AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER

Department of Electronics and Telecommunication Engineering

Course Outcomes

Third Year: 2012 Course			
Course Code	**Course Name**	**Course Outcomes**	
Semester- I			
304181	Digital Communication	CO1	To understand conversion of analog data into digital data and demonstrate generation and detection of digital signal pulses coding techniques.
		CO2	To understand processing of digital data in terms of its representation, multiplexing, synchronization, scrambling and inter symbol interference.
		CO3	To classify different random processes and examine stationarity, wide-sense stationarity and ergodicity of given random process
		CO4	To analyze the detection and performance of a baseband and pass band digital communication system in terms of error rate and spectral efficiency.
		CO5	To describe working of spread spectrum communication system and analyze its performance and understand working of wireless communication system.
		CO6	To demonstrate working of building blocks of a digital communication system and select the blocks in the design of a digital communication system.
304182	Digital Signal Processing	CO1	Understand the digital signal processing, sampling and aliasing.
		CO2	Understand use of different transforms and analyze the discrete time signals and systems.
		CO3	Apply Z transform to carry out analysis of discrete time systems. Also give its Relationship with other transforms
		CO4	Understand design of digital filters for processing of Discrete time signals.
		CO5	Design and implement multistage sampling rate converter.
		CO6	Assess the techniques, skills, and modern engineering tools necessary for analysis of different signals and filtering out noise signals in engineering practice.
304183	Microcontroller and Applications	CO1	Clarify various microcontrollers and its basics.
		CO2	Generalize the architectures of 8051 microcontroller.
		CO3	Generalize the architectures of PIC microcontroller.
		CO4	Utilise the software development tools.
		CO5	Interface various input-output peripherals with PIC microcontroller.
		CO6	Build, simulate and verify real word interfacing of various input-output peripherals with PIC microcontroller using C programming.
304184	Electromagnetics and Transmission Lines	CO1	Understand fundamentals of electrostatics using Coulomb's law and Gauss Law.
		CO2	Solve the problems on polarization, Boundary Conditions, dielectrics and Capacitance using fundamental laws of Electrostatics.
		CO3	Understand fundamentals of Magnetostatics using Biot–Savart's Law, Ampere's Circuit Law.
		CO4	Solve the problems on electrodynamic Fields using Faraday's law, Maxwell's equations and Poynting theorem.
		CO5	Apply fundamentals of transmission line theory and Smith Chart to solve the problems related with reflection of electromagnetic wave.
		CO6	Understand the fundamentals of wave propagation at radio frequency through transmission line.
304185	System Programming and Operating Systems	CO1	Demonstrate the knowledge of Systems Programming and analyse the structure of OS and basic architectural components involved in OS design.
		CO2	Compare and analyse the different implementation approach of operating system Abstractions. (Process control, Threads, Scheduling.
		CO3	Understand the Mutual exclusion, Deadlock detection and agreement protocols of the operating system.

		CO4	Analyse the various memory management techniques for time sharing and Distributed systems.
		CO5	Interpret various OS functions used in Linux / Ubuntu for I/O management, Disk Scheduling and File Management.
		CO6	Implement shell scripting on Linux, lexical analyser and algorithms for job scheduling, deadlock detection and avoidance and page replacement.
304188	Employability Skills in Electronics Design	CO1	Compare & select appropriate components & devices by interpreting information from datasheet
		CO2	Select optimal design topologies
		CO3	Design a prototype of Data Acquisition system by appropriate selection of transducer & signal conditioning circuits
		CO4	Design & Performance analysis of Electronic System/subsystem using EDA tools.
		CO5	Design and develop electronic system designs (SMPS, DC system, DAC and DBMS) in a team and as an individual using appropriate engineering tools. Comprehend and write laboratory record following academic ethics and, draw conclusions at technical level
Semester- II			
304189	Information Theory and Coding Techniques	CO1	Compute information theoretic analysis of communication systems.
		CO2	Understand the source coding scheme for a communication system.
		CO3	Execute the data compression scheme using suitable source coding technique.
		CO4	Apply the channel coding scheme for a communication systems.
		CO5	Illustrate the performance of a communication system.
		CO6	Test, compare and verify the results obtained from various coding techniques using specific tool.
304190	Antenna and Wave Propagation	CO1	Formulate the wave equation and solve it for uniform plane wave in Homogeneous, free space, dielectric, conducting medium. Identify the types of wave polarization and analyze the electromagnetic power using pointing theorem. .
		CO2	Derive the Fundamental equations for free space propagation, identify the different layers surrounded by earth and choose wave propagation for particular application, recognize the characteristics of wireless channel
		CO3	Explain the radiation mechanism of antenna, recognize the various antenna parameters and its importance in the antenna theory, analyze the solution for inhomogeneous vector potential wave equation
		CO4	Constructs the solutions for infinitesimal dipole, small dipole, Finite length dipole, half wave length dipole, and small circular loop antenna and compare the various performance parameters of linear antennas.
		CO5	Recognize the need of antenna array, Classify and analyze the different types of array, discuss the construction, operation and application of Log Periodic Antenna (LPA), Yagi -Uda Antenna array (YUA).
		CO6	Illustrate Structural details, dimensions, radiation pattern, specifications, features and applications of Low frequency to Microwave frequency Antennas
		CO7	Carry out experiments as an individual and in a team, comprehend and write a laboratory record and draw conclusions at a technical level
304191	Embedded Processors	CO1	Understand 32 bit processor architectures such as X86, MIPS, 68K and ARM.
		CO2	Discuss the features and applications of ARM7, ARM9 and ARM11 processor families.
		CO3	Discuss the features and applications of CORTEX A, CORTEX M, and CORTEX R processors series.
		CO4	Apply fundamentals of LPC2148 to interface LCD, GLCD, KEYPAD, GSM and GPS with it.
		CO5	Apply fundamentals of LPC1768 to interface TFT, SD CARD and CAN compatible peripherals with it.
		CO6	Discuss the features and applications of DSP processors.
		CO7	Interface various input-output peripherals with LPC2148 and LPC1768, draw conclusions and write a laboratory record.
304192		CO1	Understand the basic managerial aspects useful in industry.

	Industrial Management	CO2	Explore the different quality management tools for efficient quality management in industry.
		CO3	Understand the different financial and project management tools for efficient financial and project management in industry.
		CO4	Explore the different human resource development skills for efficient management of human resources in industry.
		CO5	Understand the entrepreneurship skills for managing an industry.
		CO6	Understand the application of information system tools for management of information in an industry.
304193	Power Electronics	CO1	Select the appropriate power electronics device for required applications by proper analysis of their important specification, features and functional working.
		CO2	Design the AC to variable DC controlled converter for typical applications with proper analysis of various circuit configurations.
		CO3	Analyze the basic configurations of DC to variable AC converter (Inverter) and apply Fourier analysis.
		CO4	Design the AC to variable AC controlled converter and DC to variable DC (Choppers) and analyze with specific loads.
		CO5	Apply the concepts of Power electronics and resonance for resonant converters and evaluate suitable protection circuits for power devices.
		CO6	Apply the concepts of power electronics for industrial applications and energy efficient systems.
		CO7	Perform the experiments on Power Electronics Converters in a team and as an individual using appropriate engineering tools. Comprehend and write laboratory record following academic ethics and draw conclusions at technical level.
304196	Mini Project & Seminar	CO1	Understand, plan and execute a Mini Project with team
		CO2	Implement electronic hardware by learning PCB artwork design, soldering techniques, Trouble shooting
		CO3	Understand budget planning for the project
		CO4	Prepare a technical report and Deliver technical seminar based on the Mini Project work carried out