineering knowledge Apply knowledge of mathematics, science and engineering fundamentals and Production and Industrial Engineering specialization to the solution of complex Production and Industrial Engineering problems.

PO 2: Problem Analysis Identify, formulate, research literature and analyze complex Production and Industrial Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PO 3: Design/ Development of Solutions Design solutions for complex Engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO 4: Conduct investigations of complex Engineering problems Use research-based knowledge and research methods including analysis, interpretation of data and synthesis of information to provide valid conclusions.

PO 5: Modern Tool Usage Create, select, and apply appropriate techniques, resources, and

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modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: The Engineer and Society Apply contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.

PO 7: Environment and Sustainability Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Ethics Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PO 9: Individual and Team Work Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

PO 10: Communication Communicate effectively on complex Engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

PO 11: Project Management and Finance Demonstrate knowledge and understanding of Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life Long learning Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING	
REGULATION & SEMESTER:	**2017 - I**
SUBJECT CODE & NAME:	HS8151 - Communicative English
CO'S	**COURSE OUTCOMES**
CO1	Read articles of a general kind in magazines and newspapers.
CO2	Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.
CO3	Comprehend conversations and short talks delivered in English
CO4	Write short essays of a general kind and personal letters and emails in English

SUBJECT CODE & NAME:	MA8151 -Engineering Mathematics - I
CO'S	**COURSE OUTCOMES**
	Student will be able,
CO1	Use both the limit definition and rules of differentiation to differentiate functions.
CO2	Apply differentiation to solve maxima and minima problems
CO3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem ofCalculus.
CO4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables
CO5	Evaluate integrals using techniques of integration, such as substitution, partial fractionsand integration by parts
CO6	Determine convergence/divergence of improper integrals and evaluate convergentimproper integrals.
CO7	Apply various techniques in solving differential equations

SUBJECT CODE & NAME:	PH8151 - Engineering Physics
CO'S	**COURSE OUTCOMES**
	Student will be able,
CO1	The students will gain knowledge on the basics of properties of

	matter and itsapplications,
CO2	The students will acquire knowledge on the concepts of waves and optical devices andtheir applications in fibre optics,
CO3	The students will have adequate knowledge on the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers,
CO4	The students will get knowledge on advanced physics concepts of quantum theory andits applications in tunneling microscopes, and
CO5	the students will understand the basics of crystals, their structures and different crystalgrowth techniques.

SUBJECT CODE & NAME:	CY8151 - Engineering Chemistry
CO'S	**COURSE OUTCOMES**
	Student will be able,
CO1	The knowledge gained on engineering materials, fuels, energy sources and
CO2	water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.
SUBJECT CODE & NAME:	GE8151 - Problem Solving and Python Programming
CO'S	**COURSE OUTCOMES**
	Student will be able,
CO1	Develop algorithmic solutions to simple computational problems
CO2	Read, write, execute by hand simple Python programs
CO3	Structure simple Python programs for solving problems
CO4	Decompose a Python program into functions.
CO5	Represent compound data using Python lists, tuples, dictionaries.
CO6	Read and write data from/to files in Python Programs.
SUBJECT CODE & NAME:	GE8152 - Engineering Graphics
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Familiarize with the fundamentals and standards of Engineering graphics
CO2	Perform freehand sketching of basic geometrical constructions and multiple views of objects.
CO3	Project orthographic projections of lines and plane surfaces.
CO4	Draw projections and solids and development of surfaces

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CO5	Visualize and to project isometric and perspective sections of simple solids

