

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 – Course Outcomes

I YEAR-I SEM

C101	ENGLISH	C101.1	Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
		C101.2	Ask and answer general questions on familiar topics and introduce oneself/others
		C101.3	Employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information
		C101.4	Recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs
		C101.5	Form sentences using proper grammatical structures and correct word forms
C102	MATHEMATIC I	C102.1	Utilize Mean Value Theorems To Real Life Problems
		C102.2	Solve The Differential Equations Related To Various Engineering Fields
		C102.3	Familiarize With Functions Of Several Variables Which Is Useful In Optimization
		C102.4	Apply Double Integration Techniques In Evaluating Areas Bounded By Region
		C102.5	Students Will Also Learn Important Tools Of Calculus In Higher Dimensions. Students Will Become Familiar With 2- Dimensional And 3-Dimensional Coordinate Systems
C103	MATHEMATICS-II	C103.1	Develop the use of matrix algebra techniques that is needed by engineers for practical applications
		C103.2	Solve system of linear algebraic equations using Gauss elimination, Gauss Jordan, Gauss Seidel
		C103.3	Evaluate the approximate roots of polynomial and transcendental equations by different algorithms
		C103.4	Apply Newton's forward & backward interpolation and Lagrange's formulae for equal and unequal intervals
		C103.5	Apply numerical integral techniques to different Engineering problems
		C103.6	Apply different algorithms for approximating the solutions of ordinary differential equations with initial conditions to its analytical computations
C104	PPS USING C	C104.1	To write algorithms and to draw flowcharts for solving problems
		C104.2	To convert flowcharts/algorithms to C Programs, compile and debug programs
		C104.3	To use different operators, data types and write programs that use two-way/ multi-way selection
		C104.4	To select the best loop construct for a given problem
		C104.5	To design and implement programs to analyze the different pointer applications
		C104.6	To decompose a problem into functions and to develop modular reusable code
		C104.7	To apply file I/O operations

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C105	EEW	C105.1	Explain the limitations, tolerances, safety aspects of electrical systems and wiring.
		C105.2	Select wires/cables and other accessories used in different types of wiring.
		C105.3	Make simple lighting and power circuits.
		C105.4	Measure current, voltage and power in a circuit.
C106	PPSUSING C LAB	C106.1	Gains Knowledge on various concepts of a C language.
		C106.2	Draw flowcharts and write algorithms.
		C106.3	Design and development of C problem solving skills.
		C106.4	Design and develop modular programming skills.
		C106.5	Trace and debug a program

I YEAR-II SEM

C111	MATHEMATICS III	C111.1	Interpret the physical meaning of different operators such as gradient, curl and divergence
		C111.2	Estimate the work done against a field, circulation and flux using vector calculus
		C111.3	Apply the Laplace transform for solving differential equations
		C111.4	Find or compute the Fourier series of periodic signals
		C111.5	Know and be able to apply integral expressions for the forwards and inverse Fourier transform to a range of non-periodic waveforms
		C111.6	Identify solution methods for partial differential equations that model physical processes
C112	APPLIED PHYSICS	C112.1	Understand the basic concepts of LASER light Sources
		C112.2	Apply the concepts to learn the types of lasers
		C112.3	Identifies the Engineering applications of lasers
		C112.4	Explain the working principle of optical fibers
		C112.5	Classify optical fibers based on refractive index profile and mode of propagation
		C112.6	Identify the applications of optical fibers in various fields
C113	DATA STRUCTURES THROUGH C	C113.1	Data structures concepts with arrays, stacks, queues.
		C113.2	Linked lists for stacks, queues and for other applications.
		C113.3	Traversal methods in the Trees.
		C113.4	Various algorithms available for the graphs.
		C113.5	Sorting and searching in the data ret retrieval applications.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C114	ELECTRICAL CIRCUIT ANALYSIS -I	C114.1	Various electrical networks in presence of active and passive elements.
		C114.2	Electrical networks with network topology concepts.
		C114.3	Any magnetic circuit with various dot conventions.
		C114.4	Any R, L, C network with sinusoidal excitation.
		C114.5	Any R, L, network with variation of any one of the parameters i.e., R, L, C and f.
		C114.6	Electrical networks by using principles of network theorems.
C115	BC&ME	C115.1	Apply Shear force diagram & Bending moment diagram principles for Cantilever and Simply supported beams.
		C115.2	Apply concepts of Rosette analysis for strain measurements.
		C115.3	Analyse the characteristics of common building materials.
		C115.4	Compare the working characteristics of Internal Combustion engines
		C115.5	Compare the differences between boiler mountings and accessories.
C116	BC& ME LAB	C116.1	Solve to arrive at finding constant speed and variable speed on IC engines and interpret their performance.
		C116.2	Estimate energy distribution by conducting heat balance test on IC engines
		C116.3	Determine flow discharge measuring device used in pipes channels and tanks.
		C116.4	Explain procedure for standardization of experiments.
		C116.5	Determine fluid and flow properties.
		C116.6	Solve for drag coefficients.
		C116.7	Test for the performance of pumps and turbines
C117	DST LAB	C117.1	Be able to design and analyze the time and space efficiency of the data structure.
		C117.2	Be capable to identify the appropriate data structure for given problem.
		C117.3	Have practical knowledge on the applications of data structures.
C118	DST LAB	C118.1	Understand the concept of Indian constitution
		C118.2	Apply the knowledge on directive principle of state policy
		C118.3	Analyze the History, features of Indian constitution
		C118.4	Analyze the History, features of Indian constitution

