



PALLAVI ENGINEERING COLLEGE
(Formerly Nagole Institute of Technology & Science)
Abdullapurmet(M), Near Hayathanagar

DEPARTMENT OF ELECTRICAL ENGINEERING

VISION

The vision of the EEE Department is to become a nationally and internationally leading institution of higher learning, building upon the culture and the values of universal science and contemporary education, and a center of research and education generating the knowledge and the technologies which lay the groundwork in shaping the future in the fields of electrical and electronics engineering.

MISSION

The mission of the EEE Department is to provide education for those students who are able to compete internationally, able to produce creative solutions to the society's needs, conscious to the universal moral values, adherent to the professional ethical code, and to generate and disseminate knowledge and technologies essential to the local and global needs in the field of electrical and electronics engineering..

PROGRAM OUTCOMES:

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design / Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6. The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and Team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO –I Graduates will apply the knowledge of Electrical Engineering in design of electrical systems with effective solutions for complex electrical and electronics engineering problems using modern techniques.

PEO –II Graduate will acquire the knowledge for pursuing advanced degrees in Engineering, Science, Management, Research and Development.

PEO–III Graduate will achieve professionalism, leadership qualities ethical attitude, communication skills, team work in their profession and adapt to current trends in technology by engaging in continuous professional development.

PROGRAM SPECIFIC OUTCOMES (PSO)

Electrical Engineering graduates will be able to:

PSO1: Analyze and design controllers for electrical system using analog and digital electronic circuits and systems.

PSO2: Integrate the knowledge of fundamental electronics, power electronics and embedded systems for the controllability, reliability and sustainability of electrical systems.

COURSE OUTCOMES

I YEAR EEE SEMESTER-I (REGULATION –R18)

ACADEMIC YEAR: 2019-2020

Course Code & Name: MA101BS : Mathematics-I

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C111 [1]	Write the matrix representation of a set of linear equations and to analyze the solution of the system of equations.
C111 [2]	Find the Eigen values and Eigen vectors
C111[3]	Reduce the quadratic form to canonical form using orthogonal transformations.
C111[4]	Analyses the nature of sequence and series.
C111[5]	Solve the applications on the mean value theorems.
C111[6]	Evaluate the improper integrals using Beta and Gamma functions
C111[7]	Find the extreme values of functions of two variables with/ without constraints.

Course Name: CH102BS: Chemistry

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C112 [1]	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity.
C112 [2]	The required principles and concepts of electrochemistry, corrosion and in understanding the problem of water and its treatments.
C112 [3]	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields.
C112 [4]	The knowledge of configurational and conformational analysis of molecules and reaction mechanisms.

Course Name: EE103ES: Basic Electrical Engineering

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C113 [1]	To analyze and solve electrical circuits using network laws and theorems.

C113 [2]	To understand and analyze basic Electric and Magnetic circuits
C113 [3]	To study the working principles of Electrical Machines
C113 [4]	To introduce components of Low Voltage Electrical Installations

Course Name: ME105ES: ME205ES: Engineering Workshop

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C114 [1]	Study and practice on machine tools and their operations
C114 [2]	Practice on manufacturing of components using workshop trades including plumbing, fitting, carpentry, foundry, house wiring and welding.
C114 [3]	Identify and apply suitable tools for different trades of Engineering processes including drilling, material removing, measuring, chiseling.
C114[4]	Apply basic electrical engineering knowledge for house wiring practice.

