

B-TECH Electronics & Communication Engineering

COURSE COURSE COMES

SEM 2-2

Control Systems Engg

- CO 1:** Demonstrate an understanding of the fundamentals of (feedback) control systems.
- CO 2:** Determine and use models of physical systems in forms suitable for use in the analysis and design of control systems.
- CO 3:** Express and solve system equations in state variable form (state variable models).
- CO 4:** Determine the time and frequency domain responses of first and second order systems to step and sinusoidal (and to some extent, ramp) inputs.

Electro Magnetic Theory and Transmission Lines

- CO 1:** EM waves will propagate in free space and their characteristics at the boundary between media.
- CO 2:** Students are familiar with the characteristics of transmission lines and their equivalent circuits at UHF.
- CO 3:** Students able to learn Maxwell's equations to understand boundary conditions of time varying fields.
- CO 4:** Able to learn parameters and transmission line equations.
- CO 5:** Analyze electromagnetic wave propagation and attenuation in various medium and propagation through boundaries between media

Electronic Circuit Analysis

- CO 1:** Analyze various transistor amplifier circuits and their freq responses at low, mid and high frequencies.

CO 2: Analyze the concepts of both positive and negative feedback in electronic circuits.

CO 3: Design, construct & analyze oscillator circuits to generate signals in various frequency ranges

Digital Design using verilog HDL

CO 1: Able to design, simulate, and synthesize computer hardware using the Verilog hardware description language.

CO 2: Able to develop program codes for gate level and data flow modeling of combinational and sequential logic using Verilog HDL in any problem identification, formulation and solution.

CO 3: Able to develop program codes for behavioral modeling of combinational and sequential logic using Verilog HDL in any problem identification, formulation and solution.

CO 4: Able to develop program codes for circuit level modeling using Verilog HDL

Pulse and Digital Circuits

CO 1: Ability to understand, design and demonstrate generation of pulse wave with non linear and linear elements

CO 2: To design a flip flop, free running multi vibrators.

CO 3: Can work with synchronization and time base generators.

CO 4: Students can design basic gates using transistors and diodes.

Environmental Science

CO 1: Explain the natural resources and their management.

CO 2: Understanding the Classification and functioning of Ecosystems.

CO 3: Remembering the Importance of biodiversity and its conservation.

CO 4: Understanding the problems related to environmental pollution and management.

Principles of Electrical Engg

CO 1: basics of the transient response of RL, RC and RLC configurations, different types of parameters and interconnection of two port networks in series and parallel configuration, different types of filters and attenuators, the mechanics of DC machines, motors, alternators, induction motors and other supplementary equipments and the characteristics of single phase transformers

CO 2: To explain the mechanics of DC Machines, Motors, Transformers, Induction Motors, Alternators & other supplementary equipments

CO 3: Ability to understand transient response of RL and RC series configurations.

CO 3: Able to understand characteristics of a single phase transformer IV. Able to learn different types of parameters and interconnection of two port network in series and parallel configurations

CO 4: Able to learn different configurations of filters and symmetrical attenuation