SUBJECT CODE & NAME:	GE8161- Problem Solving and Python Programming Laboratory
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Write, test, and debug simple Python programs.
CO2	Implement Python programs with conditionals and loops.
CO3	Develop Python programs step-wise by defining functions and calling them.
CO4	Use Python lists, tuples, dictionaries for representing compound data.
CO5	Read and write data from/to files in Python.
SUBJECT CODE & NAME:	BS8161-Physics and Chemistry Laboratory
CO'S	**COURSE OUTCOMES**
CO1	Student will have knowledge to Analyze the particle size & acceptance ankle using laser.
CO2	Student will be able to Apply the principle of ultrasonic interferometer
CO3	Student will be able to understand the principles of spectrometer grating
CO4	Students can Analyze the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material
REGULATION & SEMESTER:	**2017 - II**
SUBJECT CODE & NAME:	HS8251 - Technical English
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Read technical texts and write area- specific texts effortlessly.
CO2	Listen and comprehend lectures and talks in their area of specialization successfully.
CO3	Write reports and winning job applications
CO4	Speak appropriately and effectively in varied formal and informal contexts.
SUBJECT CODE & NAME:	MA8251- Engineering Mathematics - II
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Eigenvalues and eigenvectors, diagonalization of a matrix,

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	Symmetric matrices, Positive definite matrices and similar matrices.
CO2	Gradient, divergence and curl of a vector point function and related identities.
CO3	Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification
CO4	Analytic functions, conformal mapping and complex integration.
CO5	Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
SUBJECT CODE & NAME:	PH8253 - PHYSICS FOR ELECTRONICS ENGINEERING
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Gain knowledge on classical and quantum electron theories, and energy band structures
CO2	Acquire knowledge on basics of semiconductor physics and its applications in various devices,
CO3	Get knowledge on magnetic and dielectric properties of materials,
CO4	Have the necessary understanding on the functioning of optical materials for optoelectronics,
CO5	Understand the basics of quantum structures and their applications in spintronics and carbon electronics.
SUBJECT CODE & NAME:	BE8254 - BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the concept of three phase power circuits and measurement.
CO2	Comprehend the concepts in electrical generators, motors and transformers
CO3	Choose appropriate measuring instruments for given application
SUBJECT CODE & NAME:	EC8251 - CIRCUIT ANALYSIS
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Develop the capacity to analyze electrical circuits, apply the circuit theorems in real time
CO2	Design and understand and evaluate the AC and DC circuits.
SUBJECT CODE	EC8252 - ELECTRONIC DEVICES

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2.6 Student Performance and Learning Outcomes

& NAME:	
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the V-I characteristic of diode, UJT and SCR
CO2	Describe the equivalence circuits of transistors
CO3	Operate the basic electronic devices such as PN junction diode, Bipolar and Field effect Transistors, Power control devices, LED, LCD and other Opto-electronic devices

SUBJECT CODE & NAME:	EC8261 - CIRCUITS AND DEVICES LABORATORY
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Analyze the characteristics of basic electronic devices
CO2	Design RL and RC circuits
CO3	Verify thevinin & Norton theorem KVL & KCL, and Super Position Theorems
SUBJECT CODE & NAME:	GE8261 ENGINEERING PRACTICES LABORATORY
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Fabricate carpentry components and pipe connections including plumbing works.
CO2	Use welding equipment's to join the structures
CO3	Measure the electrical quantities
CO4	Carry out the basic machining operations
CO5	Make the models using sheet metal works
CO6	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings
CO7	Carry out basic home electrical works and appliances
CO8	Elaborate on the components, gates, soldering practices
REGULATION & SEMESTER:	**2017 - III**
SUBJECT CODE & NAME:	MA8352 - LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Demonstrate accurate and efficient use of advanced algebraic techniques.
CO2	Demonstrate their mastery by solving non - trivial problems related

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	to the concepts and by proving simple theorems about the statements proven by the text.
CO3	Able to solve various types of partial differential equations. Able to solve engineering problems using Fourier series.
CO4	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts

SUBJECT CODE & NAME:	EC8393 - FUNDAMENTALS OF DATA STRUCTURES IN C
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Implement linear and non-linear data structure operations using C
CO2	Suggest appropriate linear / non-linear data structure for any given data set.
CO3	Apply hashing concepts for a given problem
CO4	Modify or suggest new data structure for an application
CO5	Appropriately choose the sorting algorithm for an application.