Course Name: EN105HS: English

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C115 [1]	Use English Language effectively in spoken and written forms
C115 [2]	Comprehend the given texts and respond appropriately.
C115 [3]	Communicate confidently in various contexts and different cultures.
C115 [4]	Acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

Course Name: CH106BS: Engineering Chemistry Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C116 [1]	Determination of parameters like hardness and chloride content in water.
C116 [2]	Estimation of rate constant of a reaction from concentration – time relationships.
C116 [3]	Determination of physical properties like adsorption and viscosity.
C116 [4]	Calculation of R _f values of some organic molecules by TLC technique

Course Name: EN107HS: English Language And Communication Skills Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C117 [1]	Better understanding of nuances of English language through audio-visual experience and group activities
C117[2]	Neutralization of accent for intelligibility
C117 [3]	Speaking skills with clarity and confidence which in turn enhances their employability skills

Course Name: EE108ES: Basic Electrical Engineering Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C118 [1]	Get an exposure to basic electrical laws.
C118 [2]	Understand the response of different types of electrical circuits to different excitations.
C118 [3]	Understand the measurement, calculation and relation between the basic electrical parameters
C118 [4]	Understand the basic characteristics of transformers and electrical machines

Course Code & Name: *MC109ES: Environmental Science

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C119 [1]	Based on this course, the Engineering graduate will understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development

I YEAR EEE SEMESTER-II (REGULATION –R18)**ACADEMIC YEAR: 2019-2020****Course Code & Name: MA201BS: MATHEMATICS - II**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C121 [1]	Identify whether the given differential equation of first order is exact or not.
C121 [2]	Solve higher differential equation and apply the concept of differential equation to real world problems
C121 [3]	Evaluate the multiple integrals and apply the concept to find areas, volumes, centre of mass and Gravity for cubes, sphere and rectangular parallelepiped.

Course Name: AP102BS: Applied Physics

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C122 [1]	The student would be able to learn the fundamental concepts on Quantum behaviour of matter in its micro state.
C122 [2]	The knowledge of fundamentals of Semiconductor physics, Optoelectronics, Lasers and fibre optics enable the students to apply to various systems like communications, solar cell, photo cells and so on. .
C122[3]	Design, characterization and study of properties of material help the students to prepare new materials for various engineering applications.
C122[4]	The course also helps the students to be exposed to the phenomena of electromagnetism and also to have exposure on magnetic materials and dielectric materials.

Course Code & Name: CS103ES: Programming For Problem Solving

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C123 [1]	To write algorithms and to draw flowcharts for solving problems
C123 [2]	To convert the algorithms/flowcharts to C programs.
C123 [3]	To code and test a given logic in C programming language.
C123 [4]	To decompose a problem into functions and to develop modular reusable code.
C123 [5]	To use arrays, pointers, strings and structures to write C programs.
C123 [6]	Searching and sorting problems.

Course Code & Name: ME104ES: Engineering Graphics

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
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C124 [1]	Preparing working drawings to communicate the ideas and information.
C124 [2]	Read, understand and interpret engineering drawings.

Course Code & Name: AP105BS: Applied Physics Lab

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C125 [1]	Analyze the characteristics of Semi conductor Devices
C125 [2]	Understand the properties of material help the students to prepare new materials for various engineering applications.

Course Code & Name: CS106ES: Programming For Problem Solving Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C126 [1]	Formulate the algorithms for simple problems
C126 [2]	Translate given algorithms to a working and correct program
C126 [3]	Correct syntax errors as reported by the compilers
C126 [4]	Identify and correct logical errors encountered during execution
C126 [5]	Represent and manipulate data with arrays, strings and structures
C126 [6]	Use pointers of different types
C126 [7]	Create, read and write to and from simple text and binary files
C126 [8]	Create, read and write to and from simple text and binary files

II YEAR EEE SEMESTER-I (REGULATION –R18)

ACADEMIC YEAR: 2019-2020

Course Code & Name: EE301ES Engineering Mechanics

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C211 [1]	Determine resultant of forces acting on a body and analyse equilibrium of a body subjected to a system of forces.
C211 [2]	Solve problem of bodies subjected to friction.

C211[3]	Find the location of centroid and calculate moment of inertia of a given section.
C211[4]	Understand the kinetics and kinematics of a body undergoing rectilinear, curvilinear, rotatory motion and rigid body motion.
C211[5]	Solve problems using work energy equations for translation, fixed axis rotation and plane motion and solve problems of vibration.

