C211 Engineering Mathematics-III – Course Outcomes

At the end of this course, Students will be able to,

C211.1	Solve the higher order linear differential equation related to electrical circuit theory
C211.2	Apply Laplace and inverse Laplace transforms for analysis of simple electrical circuit.
C211.3	Express the function in terms of sine and cosines components so as to model simple periodic function.
C211.4	Exhibits knowledge of Z- transform and its properties
C211.5	Find the relation between bivariate data using regression and explain various probability distribution functions
C211.6	Solve nonlinear equations and simultaneous linear equations by numerical methods.

C212 Electronic Circuit Analysis & Design I– Course Outcomes

At the end of this course, Students will be able to,

C212.1	Describe characteristics of Diode, Zener diode & transistor
C212.2	Explain working of diode application circuits such as Clippers, Clampers, and Voltage multipliers
C212.3	Analyze different diode application circuits & transistor biasing circuits
C212.4	Design and implement unregulated power supply, single stage CE transistor amplifier and transistor as switch
C212.5	Describe JFET as switch, VVR and amplifier
C212.6	Develop ability to participate and succeed in competitive examinations.

C213 Network Theory & Analysis - Course Outcomes

At the end of this course, Students will be able to,

C213.1	Analyze linear circuit with use of different network theorems and analysis methods.
C213.2	Compute two port network parameters and draw equivalent network.
C213.3	Determine response of transient and steady state linear circuits.
C213.4	Design passive filter and attenuator circuits.

C214 Digital Techniques – Course Outcomes
At the end of this course, Students will be able to,

C214.1	Explain and design combinational logic circuit using logic gates.
C214.2	Demonstrate the use and significance of Logic IC families in digital circuits.
C214.3	Design and implement asynchronous and synchronous logic circuits using flip flop.
C214.4	Design synchronous state machine.
C214.5	Use memory and programmable logic devices for designing logic circuits.

C215 Analog Communication – Course Outcomes
At the end of this course, Students will be able to,

C215.1	Analyze various analog modulation & demodulation techniques.
C215.2	Differentiate Nosie and calculate performance measures like Signal to noise ratio, Nosie Figure etc.
C215.3	Illustrate the concept of super-heterodyne receiver & Telephone systems and terms associated with it.
C215.4	Interpret results by applying MATLAB software tools for AM & FM generation technique.

C216 Electronic Software Lab-I – Course Outcomes
At the end of this course, Students will be able to,

C216.1	Implement arrays and structures.
C216.2	Use string library functions and array of string.
C216.3	Implement dynamic memory allocation.

C221 Electronic Circuit Analysis & Design-II – Course Outcomes

At the end of this course, Students will be able to,

C221.1	Apply concept of Negative feedback and positive feedback for amplifier design.
C221.2	Design regulated power supply and waveform generation circuits using IC555
C221.3	Analyze multistage amplifier, feedback amplifier and regulator circuits

C222 Data structures using 'C' – Course Outcomes

At the end of this course, Students will be able to,

C222.1	Develop knowledge of basic data structures for storage and retrieval of ordered or unordered data.
C222.2	Develop knowledge of applications of data structures including the ability to implement algorithms for the basic operations.
C222.3	Manage the data efficiently to make the appropriate use of a particular data structure and algorithm to solve a problem.
C222.4	Analyze and compare algorithms for efficiency using Big-O notation.

C223 Control Systems – Course Outcomes

At the end of this course, Students will be able to,

C223.1	Classify control systems.
C223.2	Explain application of control system components.
C223.3	Represent the electrical system mathematically.
C223.4	Find transfer function of a system using signal flow graph and block diagram reduction methods.
C223.5	Decide system stability using RH criteria, Bode Plot & root locus techniques.
C223.6	Calculate time and frequency domain specifications.
C223.7	Identify need for compensation technique and select particular technique for stabilizing system performance.

C224 Linear Integrated Circuits – Course Outcomes

At the end of this course, Students will be able to,

C224.1	Explain working of op amp and characteristics of ideal and practical op amp.
C224.2	Describe frequency response of op amp.
C224.3	Analyze different linear and non linear applications of op amp.
C224.4	Design first and second order active filter and can analyze waveform generators.
C224.5	Describe monolithic PLL and its applications.

C225 Signals & Systems – Course Outcomes

At the end of this course, Students will be able to,

C225.1	Represent different signals and systems mathematically.
C225.2	Realize the properties of LTI systems and classify them.
C225.3	Use the concept of sampling theorem to explain aliasing phenomena in the real time applications.
C225.4	Analyze LTI systems using properties of various Transformation Techniques (Z-Transform, Fourier Transform).

C226 Electronic Software Lab II – Course Outcomes

At the end of this course, Students will be able to,

C226.1	Use electronic circuit design software.
C226.2	Use signal processing toolbox for signal processing application.
C226.3	Design PCB using PCB designing software which is the production domain for various small firmwares.