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes
II YEAR-I SEM

C201	MATHEMATICS IV	C201.1	Apply Cauchy-Riemann equations to complex functions in order to determine whether a given continuous function is analytic
		C201.2	Find the differentiation and integration of complex functions used in engineering problems
		C201.3	Make use of the Cauchy residue theorem to evaluate certain integrals
		C201.4	Apply discrete and continuous probability distributions
		C201.5	Design the components of a classical hypothesis test
		C201.6	Infer the statistical inferential methods based on small and large sampling tests
C202	ELECTRONIC DEVICES AND CIRCUITS	C202.1	Understand the basic concepts of semiconductor physics.
		C202.2	Understand the formation of p-n junction and how it can be used as a p-n junction as diode in different modes of operation.
		C202.3	Know the construction, working principle of rectifiers with and without filters with relevant expressions and necessary comparisons.
		C202.4	Understand the construction, principle of operation of transistors, BJT and FET with their V-I characteristics in different configurations.
		C202.5	Know the need of transistor biasing, various biasing techniques for BJT and FET and stabilization concepts with necessary expressions.
		C202.6	Perform the analysis of small signal low frequency transistor amplifier circuits using BJT and FET in different configurations.
C203	ELECTRICAL CIRCUIT ANALYSIS -	C203.1	Understand the concepts of balanced and unbalanced three-phase circuits.
		C203.2	Know the transient behavior of electrical networks with DC excitations.
		C203.3	Learn the transient behavior of electrical networks with AC excitations.
		C203.4	Estimate various parameters of a two port network
		C203.5	Understand the significance of filters in electrical networks.
C204	ELECTRO MAGNETIC FIELDS	C204.1	Compute electrical field and potentials using Gauss law or solve laplace's or poisson's equations for various electric charge distributions.
		C204.2	Calculate the capacitance and energy stored in dielectrics.
		C204.3	Calculate the magnetic field intensity due to current carrying conductor and understanding the application of Ampere's law, Maxwell's second and third law.
		C204.4	Estimate self and mutual inductances and the energy stored in the magnetic field.
		C204.5	Understand the concepts of displacement current and Poynting theorem and Poynting vector

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C205	EC LAB	C205.1	Apply various theorems
		C205.2	Determination of self and mutual inductances
		C205.3	Two port parameters of a given electric circuits
		C205.4	Draw locus diagrams
		C205.5	Draw locus diagrams
C206	DCM&T LAB	C206.1	Determine and predetermine the performance of DC machines and Transformers.
		C206.2	Control the speed of DC motor.
		C206.3	Obtain three phase to two phase transformation.
C207	ED&C LAB	C207.1	Analyze the characteristics of diodes, transistors and other devices
		C207.2	Design and implement the rectifier circuits, SCR and UJT in the hardware circuits.
		C207.3	Design the biasing and amplifiers of BJT and FET amplifiers
		C207.4	Measure electrical quantities using CRO in the experimentation.
C208	SOC	C208.1	Write the MATLAB programs to simulate the electrical circuit problems
		C208.2	Simulate various circuits for electrical parameters
		C208.3	Simulate various wave form for determination of wave form parameters
		C208.4	Simulate RLC series and parallel resonance circuits for resonant parameters
		C208.5	Simulate magnetic circuits for determination of self and mutual inductances
C209	PE & HV	C209.1	Identify and analyze an ethical issue in the subject matter under investigation or in a relevant field
		C209.2	Identify the multiple ethical interests at stake in a real-world situation or practice
		C209.3	Articulate what makes a particular course of action ethically defensible
		C209.4	Assess their own ethical values and the social context of problems
		C209.5	Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects
		C209.6	Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects
		C209.7	Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes
II YEAR-II SEM