Course Name: EE302PC:Electrical Circuit Analysis

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C212 [1]	Apply network theorems for the analysis of electrical circuits.
C212 [2]	Obtain the transient and steady-state response of electrical circuits
C212[3]	Analyze circuits in the sinusoidal steady-state (single-phase and three-phase).
C212[4]	Analyze two port circuit behaviour.

Course Name: EE303PC: Analog Electronics

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C213 [1]	Know the characteristics, utilization of various components.
C213 [2]	Understand the biasing techniques
C213 [3]	Design and analyze various rectifiers, small signal amplifier circuits.
C213 [4]	Design sinusoidal and non-sinusoidal oscillators.
C213 [5]	A thorough understanding, functioning of OP-AMP, design OP-AMP based circuits with linear integrated circuits.

Course Name: EE304PC: ELECTRICAL MACHINES - I

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
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C214 [1]	Identify different parts of a DC machine• & understand its operation.
C214 [2]	Carry out different testing methods to predetermine the efficiency of DC machines
C214 [3]	Understand different excitation and starting methods of DC machines
C214 [4]	Control the voltage and speed of a DC machines
C214 [5]	Analyze single phase and three phase transformers circuits.

Course Name: EE305PC: Electromagnetic Fields

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C215 [1]	To understand the basic laws of electromagnetism.
C215 [2]	To obtain the electric and magnetic fields for simple configurations under static conditions.
C215 [3]	To analyze time varying electric and magnetic fields.
C215 [4]	To understand Maxwell's equation in different forms and different media.
C215 [5]	To understand the propagation of EM waves

Course Name: EE306PC: Electrical Machines Lab – I

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C216 [1]	Start and control the Different DC Machines.
C216 [2]	Assess the performance of different machines using different testing methods
C216 [3]	Identify different conditions required to be satisfied for self - excitation of DC Generators.
C216 [4]	Separate iron losses of DC machines into different components

Course Name: EE307PC: Analog Electronics Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C217 [1]	Know the characteristics, utilization of various components
C217 [2]	Understand the biasing techniques.
C217 [3]	Design and analyze various rectifiers, small signal amplifier circuits
C217 [4]	Design sinusoidal and non-sinusoidal oscillators.
C217 [5]	A thorough understanding, functioning of OP-AMP, design OP-AMP based circuits with linear integrated circuits.

Course Name: EE308PC: Electrical Circuits Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C218 [1]	Analyze complex DC and AC linear circuits
C218 [2]	Apply concepts of electrical circuits across engineering
C218 [3]	Evaluate response in a given network by using theorems

Course Name: *MC309: Gender Sensitization Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C219 [1]	Students will have developed a better understanding of important issues related to gender in contemporary India.
C219 [2]	Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film.
C219 [3]	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.
C219 [4]	Students will acquire insight into the gendered division of labour and its relation to politics and economics.
C219 [5]	Men and women students and professionals will be better equipped to work and live together as equals.

C219 [6]	Students will develop a sense of appreciation of women in all walks of life
C219 [7]	Through providing accounts of studies and movements as well as the new laws that provide protection and relief to women, the textbook will empower students to understand and respond to gender violence.

II YEAR EEE SEMESTER-II (REGULATION –R18)

ACADEMIC YEAR: 2019-2020

Course Name: MA401BS: Laplace Transforms, Numerical Methods And Complex Variables

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C221 [1]	Use the Laplace transforms techniques for solving ODE's
C221 [2]	Find the root of a given equation.
C221 [3]	Estimate the value for the given data using interpolation
C221 [4]	Find the numerical solutions for a given ODE's
C221 [5]	Analyze the complex function with reference to their analyticity, integration using Cauchy's integral and residue theorems
C221 [6]	Taylor's and Laurent's series expansions of complex function

Course Name: EE402PC: Electrical Machines – II

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C222 [1]	Understand the concepts of rotating magnetic fields.
C222 [2]	Understand the operation of ac machines.
C222 [3]	Analyze performance characteristics of ac machines

Course Name: EE403PC: Digital Electronics

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C223 [1]	Understand working of logic families and logic gates.
C223 [2]	Design and implement Combinational and Sequential logic circuits.
C223 [3]	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
C223 [4]	Be able to use PLDs to implement the given logical problem.