C311 Electromagnetic Engineering & Radiating System – Course Outcomes
At the end of this course, Students will be able to,

C311.1	Derive basic laws of electrostatic and magnetostatic.
C311.2	Apply laws of electrostatic and magnetostatic to evaluate field intensities at a given point.
C311.3	Analyze Maxwell's Equations and derive wave equations to interpret Electromagnetic waves and wave propagation.
C311.4	Explain radiating systems using fundamentals of electromagnetics.

C312 Principles of Digital Communication – Course Outcomes
At the end of this course, Students will be able to,

C312.1	Solve and analyze problems related to information theory and entropy coding and will be able to explain the principle of multichannel and multicarrier system.
C312.2	Describe different pulse and binary, M-ary digital modulation / demodulation methods with their performance analysis and define filters and synchronization methods for demodulation techniques.
C312.3	Demonstrate pulse and digital modulation / demodulation methods such as PAM, PTM, PCM, DM, ASK, FSK, PSK and QPSK.
C312.4	Explicate the concept of baseband data transmission systems and methods and terms associated with it.

C313 Software Engineering & Project Management System – Course Outcomes
At the end of this course, Students will be able to,

C313.1	Interpret software processes and their representations.
C313.2	Provide details about different tasks of project managers and its need for Project planning in Project completion.
C313.3	Work in multidisciplinary project as a part of team.
C313.4	Evaluate resource overlapping problem and monitor progress of software project.
C313.5	Collect specifications from customer and test the same after development.

C314 Digital Signal Processing – Course Outcomes
At the end of this course, Students will be able to,

C314.1	Interpret the concept of stability in the DSP system
C314.2	Analyze the given signal and convert time domain to frequency domain and vice versa using FT and Z transforming tools.
C314.3	Draw the structure for realization of a given system.
C314.4	Design FIR and IIR filters.
C314.5	Describe audio, Telecommunication and Image Processing applications of DSP.

C315 Microprocessors– Course Outcomes
At the end of this course, Students will be able to,

C315.1	Describe functions of various components of personnel computer.
C315.2	Use different hardware interfacing of peripherals.
C315.3	Acquire assembly language programming skills required for interfacing peripherals.
C315.4	Develop a foundation that can be the basis to learn latest microprocessor architectures.

C316 Electronic Software Lab-II – Course Outcomes
At the end of this course, Students will be able to,

C316.1	Analyze simple C++ Program.
C316.2	Implement object oriented programming for data manipulation.
C316.3	Solve problems related to object oriented concepts.

C321 Radar and Microwave Engineering – Course Outcomes
At the end of this course, Students will be able to,

C321.1	Evaluate different parameters of transmission line and derive transmission line equations.
C321.2	Analyze various active and passive microwave components and can evaluate their parameters.
C321.3	Explain principle of working of solid state microwave devices.
C321.4	Describe the principle of Radar and types of Radars.

C322 Microcontrollers & Applications – Course Outcomes
At the end of this course, Students will be able to,

C322.1	Describe the fundamental features and operation of contemporary microcontroller.
C322.2	Identify memory organization of a microcontroller and Illustrate microcontroller memory and peripherals expansion capability.
C322.3	Analyze the program for time and code complexity.
C322.4	Develop assembly language source code for applications that use I/O ports, timer and single/multiple interrupts.

C323 Electronics Applications & System Design– Course Outcomes
At the end of this course, Students will be able to,

C323.1	Describe construction, working & characteristics of SCR, TRIAC& DIAC.
C323.2	Analyze AC and DC power control circuits using SCR, TRIAC& DIAC.
C323.3	Design and implement timers, frequency counters, digital voltmeters and frequency synthesizers.
C323.4	Design and implement Communication system components for system design.
C323.5	Design control systems for industrial applications.

C324 Optical Communication – Course Outcomes
At the end of this course, Students will be able to,

C324.1	Describe and analyze and compare the different optical sources and detector.
C324.2	Analyze and solve problems based on ray theory and transmission characteristics.
C324.3	Describe the optical losses characteristic in optical fiber such as dispersion, scattering, absorption, non-linear effects, fiber alignment and splicing that effect the performance of transmission system.
C324.4	Describe the fiber optical network components, variety of networking aspects and operational principles WDM.

C325 Mobile Communication – Course Outcomes
At the end of this course, Students will be able to,

C325.1	Familiar about how cellular systems work and handoff strategies are implemented in mobile communication.
C325.2	Explain frequency reuse concept and can apply different techniques for improving coverage and capacity
C325.3	Analyze various losses in mobile radio propagation and gather knowledge of how multiple access scheme share radio spectrum.
C325.4	Describe 3G GSM in detail with architecture, protocol, signal processing and security
C325.5	Evaluate CDMA technique and can describe IS 95 block diagram and channels. Also define forward and reverse channels of WCDMA

C326 Mini Project (Hardware) – Course Outcomes
At the end of this course, Students will be able to,

C326.1	Simulate various electronic circuits using software tools
C326.2	Design PCB layouts and implement small electronic circuits
C326.3	Fabricate, test and analyze the designed hardware

C327B Operating System (Self Learning) – Course Outcomes
At the end of this course, Students will be able to,

C327.1	Explain the objective and functions of modern operating systems.
C327.2	Describe how computing resources are used by application software in an operating system.
C327.3	Analyze the common algorithms used for various tasks in operating systems.