C211	PYTHON PROGRAMMING	C211.1	Develop essential programming skills in computer programming concepts like data types, containers
		C211.2	Apply the basics of programming in the Python language Solve coding tasks related
		C211.3	Conditional execution, loops
		C211.4	Solve coding tasks related to the fundamental notions and techniques used in object- oriented programming
C212	Digital Electronics	C212.1	Classify different number systems and apply to generate various codes.
		C212.2	Use the concept of Boolean algebra in minimization of switching functions
		C212.3	Use the concept of Boolean algebra in minimization of switching functions Design different types of combinational logic circuits.
		C212.4	Apply knowledge of flip-flops in designing of Registers and counters
		C212.5	The operation and design methodology for synchronous sequential circuits and algorithmic state machines.
C213	POWER SYSTEMS -I	C213.1	Identify the different components of thermal power plants.
		C213.2	Identify the different components of thermal power plants.
		C213.3	Identify the different components of air and gas insulated substations.
		C213.4	Identify the different components of air and gas insulated substations.
		C213.5	Analyse the different economic factors of power generation and tariffs.
C214	ISM	C214.1	Assess the performance of single phase and three phase induction motors.
		C214.2	Control the speed of three phase induction motor.
		C214.3	Predetermine the regulation of three phase alternator by various methods.
		C214.4	Find the X_d / X_q ratio of alternator and asses the performance of three phase synchronous motor.
		C214.5	Determine the performance of single phase AC series motor.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C215	DE LAB	C215.1	Learn the basics of gates, filp-flops and counters.
		C215.2	Construct basic combinational circuits and verify their functionalities
		C215.3	Apply the design procedures to design basic sequential circuits
		C215.4	To understand the basic digital circuits and to verify their operation
		C215.5	Apply Boolean laws to simplify the digital circuits.
C216	SOC	C216.1	Apply various technologies of Internet of Things to real time applications.
		C216.2	Apply various technologies of Internet of Things to real time applications.
		C216.3	Connect the devices using web and internet in the iot environment.
		C216.4	Implement iot to study Smart Home, Smart city, etc.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

III YEAR-I SEM

C301	POWER SYSTEMS II	C301.1	Calculate parameters of transmission lines for different circuit configurations.
		C301.2	Determine the performance of short, medium and long transmission lines.
		C301.3	Analyse the effect of travelling waves on transmission lines.
		C301.4	Analyse the various voltage control methods and effect of corona.
		C301.5	Calculate sag/tension of transmission lines and performance of line insulators.
C302	POWER ELECTRONICS	C302.1	Illustrate the static and dynamic characteristics of SCR, Power-MOSFET and Power-IGBT.
		C302.2	Analyse the operation of phase-controlled rectifiers.
		C302.3	Analyse the operation of three-phase fullwave converters, AC Voltage Controllers and Cycloconverters.
		C302.4	Examine the operation and design of different types of DC-DC converters.
		C302.5	Examine the operation and design of different types of DC-DC converters.
C303	CONTROL SYSTEMS	C303.1	Derive the transfer function of physical systems and determination of overall transfer function using block diagram algebra and signal flow graphs.
		C303.2	Determine time response specifications of second order systems and absolute and relative stability of LTI system using Routh's stability criterion and root locus method
		C303.3	Analyze the stability of LTI systems using frequency response methods.
		C303.4	Design Lag, Lead, Lag-Lead compensators to improve system performance using Bode diagrams.
		C303.5	Represent physical systems as state models and determine the response. Understand the concepts of controllability and observability.
C304	CS LAB	C304.1	Analyze the performance and working Magnetic amplifier, D.C and A.C. servo motors and synchros.
		C304.2	Design P,PI,PD and PID controllers
		C304.3	Design lag, lead and lag lead compensators
		C304.4	Evaluate temperature control of an oven using PID controller
		C304.5	Determine the transfer function of D.C Motor
		C304.6	Analyze the performance of D.C and A.C Servo Motor.
		C304.7	Test the controllability and observability.
		C304.8	Judge the stability in time and frequency domain.
		C304.9	To examine different logic gates and Boolean expressions using PLC.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C305	PE LAB	C305.1	Analyse characteristics of various power electronic devices and design firing circuits for SCR.
		C305.2	Analyse the performance of single phase dual, three converter with both resistive and inductive loads. phase full wave bridge converters and dual
		C305.3	Examine the operation of Single-phase AC voltage regulator and Cycloconverter with resistive and inductive loads.
		C305.4	Differentiate the working and control of Buck converter and Boost converter.
		C305.5	Differentiate the working & control of Square wave inverter and PWM inverter.
C306	EMPLOYABILITY SKILLS	C306.1	Follow strategies in minimizing time consumption in problem solving Apply shortcut methods to solve problems
		C306.2	Confidently solve any mathematical problems and utilize these mathematical skills both in their professional as well as personal life.
		C306.3	Analyze, summarize and present information in quantitative forms including table, graphs and formulas
		C306.4	Learn and demonstrate a set of practical skills such as time management, self-management, handling conflicts, team leadership, etc.
		C306.5	Understand the core competencies to succeed in professional and personal life

