	Second Year (Fourth Semester)
COURSE : C211	**ADVANCED ENGINEERING MATHEMATICS**
C211.1	Understand the concept of optimizations and solve the related problems.
C211.2	Formulate linear programming and solve the problems by appropriate methods.
C211.3	Get idea of Number theory and solve problems by respective methods.
C211.4	EquipthemfamiliarwithLaplacetransformandsolveInitialValueproblemandBoundaryValueProblem by Laplace transforms.
COURSE : C212	**TECHNICAL COMMUNICATION**
C212.1	To identify the objectives, nature, scope, role & responsibilities of a manager of a business undertaking
C212.2	To apply the knowledge of demand, demand elasticity & demand forecasting by using statistical techniques for any .
C212.3	To explain the relevance of cost behaviour analysis & costs that are useful for managerial decision making and Break .
C212.4	To differentiate & distinguish price and output decisions in different market structures i.e., perfect, monopoly, monopolis
C212.5	Students will be able to understand the economic aspect in terms of economic factor.
COURSE : C213	**MANAGERIAL ECONOMICS AND FINANCIAL ACCOUNTING**
C213.1	Student effectively will be able to handle importance of technical communication, Aspects of technical communication, forms of technical communication and identify other common methods of professional communication in their professional life.
C213.2	Basics of grammar, common error in writing and speaking, Study of advanced grammar, editing strategies to achieve appropriate technical style, Introduction to advanced technical communication.
C213.3	3 linguistic ability will get enhanced by Identifying key principles and delivery techniques of effective public speaking((Listening, speaking, writing, reading writing)

C213.4	Students will be able to understand the classification and measurement of low, medium and high resistance by different methods.
C213.5	Students will be able to understand the construction and working principle of various AC bridges.
COURSE : C214	**Analog Circuits**
C214.1	Understand the characteristics of diodes and transistors
C214.2	Design and analyze various rectifier and amplifier circuits
C214.3	Design sinusoidal and non-sinusoidal oscillators
C214.4	Understand the functioning of OP-AMP and design OP- AMP based circuits
C214.5	To analyze the concept of Synchronous Motors
COURSE :C215	**Microcontrollers**
C215.1	Develop assembly language programming skills
C215.2	Able to build interfacing of peripherals like, I/O, A/D, D/A, timer etc
C215.3	Develop systems using different microcontrollers.
C215.4	Explain the concept of memory organization
C215.5	Understand RSIC processors and design ARM microcontroller based systems.
COURSE : C216	**Electronics Measurement & Instrumentation**
C216.1	Develop assembly language programming skills.
C216.2	ble to build interfacing of peripherals like, I/O, A/D, D/A, timer etc.
C216.3	Develop systems using different microcontrollers.
C216.4	Explain the concept of memory organization
C216.5	Analyze the systems using Laplace transform and Z-transform
COURSE : C217	**Analog and Digital Communication**
C217.1	Analyze and compare different analog modulation schemes for their efficiency and bandwidth.
C217.2	Analyze the behavior of a communication system in presence of noise
C217.3	Investigate pulsed modulation system and analyze their system performance
C217.4	Analyze different digital modulation schemes and can compute the bit error performance
C217.5	Students will be able to understand analyze and design various sequential circuits.
COURSE : C218	**Microcontrollers Lab**
C218.1	Develop skills related to assembly level programming of microprocessors and microcontroller..
C218.2	Interpret the basic knowledge of microprocessor and microcontroller interfacing, delay generation, waveform generation and Interrupts..
C218.3	Interfacing the external devices to the microcontroller and microprocessor to