SUBJECT CODE & NAME:	EC8351 - ELECTRONIC CIRCUITS I
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Analyze the performance of small signal BJT and FET amplifiers - single stage and multistage amplifiers
CO2	Acquire knowledge of Working principles, characteristics and applications of BJT and FET
CO3	Frequency response characteristics of BJT and FET amplifiers

SUBJECT CODE & NAME:	EC8352 - SIGNALS AND SYSTEMS
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	To be able to determine if a given system is linear/causal/stable
CO2	Capable of determining the frequency components present in a deterministic signal
CO3	Capable of characterizing LTI systems in the time domain and frequency domain
CO4	To be able to compute the output of an LTI system in the time and frequency domains
SUBJECT CODE & NAME:	EC8392 - DIGITAL ELECTRONICS

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2.6 Student Performance and Learning Outcomes

CO'S	COURSE OUTCOMES
CO1	Use digital electronics in the present contemporary world
CO2	Design various combinational digital circuits using logic gates
CO3	Do the analysis and design procedures for synchronous and asynchronous sequentialcircuits
CO4	Use the semiconductor memories and related technology
CO5	Use electronic circuits involved in the design of logic gates
SUBJECT CODE & NAME:	EC8391 - CONTROL SYSTEMS ENGINEERING
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Identify the various control system components and their representations.
CO2	Analyze the various time domain parameters.
CO3	Analysis the various frequency response plots and its system.
CO4	Apply the concepts of various system stability criterions.
CO5	Design various transfer functions of digital control system using state variable models.
SUBJECT CODE & NAME:	EC8381 - FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Write basic and advanced programs in C
CO2	Implement functions and recursive functions in C
CO3	Implement data structures using C
CO4	Choose appropriate sorting algorithm for an application and implement it in a modularizedway
SUBJECT CODE & NAME:	EC8361 - ANALOG AND DIGITAL CIRCUITS LABORATORY
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Design and Test rectifiers, filters and regulated power supplies.
CO2	Design and Test BJT/JFET amplifiers.
CO3	Differentiate cascode and cascade amplifiers.
CO4	Analyze the limitation in bandwidth of single stage and multi stage amplifier
CO5	Measure CMRR in differential amplifier
CO6	Simulate and analyze amplifier circuits using PSpice.
CO7	Design and Test the digital logic circuits

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2.6 Student Performance and Learning Outcomes

SUBJECT CODE & NAME:	HS8381 Interpersonal Skills / Listening & Speaking
CO'S	**COURSE OUTCOMES**
	Student will be able to,
CO1	Listen and respond appropriately.
CO2	Participate in group discussions
CO3	Make effective presentations
CO4	Participate confidently and appropriately in conversations both formal and informal

REGULATION & SEMESTER:	**2017 - IV**
COURSE CODE & NAME:	MA8451 - PROBABILITY AND RANDOM PROCESSES
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.
CO2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.
CO3	Apply the concept random processes in engineering disciplines.
CO4	Understand and apply the concept of correlation and spectral densities.
CO5	The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable. Able to analyze the response of random inputs to linear time invariant systems.
COURSE CODE & NAME:	EC8452 - ELECTRONIC CIRCUITS II
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Analyze different types of amplifier, oscillator and multivibrator circuits
CO2	Design BJT amplifier and oscillator circuits
CO3	Analyze transistorized amplifier and oscillator circuits
CO4	Design and analyze feedback amplifiers
CO5	Design LC and RC oscillators, tuned amplifiers, wave shaping circuits,multivibrators, power amplifier and DC convertors.