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes
III YEAR-II SEM

C311	MP & MC	C311.1	Know the concepts of the Microprocessor capability in general and explore the evaluation of microprocessors.
		C311.2	Analyse the instruction sets - addressing modes - minimum and maximum modes operations of 8086 Microprocessors
		C311.3	Analyse the Microcontroller and interfacing capability
		C311.4	Describe the architecture and interfacing of 8051 controller
		C311.5	Know the concepts of PIC micro controller and its programming.
C312	EM&I	C312.1	Know the construction and working of various types of analog instruments.
		C312.2	Describe the construction and working of wattmeter and power factor meters
		C312.3	Know the construction and working various bridges for the measurement resistance - inductance and capacitance
		C312.4	Know the operational concepts of various transducers
		C312.5	Know the construction and operation digital meters
C313	POWER SYSTEM ANALYSIS	C313.1	Draw impedance diagram for a power system network and calculate per unit quantities.
		C313.2	Apply the load flow solution to a power system using different methods.
		C313.3	Form Z_{bus} for a power system networks and analyse the effect of symmetrical faults
		C313.4	Find the sequence components for power system Components and analyse its effects of unsymmetrical faults.
		C313.5	Analyse the stability concepts of a power system.
C314	EM & I LAB	C314.1	Know about the phantom loading.
		C314.2	Learn the calibration process.
		C314.3	Measure the electrical parameters voltage - current - power - energy and electrical characteristics of resistance - inductance and capacitance.
		C314.4	Gain the skill knowledge of various brides and their applications.
		C314.5	Learn the usage of CT's – PT's for measurement purpose.
		C314.6	Know the characteristics of transducers.
		C314.7	Measure the strains - frequency and phase difference.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C315	MPMCLAB	C315.1	Write assembly language program using 8086 microprocessor based on arithmetic - logical - number systems and shift operations.
		C315.2	Write assembly language programs for numeric operations and array handling problems.
		C315.3	Write assembly language programs for numeric operations and array handling problems.
		C315.4	Interface 8086 with I/O and other devices.
		C315.5	Do parallel and serial communication using 8051 & PIC 18 micro controllers.
		C315.6	Program microprocessors and microcontrollers for real world applications.
C316	PS & S LAB	C316.1	Estimate the sequence impedances of 3-phase Transformer and Alternators
		C316.2	Evaluate the performance of transmission lines
		C316.3	Analyse and simulate power flow methods in power systems
		C316.4	Analyse and simulate stability studies of power systems
		C316.5	Analyse and simulate the performance of PI controller for load frequency control.
C317	MLP	C317.1	Illustrate and comprehend the basics of Machine Learning with Python
		C317.2	Demonstrate the algorithms of Supervised Learning and be able to differentiate linear and logistic regressions
		C317.3	Demonstrate the algorithms of Unsupervised Learning and be able to understand the clustering algorithms
		C317.4	Evaluate the concepts of binning, pipeline Interfaces with examples
		C317.5	Apply the sentiment analysis for various case studies
C318	RM	C318.1	Understand objectives and characteristics of a research problem
		C318.2	Analyze research related information and to follow research ethics.
		C318.3	Understand the types of intellectual property rights.
		C318.4	Analyze research related information and to follow research ethics.
		C318.5	Understand the new developments in IPR.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes
IV YEAR-I SEM