	solve real time problems
C218.4	Illustrate functions interfacing devices. of various general purpose..
C218.5	Students will be able to understand the construction and operation of synchronous motor with their applications.
COURSE : C219	**Analog and Digital Communication Lab**
C219.1	Analyze and compare different analog modulation schemes for their efficiency and bandwidth
C219.2	Analyze the behavior of a communication system in presence of noise
C219.3	Investigate pulsed modulation system and analyze their system performance
C219.4	Analyze different digital modulation schemes and can compute the bit error performance
C219.5	Design a communication system comprised of both analog and digital modulation techniques
COURSE : C220	**Analog Circuits Lab**
C220.1	Understand different analog modulation schemes and evaluate modulation index.
C220.2	Able to understand the principle of superhetrodyne receiver
C220.3	Develop time division multiplexing concepts in real time applications.
C220.4	Develop and able to comprehend different data formatting schemes
C220.5	Comprehend and analyze the concepts of different digital modulation techniques in communication.
	THIRD YEAR (SIXTH SEMESTER)
COURSE : C312	**POWER ELECTRONICS**
C312.1	Students will be able to understand to understand concept of Linearity and State Space Approach of Control System Analysis.
C312.2	Students will be able to understand the concept of State Space Representation using various method and block diagram representation of state model.
C312.3	Students will be able to understand the concept and solution of state equations.
C312.4	Students will be able to understand the concept of Digital Control Systems and block diagram analysis of sampled data systems.
C312.5	Students will be able to understand the concept of accuracy and stability criteria.
COURSE : C313	**COMPUTER NETWORKS**
C313.1	Students will be able to understand the concepts of Breakdown in Gases, solid and liquids and also the application of them in power system.
C313.2	Students will be able to understand the concepts of high DC voltage, high AC voltage, impulse voltage generation and their measurement.

C313.3	Students will be able to understand the concepts of Non-destructive Insulation Tests and Partial Discharges.
C313.4	Students will be able to understand the various causes of over voltages.
C313.5	Students will be able to understand the concept of travelling waves on transmission lines along with its attenuation.
COURSE : C314	**Fiber Communication**
C314.1	Students will be able to learn basic operating principles of single mode and multimode fibers.
C314.2	To design parameters of light sources, detectors and amplifiers.
C314.3	Understand the basic operating principles of passive optical devices.
C314.4	Students will be able to understand the concepts of electric arc and arc interruption theory in circuit breakers and its characteristics.
C314.5	Students will be able to understand the various types and selection of circuit breakers.
COURSE : C315	**ANTENNA AND PROPOGATION**
C315.1	Students will be able to understand the concept of single phase and three phase ac voltage.
C315.2	Students will be able to understand the operation of various types of cyclo-converters.
C315.3	Student will be able to understand the operation of single phase and three phase bridge inverter with its control strategies.
C315.4	Students will be able to understand the working of various resonant pulse inverters.
C315.5	Students will be able to understand the concepts of SMPS and resonant AC power supplies.
COURSE : C316	**INFORMATION THEORY AND CODING**
C316.1	Students will be able to understand the need for smart grid along with its challenge and benefits.
C316.2	Students will be able to understand various smart grid technologies and various control strategies.
C316.3	Students will be able to understand the concept of Smart Meters and Advanced Metering Infrastructure.
C316.4	Students will be able to understand the concept of Power Quality management.
C316.5	Students will be able to understand the concept of High Performance Computing for Smart Grid Applications.
COURSE : C317	**NANOELECTRONICS**
C317.1	Students will be able to understand the different types of errors and its calculation.

C317.2	Students will be able to understand the Construction & Operating Characteristics of various transducers.
C317.3	Students will be able to understand different methods of signal conditioning and their application.
C317.4	Students will be able to measure various parameters of power system.
C317.5	Students will be able to analyze the behaviour of CVT and CT in power system.
COURSE : C318	**COMPUTER NETWORK LAB**
C318.1	Students will be able to understand the 2nd order control system and obtain time response specification.
C318.2	Students will be able to understand the frequency response of various compensating Networks,
C318.3	Students will be able to understand the concept of stability and draw Bode plots for 2nd order control system.
C318.4	Students will be able to understand the designing 1st order R-C circuits and observe its response with various types of input.
C318.5	Students will be able to understand the characteristics of ac servomotor and potentiometer.
COURSE : C319	**ANTENNA AND WAVE PROPOGATION LAB**
C319.1	Students will be able to find sequence components of currents in transformers.
C319.2	Students will be able to understand the concept and working of a gas actuated Buchholz relay.
C319.3	Students will be able to learn designing of a HV transmission line.
C319.4	Students will be able to understand the concept and working of various components of grid substation and safety parameters.
C319.5	Students will be able to understand the working of various relay and their characteristics.
COURSE : C320	**POWER ELECTRONICS LAB**
C320.1	Students will be able to understand the working and testing of AC voltage regulators.
C320.2	Students will be able to understand the concept of speed Control of a single-phase induction motor and dc motor.
C320.3	Students will be able to understand the concept of quadrant operation of choppers.
C320.4	Students will be able to understand the various types of regulators and PWM inverter.
C320.5	Students will be able to understand the concept of DC circuit breaker and zero voltage switching.
COURSE : C321	**ELECTRONICS LAB**
C321.1	Students will able to understand the need of different components of smart grid.

