

Course outcome semester 8 EE department

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| C8EE1A   | C01 deal with long transmission lines high power carrying and design transmission lines using bundled conductor and understand about corona losses, interference problems in EHV transmission and how their effects can be minimized |
|          | C02 Know about the need to control the frequency and how it is controlled  |
|          | C03 Know about the need to control the voltage and how it is controlled  |
|          | C04 To know about the FACTS devices and need of FACTS devices in power system  |
|          | C05 To know about the HVDC transmission system and basic principal of DC link control  |
| C8EE2A   | C01 To understand basic concepts of electric drives  |
|          | C02 To understand DC drive, Braking of drives  |
|          | C03 To understand braking and speed control of induction   |
|          | C04 To analyze the induction motor derive  |
|          | C05 To analyze the synchronous motor derive  |
| C8EE3A   | C01 To design CT and CVT used in protection system   |
|          | C02 To plan over current protection scheme   |
|          | C03 To Plan protection system/Scheme for generators  |
|          | C04 To plan protection for transformer & busbar  |
|          | C05 To make setting for protection of transmission lines & motors  |
| C8EE4.1A | C01 Analyze the concept of electric heating and electric welding   |
|          | C02 Analyze the concept of illumination and different lighting system  |
|          | C03 Analyze the concept of electrolytic proces and their applications  |
|          | C04 Analyze the concept of electric traction and supplying power   |
|          | C05 Analyze the traction methods and traction motor control  |
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Course outcome semester 7 EE department

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| C7EE1A | C01 Able to apply the energy management scheme in electrical system   |
|        | C02 Able to perform economic analysis and load management   |
|        | C03 Able to analyze the reliability of power system   |
|        | C04 Able to perform computer aided process planning.  |
|        | C05 Able to optimal power system expansion planning   |
|        | C01 Interpret data from tables, Y bus matrix formation and graphs, and draw single line reactance diagram for power |

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| C7EE2A   | C02 To analysis modification in impedance matrix modification in power system and analysis the fault at different le |
|          | CO3 To find the symmetrical fault components for unsymmetrical faults.   |
|          | CO4 To analysis unsymmetrical faults.  |
|          | CO5 To find optimized solutions by different optimization techniques for load flow studies.                          |
| C7EE3A   | C01 Describe concept of AI and apply various search technique  |
|          | C02 Understand various knowledge representation technique for AI   |
|          | C03 Apply the concepts of artifical neural network using its activation functions and perceptions                    |
|          | CO4 Implement the basic concepts of learning in ANN, fuzzy logic and genetic algorithms                              |
|          | CO5  |
| C7EE4A   | C01 Realize the current energy situation of India and the world and analyze and develop prevailing tidal power gene  |
|          | C02 Analyze the solar radiation geometry on earth's surface and various technique available for solar energy genera  |
|          | C03 Utilize various technique of biomass energy conversion for the production of electricity & alternative fuels     |
|          | CO4 Utilize the Various techniques of nuclear fusion for the production of electricity                               |
|          | CO5 To Study Biomass Energy  |
| C7EE5A   | C01 Study about economic operation of power systems  |
|          | C02 Study about steady state and dynamic stability   |
|          | C03 students can easily differentiate between dynamic stability, transient stability and steady state stability      |
|          | CO4 Students will know about various elements of excitation system   |
|          | CO5 Students will understand the need of compensation in transmission ines   |
| C7EE6.3A | C01 Select the operation of alternators for minimum energy cost  |
|          | C02 Formulate the most economical schedule of operation for various thermal power plants                             |
|          | C03 Plan effective coordination between hydro and thermal power plants   |
|          | CO4 Analyze the parallel operation of alternators.   |
|          | CO5 Do the cost analysis and identify steps to reduce cost.  |
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Course outcome semester 6 EE department

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| C7EE1A | C01 To understand the concepts of vector space and state space modelling of varios eectrical and meachanical models |
|        | C02 Representations of varoius forms of state space equations in form of matrices                                   |