C401	DIGITAL SIGNALPROCESSING	C401.1	Know the concepts of Digital signal processing - frequency domain representation & z-transform.
		C401.2	Compute discrete Fourier transform and fast fourier transforms for different sequences.
		C401.3	Design IIR filters through analog filter approximation and basic structure of IIR filters.
		C401.4	Design FIR filters with window techniques and basic structure of FIR filters.
		C401.5	Learn the concepts of Multirate Signal Processing.
C402	R & DET	C402.1	Illustrate basic concepts of renewable and distributed sources
		C402.2	Demonstrate the components of wind energy conversion systems.
		C402.3	Model PV systems and analyse MPPT Techniques.
		C402.4	Illustrate the concept of Energy Production from Hydro - Tidal and Geothermal.
		C402.5	Distinguish between standalone and grid connected DG systems and design hybrid renewable energy systems.
C403	FACTS	C403.1	Know the concepts of facts controller and power flow control in transmission line.
		C403.2	Demonstrate operation and control of voltage source converter and know the concepts current source converter.
		C403.3	Analyse compensation by using different compensators to improve stability and reduce power oscillations in the transmission lines.
		C403.4	Know the concepts methods of compensations using series compensators.
		C403.5	Analyse operation of Unified Power Flow Controller (UPFC) and Interline power flow controller (IPFC).
C404	PSD	C404.1	Know the essential and operation of deregulated electricity market systems.
		C404.2	Learn about the different structure model.
		C404.3	Analyze various types of electricity market operational and control issues using new mathematical models.
		C404.4	Analyse LMP's wheeling transactions and congestion management.
		C404.5	Analyze impact of ancillary services.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C405	DBMS	C405.1	Illustrate the concept of databases, database management systems, database languages, database structures and their work
		C405.2	Apply ER modeling and Relational modeling for designing simple databases.
		C405.3	Summarize the concepts related to relational model and SQL and Write database queries using relational algebra and structured query language.
		C405.4	Design and develop databases from the real world by applying the concepts of Normalization.
		C405.5	Outline the issues associated with Transaction Management and Recovery, Tree Structured Indexing
C406	HEV	C406.1	Know the concept of electric vehicles and hybrid electric vehicles.
		C406.2	Familiar with different configuration of hybrid electric vehicles.
		C406.3	Choose an effective motor for EV and HEV application
		C406.4	Understand the power converters used in hybrid electric vehicles
		C406.5	Know different batteries and other energy storage systems.
C407	HVE	C407.1	Recognise the dielectric properties of gaseous materials used in HV equipment.
		C407.2	Differentiate the break down phenomenon in liquid and solid dielectric materials.
		C407.3	Acquaint with the techniques of generation of high AC and DC voltages
		C407.4	Getting the knowledge of measurement of high AC - DC - Impulse voltages and currents.
		C407.5	Acquaint with the techniques of generation of high Impulse voltages and currents.
C408	PLC&A	C408.1	To understand the various components of PLC systems and ladder diagrams.
		C408.2	To know the programming instructions and registers in the PLC.
		C408.3	To understand the use and applications of timer and counter functions.
		C408.4	To familiar the data handling function and this application.
		C408.5	To understand and implementation of analog operations and PID modules.
C409	PSOC	C408.1	Compute optimal load scheduling of Generators.
		C408.2	Formulate hydrothermal scheduling and unit commitment problem
		C408.3	Analyse effect of Load Frequency Control for single area systems
		C408.4	Analyse effect of Load Frequency Control for two area systems
		C408.5	Describe the effect of reactive power control for transmission lines.

VIGNAN'S NIRULA INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
R20 -CourseOutcomes

C410	SMPC	C410.1	Design and analyse the operation of non-isolated switch mode converters.
		C410.2	Analyze the operation of isolated switch mode converters.
		C410.3	Illustrate the operation of resonant converters.
		C410.4	Analyse the control schemes of converters and design transformer and inductor.
		C410.5	Model the converters and design controller for closed loop operation.
C411	AI	C411.1	Analyse different models of artificial neuron & Use learning methods of ANN.
		C411.2	Evaluate different paradigms of ANN.
		C411.3	Classify between classical and fuzzy sets.
		C411.4	Illustrate different modules of Fuzzy logic controller.
		C411.5	Apply Neural Networks and fuzzy logic for real-time applications.

IV YEAR-II SEM

C411	COMMUNICATION	C411.1	Understand the basics of communication system, analog and digital modulation techniques.
		C411.2	Apply the knowledge of digital electronics and understand the error control coding techniques.
		C411.3	Summarize different types of communication systems and its requirements.