C321.2	Students will able to understand the simulation of hybrid system design.
C321.3	Students will able to understand the concept of power quality issues.
C321.4	Students will able to understand the concept of power quality measurement devices.
C321.5	Students will able to understand the practical aspects of power plants.

	FINAL YEAR (EIGTH SEMESTER)
COURSE : C412	**IC TECHNOLOGY**
C412.1	Students will be able to understand the concepts of EHV AC transmission systems.
C412.2	Students will be able to understand the concepts and various methods of load frequency control.
C412.3	Students will be able to understand the various methods of voltage control and static VAR compensators.
C412.4	Students will be able to understand the various types of FACTS controllers.
C412.5	Students will be able to understand the concepts of HVDC Transmission and their applications.
COURSE : C413	**RADAR AND TV ENGINEERING**
C413.1	Students will be able to understand the dynamics of electric drives with drive parameters.
C413.2	Students will be able to understand the concepts of DC drives along with braking and speed control strategies.
C413.3	Students will be able to understand the concepts of induction motor drives along with braking and speed control techniques from voltage source.
C413.4	Students will be able to understand the concepts of speed control of induction motor drive.
C413.5	Students will be able to understand the concepts of synchronous motor drive under VSI and CSI.
COURSE : C414	**MEMS AND NANO TECHNOLOGY**
C414.1	Students will be able to understand the various types of fault along with construction and errors in CTs and PTs.
C414.2	Students will be able to understand the concepts of various types of over current directional over current relay along with protection schemes.
C414.3	Students will be able to understand the concepts of stator and rotor protection of generator.
C414.4	Students will be able to understand the concepts of various types of transformer and busbar protections.
C414.5	Students will be able to understand the concepts of various types of transmission line protection.
COURSE : C415	**COMPUTER NETWORKS**
C415.1	Students will be able to understand the concepts of power flow control of AC transmission line along with various types of FACTS.

C415.2	Students will be able to understand the various topologies of voltage source converters and static shunt compensators.
C415.3	Students will be able to understand the concepts of static series compensators with its applications.
C415.4	Students will be able to understand the concepts of static voltage and phase angle regulators.
C415.5	Students will be able to understand the concepts of unified power flow controller and interline power flow controller along with its applications.
COURSE : C416	**ADVANCED MICROCONTROLLER**
C416.1	Student will be able to understand and verify the various fault analysis
C416.2	Student will be able to understand and verify load flow analysis by different techniques using MATLAB.
C416.3	Student will be able to understand the concepts of voltage and overload security analysis using MATLAB.
C416.4	Student will be able to understand the concept of economic load dispatch with different methods.
C416.5	Student will be able to understand the transient stability analysis using MATLAB.
COURSE : C417	**RF FABRICATION LAB**
C417.1	Students will be able to understand the concepts of firing circuits in converters at different load conditions.
C417.2	Students will be able to understand the concept and testing of 3 phase ac voltage regulators.
C417.3	Students will be able to understand the concept of speed control of different types of dc motors.
C417.4	Students will be able to understand the concept of speed control of different types of ac motors.
C417.5	Students will be able to understand the concepts of different types of three phase converters.
COURSE : C418	**VLSI DESIGN AND OPTICAL FIBRE LAB**
C418.1	Students will be able to test the various parameters of transformer oil.
C418.2	Students will be able to test the various parameters of insulating materials and study their applications.
C418.3	Students will be able to understand the process of direct and indirect testing of circuit breakers.
C418.4	Students will be able to understand high voltage testing of different electrical equipment.
C418.5	Students will be able to design an EHV transmission line.
COURSE : C419	**PROJECT - II**
C419.1	Students are able to implement engineering skills in a real-world environment.
C419.2	Students are able to function on multi-disciplinary teams.
C419.3	Students are able to identify, formulate, and solve engineering problems.

C419.4	Student knows how to design an efficient system with optimum criteria and within given time limit.
C419.5	Students gain exposure to principles of leadership, project management and thus improve their marketability.
COURSE : C420	**SEMINAR**
C420.1	Students will be able to give presentation on recent topics.
C420.2	Students will be able to enhance their communication skills and confidence level.
C420.3	Students will be able to improve their knowledge about contemporary issues.
C420.4	Students will be able to accumulate knowledge based on different learning tools such as literature review and web searching.
C420.5	Student will be able to develop the overall personality