COURSE CODE	EC8491 - COMMUNICATION THEORY

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& NAME:	
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Design AM communication systems
CO2	Design Angle modulated communication systems
CO3	Apply the concepts of Random Process to the design of Communication systems
CO4	Analyze the noise performance of AM and FM systems
CO5	Gain knowledge in sampling and quantization
COURSE CODE & NAME:	EC8451 - ELECTROMAGNETIC FIELDS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Display an understanding of fundamental electromagnetic laws and concepts
CO2	Write Maxwell's equations in integral, differential and phasor forms and explain their physicalmeaning
CO3	Explain electromagnetic wave propagation in lossy and in lossless media
CO4	Solve simple problems requiring estimation of electric and magnetic field quantities based onthese concepts and laws
COURSE CODE & NAME:	EC8453 - LINEAR INTEGRATED CIRCUITS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Design linear and non linear applications of OP – AMPS
CO2	Design applications using analog multiplier and PLL
CO3	Design ADC and DAC using OP – AMPS
CO4	Generate waveforms using OP – AMP Circuits
CO5	Analyses special function ICs
COURSE CODE & NAME:	GE8291 - ENVIRONMENTAL SCIENCE AND ENGINEERING
COS	**COURSE OUTCOMES**
	Student will be,
CO1	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledgeon the following after completing the course.
CO2	Public awareness of environmental is at infant stage.
CO3	Ignorance and incomplete knowledge has lead to misconceptions
CO4	Development and improvement in std. of living has lead to serious

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environmental disasters

COURSE CODE & NAME:	EC8461 - CIRCUITS DESIGN AND SIMULATION LABORATORY
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Analyze various types of feedback amplifiers
CO2	Design oscillators, tuned amplifiers, wave-shaping circuits and multivibrators
CO3	Design and simulate feedback amplifiers, oscillators, tuned amplifiers, wave-shapingcircuits and multivibrators using SPICE Tool.

COURSE CODE & NAME:	EC8462 - LINEAR INTEGRATED CIRCUITS LABORATORY
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Design amplifiers, oscillators, D-A converters using operational amplifiers.
CO2	Design filters using op-amp and performs an experiment on frequency response.
CO3	Analyze the working of PLL and describe its application as a frequency multiplier.
CO4	Design DC power supply using ICs.
CO5	Analyse the performance of filters, multivibrators, A/D converter and analogy multiplier using SPICE

REGULATION & SEMESTER:	2017 - V

COURSE CODE & NAME:	EC8501 - DIGITAL COMMUNICATION
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Design PCM systems
CO2	Design and implement base band transmission schemes
CO3	Design and implement band pass signaling schemes
CO4	Analyze the spectral characteristics of band pass signaling schemes and their noiseperformance
CO5	Design error control coding schemes

COURSE CODE & NAME:	EC8553 - DISCRETE-TIME SIGNAL PROCESSING
COS	COURSE OUTCOMES
	Student will be able to,

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CO1	Apply DFT for the analysis of digital signals and systems
CO2	Design IIR and FIR filters
CO3	Characterize the effects of finite precision representation on digital filters
CO4	Design MultiMate filters
CO5	Apply adaptive filters appropriately in communication systems

COURSE CODE & NAME:	EC8552 - COMPUTER ARCHITECTURE AND ORGANIZATION
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Describe data representation, instruction formats and the operation of a digital computer
CO2	Illustrate the fixed point and floating-point arithmetic for ALU operation
CO3	Discuss about implementation schemes of control unit and pipeline performance
CO4	Explain the concept of various memories, interfacing and organization of multiple processors
CO5	Discuss parallel processing technique and unconventional architectures

COURSE CODE & NAME:	EC8551 - COMMUNICATION NETWORKS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Identify the components required to build different types of networks
CO2	Choose the required functionality at each layer for given application
CO3	Identify solution for each functionality at each layer
CO4	Trace the flow of information from one node to another node in the network

COURSE CODE & NAME:	EC8073 - MEDICAL ELECTRONICS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Know the human body electro- physiological parameters and recording of bio-potentials
CO2	Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc.
CO3	Interpret the various assist devices used in the hospitals viz.

