

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER
DEPARTMENT OF ELECTRONICS ENGINEERING
COURSE OUTCOMES (CO)
SE 2012 Course

Signals and Systems (204191), SE-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand the basic signals and their classification, perform operations on signals.
2	Understand and identify the systems based on their properties
3	Understand, identify the system based on their properties in terms impulse response and also solve the convolution integral and sum.
4	Understand, and resolve the signals in frequency domain using Fourier series and Fourier transform. Find the amplitude spectrum, phase spectrum of the various signals and also systems. Analyze the system in frequency domain
5	Understand, and resolve the signals in complex frequency domain using Laplace Transform. Analyze the system in s – domain. Characterize the system in s- domain. Apply Laplace transforms to analyze electrical circuits.
6	Understand, apply and determine the corrollogram, auto correlation, cross correlation, energy spectral density, and power spectral density of discrete and continuous signals. Carry out the system analysis and inter play between frequency and time domain
7	Understand the basic concept of probability, random variables and random signals. Calculate the CDF, PDF and probability of a given event. Calculate the mean, mean square, variance and standard deviation for given random variables using pdf.

Electronic Devices & Circuits (204182) SE-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand and apply basic and semiconductor principles to the device to observe its performance.
2	Comply and verify parameters after exciting devices by any stated method.
3	Simulate electronics circuits using computer simulation software to obtain desired results.
4	Understand and verify simulated circuit with hardware implementation
5	Implement hardwired circuit to test performance and application for what it is being designed
6	Analyze and model BJT and MOSFET for small signal.
7	Understand and apply concept of feedback to improve stability of circuits.
8	Understand behavior of transistors at low and high frequency.

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Network Theory (204183) SE-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand, Analyze the basic AC and DC circuits using KCL,KVL and network Theorems
2	Determine the voltages, currents, power and impedances at various nodes and loops using all the simplification techniques.
3	Understand and apply graph theory to solve network equations
4	Understand, and calculate the initial conditions of RL, RC circuits
5	Formulate, solve the differential equations for RL, RC, and RLC circuits and carry out the transient analysis..
6	Understand, identify and analyze the series, parallel resonance circuits, calculate the bandwidth, selectivity, Q-factor also.
7	Understand, analyze and design prototype LC filters and Resistive attenuators.
8	Characterize; model the network in terms of all network parameters and analyze.
9	Understand and formulate the network transfer function in s-domain and pole, zero concept

Data structures & Algorithms (204184)SE-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Choose the data structures that effectively model the information in a problem.
2	Judge efficiency trade-offs among alternative data structure implementations or combinations.
3	Apply algorithm analysis techniques to evaluate the performance of an algorithm and to compare data structures.
4	Implement and know when to apply standard algorithms for searching and sorting.
5	Design, implement, test, and debug programs using a variety of data structures including lists, stacks, queues, hash tables, binary tree structures, search trees, heaps, graphs.

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Digital Electronics(204185) SE-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand the basic logic gates and various variable reduction techniques of digital logic circuit in detail.
2	Understand, identify and design combinational and sequential circuits
3	Design and implement hardware circuit to test performance and application for what it is being designed.
4	Simulate and verify using computer simulation software to obtain desired result.
5	Understand and verify simulated circuit model with hardware implementation.

Electronic Measuring Instruments & Tools (204186), SE- Sem.-III

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand fundamental of measurements of various electrical parameters.
2	Aware and identify the control panels of measuring and generating instruments.
3	Understand and describe specifications, features and capabilities of electronic instruments.
4	Select appropriate instrument for the measurement of electrical parameter professionally.
5	Finalize the specifications of instrument and select an appropriate instrument for given measurement.
6	Make the required measurement using various instruments.

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Integrated Circuits (204187), SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand the characteristics of IC and Op-Amp and identify the internal structure.
2	Understand and identify various manufacturing techniques.
3	Derive and determine various performances based parameters and their significance for OpAmp.
4	Comply and verify parameters after exciting IC by any stated method.
5	Analyze and identify the closed loop stability considerations and I/O limitations.
6	Analyze and identify linear and nonlinear applications of Op-Amp.
7	Understand and verify results (levels of V & I) with hardware implementation.
8	Implement hardwired circuit to test performance and application for what it is being designed.
9	Understand and apply the functionalities of PLL to Frequency synthesizer, multiplier, FM, and AM demodulators

Control Systems (204188) , SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Model a physical system and express its internal dynamics and input-output relationships by means of block diagrams, mathematical model and transfer functions.
2	Understand and explain the relationships between the parameters of a control system and its stability, accuracy, transient behavior
3	Identify the parameters that the system is sensitive to. Determine the stability of a system and parameter ranges for a desired degree of stability.
4	Plot the Bode, Nyquist, Root Locus diagrams for a given control system and identify the parameters and carry out the stability analysis.
5	Determine the frequency response of a control system and use it to evaluate or adjust the relative stability,
6	Design a P, PD, PI, or PID controller based on the transient and steady state response criteria.
7	Model and analyze the control systems using state space analysis.

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Analog Communication (204189) , SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand and identify the fundamental concepts and various components of analog communication systems.
2	Understand, analyze and explain various analog modulation schemes
3	Understand the performance of analog communications systems under the presence of noise..
4	Understand and apply concepts and techniques from Fourier analysis and circuit analysis to communication systems.
5	Develop the ability to compare and contrast the strengths and weaknesses of various communication systems
6	Analyze Basic communications systems and their performance under the presence of noise
7	Describe various pulse and digital modulation techniques

Computer Organization (204190) , SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Understand and describe the basic structure of a computer, machine instruction and their execution..
2	Understand and analyze performance issues in computer system.
3	Understand, apply and carry out binary arithmetic operations such as high speed addition, multiplier including the algorithms
4	Understand, and explain the instruction execution, internal functions of processor and control unit design.
5	Understand and describe the various way of communication with I/O devices and standard I/O interfaces.
6	Understand and describe the memory organization and hierarchical memory system.
7	Understand and explain the various aspects of 8086 (16 bit microprocessor) processor as a case study

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Object Oriented Programming(204191) , SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Justify the philosophy of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism;
2	Design, implement, test, and debug simple programs in an object-oriented programming language.
3	Describe how the class mechanism supports encapsulation and information hiding.
4	Design, implement, and test the implementation of “is-a” relationships among objects using a class hierarchy and inheritance.
5	Compare and contrast the notions of overloading and overriding methods in an object-oriented language.

Soft Skills(204192) , SE-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description
1	Communicate, interact and present his ideas to the other professionals.
2	Understand and aware of importance, role and contents of soft skills through instructions, knowledge acquisition, demonstration and practice
3	Have right attitudinal and behavioral aspects, and build the same through activities.
4	Possess right professional and social ethical values.