Course Name: EE404PC: Control Systems

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C224 [1]	Understand the modeling of linear-time-invariant systems using transfer function and state space representations.
C224 [2]	Understand the concept of stability and its assessment for linear-time invariant systems.
C224 [3]	Design simple feedback controllers.

Course Name: EE405PC: Power System - I

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C225 [1]	Understand the concepts of power systems.
C225 [2]	Understand the operation of conventional generating stations and renewable sources of electrical power.
C225 [3]	Evaluate the power tariff methods.
C225 [4]	Determine the electrical circuit parameters of transmission lines
C225 [5]	Understand the layout of substation and underground cables and corona.

Course Name: EE406PC: Digital Electronics Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C226 [1]	Understand working of logic families and logic gates.
C226 [2]	Design and implement Combinational and Sequential logic circuits.
C226 [3]	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
C226 [4]	Be able to use PLDs to implement the given logical problem.

Course Name: EE407PC: Electrical Machines Lab – II

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C227 [1]	Assess the performance of different machines using different testing methods
C227[2]	To convert the Phase from three phase to two phase and vice versa
C227 [3]	Compensate the changes in terminal voltages of synchronous generator after estimating the change by different methods
C227 [4]	Control the active and reactive power flows in synchronous machines
C227 [5]	Start different machines and control the speed and power factor

Course Name: EE408PC: Control Systems Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C228 [1]	How to improve the system performance by selecting a suitable controller and/or a compensator for a specific application
C228 [2]	Apply various time domain and frequency domain techniques to assess the system performance
C228 [3]	Apply various control strategies to different applications(example: Power systems, electrical drives etc)
C228 [4]	Test system controllability and observability using state space representation and applications of state space representation to various systems

III YEAR EEE SEMESTER-I (REGULATION –R16)

ACADEMIC YEAR: 2019-2020

Course Code & Name: EE501PC: Electrical Measurements & Instrumentation

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C311 [1]	Understand different types of measuring instruments, their construction, operation and characteristics
C311 [2]	Identify the instruments suitable for typical measurements
C311 [3]	Apply the knowledge about transducers and instrument transformers to use them effectively.

Course Code & Name: EE502PC: Power Systems - II

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C312 [1]	Able to compute inductance and capacitance for different configurations of transmission lines.
C312 [2]	Able to analyze the performance of transmission lines
C312[3]	Can understand transient's phenomenon of transmission lines.
C312[4]	Able to calculate sag and tension calculations.
C312[5]	Will be able to understand overhead line insulators and underground cables.

Course Code & Name: EI503PC: Microprocessors And Microcontrollers

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C313 [1]	Understands the internal architecture and organization of 8086, 8051 and ARM processors/controllers.
C313 [2]	Understands the interfacing techniques to 8086 and 8051 and can develop assembly language programming to design microprocessor/ micro controller based systems.

Course Code & Name: SM504MS: Fundamentals Of Management

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
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C314 [1]	The students understand the significance of Management in their Profession. The various Management Functions like Planning, Organizing, Staffing, Leading, Motivation and Control aspects are learnt in this course. The students can explore the Management Practices in their domain area..
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Course Code & Name: CE511OE: Disaster Management (Open Elective – I)

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C315 [1]	Understanding Disasters, man-made Hazards and Vulnerabilities
C315 [2]	Understanding disaster management mechanism
C315 [3]	Understanding capacity building concepts and planning of disaster managements

Course Code & Name: EE505PC: Electrical Measurements & Instrumentation Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C316[1]	To choose instruments
C316 [2]	Test any instrument
C316 [3]	Find the accuracy of any instrument by performing experiment
C316 [4]	Calibrate PMMC instrument using D.C potentiometer

Course Code & Name: EE506PC: Basic Electrical Simulation Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C317 [1]	Apply signal generation in different systems
C317 [2]	Analyze networks by various techniques
C317 [3]	Analyze circuit responses
C317 [4]	Analyze bridge rectifiers

Course Code & Name: EI507PC: Microprocessors And Microcontrollers Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C318 [1]	Develop 8086 programming codes for basic operations
C318[2]	Interface peripherals and demonstrate the 8051 based applications

Course Code & Name: MC500HS Professional Ethics

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C319 [1]	The students will understand the importance of Values and Ethics in their personal lives and professional careers. The students will learn the rights and responsibilities as an employee, team member and a global citizen.