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	pacemakers, defibrillators, dialyzers and ventilators
CO4	Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods
CO5	Know about recent trends in medical instrumentation
COURSE CODE & NAME:	ORO551 Renewable Energy Sources
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understanding the physics of solar radiation.
CO2	Ability to classify the solar energy collectors and methodologies of storing solar energy.
CO3	Knowledge in applying solar energy in a useful way.
CO4	Knowledge in wind energy and biomass with its economic aspects.
CO5	Knowledge in capturing and applying other forms of energy sources like wind, biogas and geothermal energies.
COURSE CODE & NAME:	EC8562 - DIGITAL SIGNAL PROCESSING LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Carryout basic signal processing operations
CO2	Demonstrate their abilities towards MATLAB based implementation of various DSPsystems
CO3	Analyze the architecture of a DSP Processor
CO4	Design and Implement the FIR and IIR Filters in DSP Processor for performingfiltering operation over real-time signals
CO5	Design a DSP system for various applications of DSP
COURSE CODE & NAME:	EC8561 - COMMUNICATION SYSTEMS LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Simulate & validate the various functional modules of a communication system
CO2	Demonstrate their knowledge in base band signaling schemes throughimplementation of digital modulation schemes
CO3	Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system
	Simulate end-to-end communication Link
OURSE CODE &	EC8563 - COMMUNICATION NETWORKS LABORATORY

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2.6 Student Performance and Learning Outcomes

NAME:	
COS	**COURSE OUTCOMES**
CO1	Communicate between two desktop computers
CO2	Implement the different protocols
CO3	Program using sockets.
CO4	Implement and compare the various routing algorithms
CO5	Use the simulation tool.
REGULATION & SEMESTER:	**2017- VI**
COURSE CODE & NAME:	EC8691 - MICROPROCESSORS AND MICROCONTROLLERS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand and execute programs based on 8086 microprocessor.
CO2	Design Memory Interfacing circuits.
CO3	Design and interface I/O circuits.
CO4	Design and implement 8051 microcontroller based systems.
COURSE CODE & NAME:	EC8095 - VLSI DESIGN
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Realize the concepts of digital building blocks using MOS transistor.
CO2	Design combinational MOS circuits and power strategies.
CO3	Design and construct Sequential Circuits and Timing systems.
CO4	Design arithmetic building blocks and memory subsystems.
CO5	Apply and implement FPGA design flow and testing.
COURSE CODE & NAME:	EC8652 - WIRELESS COMMUNICATION
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Characterize a wireless channel and evolve the system design specifications
CO2	Design a cellular system based on resource availability and traffic demands
CO3	Identify suitable signaling and multipath mitigation techniques for the wirelesschannel and system under consideration.
COURSE CODE & NAME:	MG8591 - PRINCIPLES OF MANAGEMENT
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Upon completion of the course, students will be able to have clear

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CO2	understanding
	Managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management

COURSE CODE & NAME:	EC8651 - TRANSMISSION LINES AND RF SYSTEMS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the characteristics of transmission lines and its losses
CO2	Write about the standing wave ratio and input impedance in high frequency transmission lines
CO3	Analyze impedance matching by stubs using smith charts
CO4	Analyze the characteristics of TE and TM waves
CO5	Design a RF transceiver system for wireless communication

COURSE CODE & NAME:	EC8004 - WIRELESS NETWORKS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Conversant with the latest 3G/4G networks and its architecture
CO2	Design and implement wireless network environment for any application using latest wireless protocols and standards
CO3	Ability to select the suitable network depending on the availability and requirement
CO4	Implement different type of applications for smart phones and mobile devices with latest network strategies

COURSE CODE & NAME:	EC8681 - MICROPROCESSORS AND MICROCONTROLLERS LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Write ALP Programmers for fixed and Floating Point and Arithmetic operations.
CO2	Interface different I/Os with processor
CO3	Generate waveforms using Microprocessors
CO4	Execute Programs in 8051
CO5	Explain the difference between simulator and Emulator