C411: Computer Communication Network – Course Outcomes

At the end of this course, Students will be able to,

C411.1	Describe Computer Communication Networks.
C411.2	Differentiate the various types of network configurations
C411.3	Identify and describe network devices and standards.
C411.4	Explain local area networks, internet, protocols and applications

C412 VLSI Design – Course Outcomes

At the end of this course, Students will be able to,

C412.1	Explain the VHDL programming concepts and working of EDA tools.
C412.2	Design, implement and analyze combinational and sequential logic circuits using VHDL and EDA Tools.
C412.3	Explicate CMOS logic and characteristics and design combinational circuits using CMOS logic.
C412.4	Describe detail architecture of commercial devices and implement real time applications.

C413 Satellite Communication – Course Outcomes

At the end of this course, Students will be able to,

C413.1	Explain satellite communication and its orbital mechanism.
C413.2	Estimate link budget using uplink and downlink frequency used for satellite communication system.
C413.3	Compare FSS, BSS, MSS, single frequency station and Gateway station earth stations.
C413.4	Describe different types of orbits.
C413.5	Analyze position location of GPS system.

C414 Coding theory – Course Outcomes

At the end of this course, Students will be able to,

C414.1	Solve Problems related to Probability, linear block code, cyclic code
C414.2	Find solution for cyclic coding and decoding
C414.3	Analyze coder and decoder for linear block code, cyclic codes and convolution codes
C414.4	Compare linear block code, cyclic code and convolution codes
C414.5	Design coder and decoder for linear block code, cyclic codes and convolution codes

C415B Image Processing– Course Outcomes

At the end of this course, Students will be able to,

C415B.1	Apply mathematical concepts for Digital Image Processing.
C415B.2	Enhance images using computer programming skills, ideas and techniques.
C415B.3	Analyze the system which is not limited to the solution of specialized problems.
C415B.4	Develop a foundation that can be used as the basis for further study and research.

C416 Seminar & Project – Course Outcomes

At the end of this course, Students will be able to,

C416.1	Select a project after thorough literature survey which is satisfying societal and environmental needs that helps to sustainable development.
C416.2	Prepare a plan for realization of project and calculate approximate budget of the project
C416.3	Apply engineering knowledge and can design hardware and software architecture of the project.
C416.4	Communicate effectively to the society through synopsis, seminar and seminar report.
C416.5	Demonstrate presentation skills.

C417 Vocational Training– Course Outcomes

At the end of this course, Students will be able to,

C417.1	Get exposure to industrial environment and practices and undertakes suitable project based on the learning in vocational training and successfully completes it.
C417.2	Write vocational training report
C417.3	Demonstrates presentation skills
C417.4	Use programming / simulation software and presentation tools

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C421 Broadband Communication– Course Outcomes
At the end of this course, Students will be able to,

C421.1	Describe the principle and working of Switching techniques, X.25, Frame relay.
C421.2	Explicate network protocols, architectures, services of ISDN, BISDN and ATM.
C421.3	Explain ATM switching principles and working of switching blocks.

C422 Multimedia communication Technique – Course Outcomes
At the end of this course, Students will be able to,

C422.1	Explain the concepts of disc recording and reproduction
C422.2	Draw the block diagram and explain each block of color television transmitter and receiver.
C422.3	Describe multimedia information system.
C422.4	Describe audio and video compression Techniques

C423 Embedded System – Course Outcomes
At the end of this course, Students will be able to,

C423.1	Give details of design challenges for embedded system development.
C423.2	Explain ARM core architecture, bus architecture and instruction set.
C423.3	Write, execute and evaluate programs for ARM processor and interfacing I/O devices.
C423.4	Explain various functions of operating system.

C424B Pattern Recognition– Course Outcomes
At the end of this course, Students will be able to,

C424B.1	Implement various pattern recognition tasks & techniques.
C424B.2	Apply the basic knowledge about neural network & Fuzzy technique.
C424B.3	Gain knowledge about unsupervised learning and clustering concepts & case studies

C425 Project – Course Outcomes

At the end of this course, Students will be able to,

C425.1	Apply design concepts for realization of project.
C425.2	Plan for management and financial aspects of the project
C425.3	Demonstrate leadership and team working behavioral skills and function effectively in multidisciplinary fields.
C425.4	Communicate effectively to the society through project and project reports.
C425.5	Demonstrate presentation skills.
C425.6	Use programming / simulation software and presentation, word processing software at various stages of project.