III YEAR EEE SEMESTER-II (REGULATION –R16)**ACADEMIC YEAR: 2019-2020****Course Code & Name: EE601PC: Power Systems Analysis**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C321 [1]	Develop the Ybus and Zbus matrices
C321 [2]	Analyze load flow for various requirements of the power system
C321 [3]	Analyze short circuit studies for the protection of power system
C321 [4]	Estimate stability and instability in power systems

Course Code & Name: EE602PC: Power Electronics

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C322 [1]	Choose the appropriate converter for various applications
C322 [2]	Design the power converters suitable for particular applications

C322 [3]	Develop the novel control methodologies for better performance.
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Course Code & Name: EE603PC: Switch Gear And Protection

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C323 [1]	Understand the types of Circuit breakers and choice of Relays for appropriate protection of power system equipment.
C323 [2]	Understand various types of Protective devices in Electrical Power Systems.
C323 [3]	Interpret the existing transmission voltage levels and various means to protect the system against over voltages.
C323 [4]	Understand the importance of Neutral Grounding, Effects of Ungrounded Neutral grounding on system performance, Methods and Practices.

Course Code & Name: CE623OE: Intellectual Property Rights

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C324 [1]	To understand the Intellectual Property for internatioanal organizations, agencies& treaties.
C324 [2]	Understand the importance of Trade Marks& Trade Secrete
C324 [3]	Learn the New development of Intellectual property.

**Course Code & Name: EE614PE: Electrical And Electronics Instrumentation
(Professional Elective – I)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C325[1]	Design and implement systems utilizing analog / digital control devices.
C325 [2]	Apply the concepts of automatic control, including measurement, feedback, and feedforward regulation for the operation of continuous and discrete systems.

C325 [3]	Solve technical problems and be proficient in the analysis, design, test, and implementation of instrumentation and control systems
C325 [4]	Apply the concepts of heat transfer to the design of process control systems
C325 [5]	Able to utilize modern and effective management skills for performing investigation, analysis, and synthesis in the implementation of automatic control systems

Course Code & Name: EE604PC: Power Systems Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C326 [1]	Perform various load flow techniques
C326 [2]	Understand Different protection methods
C326 [3]	Analyze the experimental data and draw the conclusions.

Course Code & Name: EE605PC: Power Electronics Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C327 [1]	Understand the operating principles of various power electronic converters.
C327 [2]	Use power electronic simulation packages & hardware to develop the power converters.
C327 [3]	Analyze and choose the appropriate converters for various applications

Course Code & Name: EN606HS Advanced English Communication Skills (Aecs) Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C328 [1]	Acquire vocabulary and use it contextually
C328 [2]	Listen and speak effectively
C328 [3]	Develop proficiency in academic reading and writing
C328 [4]	Increase possibilities of job prospects

C328 [5]	Communicate confidently in formal and informal contexts
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IV YEAR EEE SEMESTER-I (REGULATION –R16)

ACADEMIC YEAR: 2019-2020

Course Code & Name: EE701PC: Power Semiconductor Drives

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C411 [1]	Identify the drawbacks of speed control of motor by conventional methods.
C411 [2]	Differentiate Phase controlled and chopper controlled DC drives speed-torque characteristics merits and demerits
C411 [3]	Understand Ac motor drive speed–torque characteristics using different control strategies its merits and demerits
C411 [4]	Describe Slip power recovery schemes

Course Code & Name: EE702PC: Power System Operation And Control

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C412 [1]	Analyze the optimal scheduling of power plants
C412 [2]	Analyze the steady state behavior of the power system for voltage and frequency fluctuations
C412[3]	Describe reactive power control of a power system
C412[4]	Design suitable controller to dampen the frequency and voltage steady state oscillations