COURSE CODE & NAME:	EC8661 - VLSI DESIGN LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Write HDL code for basic as well as advanced digital integrated circuit

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CO2	Import the logic modules into FPGA Boards
CO3	Synthesize Place and Route the digital IPs
CO4	Design, Simulate and Extract the layouts of Digital & Analog IC Blocks using EDAtools
REGULATION & SEMESTER:	**2017 - VII**
COURSE CODE & NAME:	EC8701 - ANTENNAS AND MICROWAVE ENGINEERING
COS	
	Student will be able to,
CO1	Apply the basic principles and evaluate antenna parameters and link power budgets
CO2	Design and assess the performance of various antennas
CO3	Design a microwave system given the application specifications
COURSE CODE & NAME:	EC8751 - OPTICAL COMMUNICATION
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Realize basic elements in optical fibers, different modes and configurations.
CO2	Analyze the transmission characteristics associated with dispersion and polarizationtechniques.
CO3	Design optical sources and detectors with their use in optical communication system.
CO4	Construct fiber optic receiver systems, measurements and coupling techniques.
CO5	Design optical communication systems and its networks.
COURSE CODE & NAME:	EC8791 - EMBEDDED AND REAL TIME SYSTEMS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Describe the architecture and programming of ARM processor
CO2	Outline the concepts of embedded systems
CO3	Explain the basic concepts of real time operating system design
CO4	Model real-time applications using embedded-system concepts
COURSE CODE & NAME:	EC8702 - AD HOC AND WIRELESS SENSOR NETWORKS
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Know the basics of Ad hoc networks and Wireless Sensor Networks
CO2	Apply this knowledge to identify the suitable routing algorithm based

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	on the network and user requirement
CO3	Apply the knowledge to identify appropriate physical and MAC layer protocols
CO4	Understand the transport layer and security issues possible in Ad hoc and sensornetworks.

COURSE CODE & NAME:	EC8071 - COGNITIVE RADIO
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Gain knowledge on the design principles on software defined radio and cognitive radio
CO2	Develop the ability to design and implement algorithms for cognitive radio spectrum sensing and dynamic spectrum access
CO3	Build experiments and projects with real time wireless applications
CO4	Apply the knowledge of advanced features of cognitive radio for real world applications

COURSE CODE & NAME:	OCS752 - Introduction To C Programming
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Develop simple applications using basic constructs
CO2	Develop applications using arrays and strings
CO3	Develop applications using functions and structures

COURSE CODE & NAME:	EC8711 - EMBEDDED LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Write programs in ARM for a specific Application
CO2	Interface memory, A/D and D/A convertors with ARM system
CO3	Analyze the performance of interrupt
CO4	Write program for interfacing keyboard, display, motor and sensor.
CO5	Formulate a mini project using embedded system

COURSE CODE & NAME:	EC8761 - ADVANCED COMMUNICATION LABORATORY
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Analyze the performance of simple optical link by measurement of losses and Analyzingthe mode characteristics of fiber

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2.6 Student Performance and Learning Outcomes

CO2	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER
CO3	Estimate the Wireless Channel Characteristics and Analyze the performance of WirelessCommunication System
CO4	Understand the intricacies in Microwave System design

REGULATION & SEMESTER:	2017 - VIII
COURSE CODE & NAME:	EC8094 - SATELLITE COMMUNICATION
COS	
	Student will be able to,
CO1	Analyze the satellite orbits
CO2	Analyze the earth segment and space segment
CO3	Analyze the satellite Link design
CO4	Design various satellite applications
COURSE CODE & NAME:	GE8076 - PROFESSIONAL ETHICS IN ENGINEERING
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Upon completion of the course, the student should be able to apply ethics in society,
CO2	discuss the ethical issues related to engineering and realize the responsibilities and rights in the society.
COURSE CODE & NAME:	EC8811 Project Work
COS	**COURSE OUTCOMES**
CO1	Students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology

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