Course Code & Name: EE722PE: HVDC Transmission

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C413 [1]	Compare EHV AC and HVDC system and to describe various types of DC links

C413 [2]	Analyze Graetz circuit for rectifier and inverter mode of operation
C413 [3]	Describe various methods for the control of HVDC systems and to perform power flow analysis in AC/DC systems
C413 [4]	Describe various protection methods for HVDC systems and classify Harmonics and design different types of filters

Course Code & Name: EE742PE: EHV AC Transmission Systems

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C414 [1]	Understand the basic concepts of EHV AC transmission.
C414 [2]	Get the Knowledge on EHV transmission line inductance and capacitance
C414 [3]	Understand the voltage gradients of conductor
C414[4]	Identify corona effects on transmission lines
C414[5]	Calculate electrostatic fields of EHVAC lines and its effects
C414[6]	Analyze travelling waves Distinguish various compensators for voltage control

Course Code & Name: EE732PE Power Quality

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C415 [1]	Know the severity of power quality problems in distribution system
C415 [2]	Understand the concept of voltage sag transformation from up-stream (higher voltages) to down-stream (lower voltage)
C415 [3]	Concept of improving the power quality to sensitive load by various mitigating custom power devices

Course Code & Name: EE703PC: Electrical Systems Simulation Lab

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C416 [1]	Design and Analyze electrical systems in time and frequency domain
C416 [2]	Analyze various transmission lines and perform fault analysis
C416 [3]	Model Load frequency control of Power Systems
C416 [4]	Design various Power Electronic Converters and Drives

Course Code & Name: EE704PC: Electrical Workshop

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C417 [1]	Get practical knowledge related to electrical
C417 [2]	Fabricate basic electrical circuit elements/networks
C417 [3]	Trouble shoot the electrical circuits
C417 [4]	Design filter circuit for application
C417 [5]	Get hardware skills such as soldering, winding etc.
C417 [6]	Get debugging skills

Course Code & Name: EE705PC Industry Oriented Mini Project

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C418 [1]	Apply the relevant knowledge and skills, which are acquired to a given problem.
C 418 [2]	Document and present the work with requirements on structure, format, and language usage.

Course Code & Name: EE706PC Seminar

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C419 [1]	Use English Language effectively in any Technical seminar form.
C419 [2]	Make use of the technical and engineering knowledge continuously which meets the expected outcome.

ACADEMIC YEAR: 2019-2020

Course Code & Name: MT831OE: Renewable Energy Sources Open Elective – III

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C421 [1]	Understanding of renewable energy sources.
C421 [2]	Knowledge of working principle of various energy systems.
C421 [3]	Capability to carry out basic design of renewable energy systems

Course Code & Name: EE852PE: Electrical Distribution Systems (Professional Elective – V)

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C422 [1]	distinguish between transmission, and distribution line and design the feeders
C422[2]	compute power loss and voltage drop of the feeders
C422 [3]	design protection of distribution systems
C422 [4]	Understand the importance of voltage control and power factor improvement.

Course Code & Name: EE863PE: UTILIZATION OF ELECTRIC POWER (PROFESSIONAL ELECTIVE – VI)

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C423 [1]	Acquire knowledge on, electric drives characteristics and their applicability in industry based on the nature of different types of loads and their characteristics
C423 [2]	understands the concepts and methods of electric heating, welding, illumination and electric traction
C423 [3]	apply the above concepts to real-world electrical and electronics problems and applications

Course Code & Name: EE801PC Major Project

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C424 [1]	Apply the relevant knowledge and skills, which are acquired to a given problem.
C424 [2]	Independently analyze and discuss inquiries/problems and solve larger problems.
C424 [3]	Evaluate, and critically assess others scientific results as survey
C424 [4]	Document and present the work with requirements on structure, format, and language usage.
C424 [5]	Make use of the technical and engineering knowledge continuously which meets the expected outcome.