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| C6EE1A   | CO3 Understand the concepts of controllability and observability of various state models   |
|          | CO4 Introduction of digital control system and concepts of Z transform   |
|          | CO5 Knowledge of various stability criterion in digital domain and designing of digital PID controllers  |
| C6EE2A   | CO1 Apply the knowledge of breakdown phenomenon in liquid , gas and solid dielectric materials   |
|          | CO2 Analyze the generation of high voltage to test the insulating materials used in electrical apparants   |
|          | CO3 Analyze the measurement of high voltage used in testing of electrical apparants  |
|          | CO4 To know about the lightning phenomnon and travelling waves in transmission lines   |
|          | CO5 To know about the over voltage protection system   |
| C6EE3A   | CO1 Able to differentiate between electromagnetic relay protection system and static relay system  |
|          | CO2 Able to apply static protection system for various equipments alternators, transformer   |
|          | CO3 Qable to apply static protection system for various system transmission lines  |
|          | CO4 Able to Choose and maintain a circuit breaker for a Proper application in power system   |
|          | CO5 Able to Design and implement modern tools for different protection schemes Example: - Digital protection scheme, Numerical protection scheme etc |
| C6EE4A   | CO1 To understand the concepts AC voltage controllers and their PWM control  |
|          | CO2 To understand the basics of single phase and three phase cyclo-converters and their Control circuit  |
|          | CO3 To prteceive the singificance of DC to AC converters and there harmonic analysis   |
|          | CO4 To analyze and learn various resonant inverters.   |
|          | CO5 To acquire knowledge of switch mode power supplies   |
| C6EE5A   | CO1 Facilitate the need and drivers of smart grid in the present scenario at global.   |
|          | CO2 Match the different management systems used to control the power of grid   |
|          | CO3 Able to design the smart meter and its infrastructure.   |
|          | CO4 Analyze the power quality problems associated with smart grid and its solutions.   |
|          | CO5 Study the communication technologies and protocol associated with the smart grid   |
| C6EE6.2A | CO1 Apply the knowledge of instrument for effective use and analysis the types of errors occuring and their minization                               |
|          | CO2 Select the types of transducers for measuring different physical parameters  |
|          | CO3 Analyze the different circuits of signal conditioning  |
|          | CO4 Analyze single phase Transformer and learn concept of transformer connection   |
|          | CO5 Analyze the concept of pharos group of three phase transformer.  |

Course outcome semester V EE department

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| C5EE1A | C01 Understand the significance of the characteristics of various power semiconductors switches design of power electronic conversion systems.   |
|        | C02 Understand various modulation (control) techniques such as pulse width modulation and selective harmonic elimination.  |
|        | C03 Students will have good understanding of the basic principles of switch mode power conversion.   |
|        | C04 Students will understand the operating principles and models of different types of power electronic converters including dc-dc converters, PWM rectifiers and inverters.   |
|        | C05 Students will be able to choose appropriate power converter topologies and design the power stage and feedback controllers for various applications.   |
| C5EE2A | C01 Adequate knowledge of the fundamental and concepts of microprocessors its history need, understand the internal architecture, know the instruction set, draw timing diagram, understand interrupt structure, addressing modes etc. |
|        | C02 Students will demonstrate an ability to write assembly programs for 8085   |
|        | C03 Students demonstrate the ability to design ckt using microprocessor as well as utilizing basic I/O interfacing   |
|        | C04 Students will be able to design a system, component, or process to meet desired need.  |
|        | C05 5. Student will demonstrate an ability to use the technique, skill and modern engineering tools necessary for engineering practice.  |
| C5EE3A | C01 Students will get acquainted with terminologies of control system like Signal, System, Feedback, Controller, Transfer Function, Type Order Etc.  |
|        | C02 Students will be able to obtain Mathematical Model of given Physical System using appropriate physical laws.   |
|        | C03 Students will be aware of different performance indices of the system in time and frequency domains.   |
|        | C04 Students will be able to do Stability Analysis using time and frequency domain techniques like Root Locus, Nyquist Plot ETC.   |
|        | C05 fundamental design techniques for compensators and controllers will be known to students   |
| C5EE4A | C01 Analyze and appreciate the applications of database management systems in various fields of technology.  |
|        | C02 Construct sound design principles for logical designs of databases using top down approach (i.e Entity Relations   |
|        | C03 Design and implement queries using concepts of relational algebra, calculus and Structured Query Language statements.  |
|        | C04 Analyze the various structures of RDBMS and the concept of Transaction and Deadlock for RDBMS.   |
|        | C01 Decide about proper type of transmission including voltage and conductor size.   |

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| C5EE5A   | C02 calculate sag as per terrain and atmospheric conditions and also study the mechanical design of overhead lines    |
|          | C03 Design transmission lines for minimum losses and proper distance between conductors                               |
|          | C04 Analyse transmission line as per their voltage and length   |
|          | C05 Decide about proper insulator and analysis UG system  |
| C5EE6.2A | C01 Analyses the noise effects in communication system  |
|          | C02 Make analysis of various parameters in AM transmitter & receivers.  |
|          | C03 Find reasons from switching over to FM mode and gain knowledge about FM transmitter and receiver.                 |
|          | C04 To compare the performance of AM and FM system with respect to noise. To gain knowledge about super heterodyning. |
|          | C05 Learn about concept for digital modulation techniques   |

Course outcome semester 4 EE department

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| C4EE1A | C01 apply the knowledge of feedback topologies to design amplifiers with desired properties.                          |
|        | C02 Analyze the operation of different types of oscillators and understand the criterion of oscillation.              |
|        | C03 Analyze the hybrid pi model of transistor for high frequency analysis.  |
|        | C04 Analyze different power and tuned amplifiers  |
|        | C05 Analyze different power and tuned amplifiers  |
| C4EE2A | C01 Analyze the concepts of physical significance of complex frequency.   |
|        | C02 To compute response of various network.   |
|        | C03 To synthesis various networks.  |
|        | C04 To analyze 2-port general network   |
|        | C05 Compare the response of various filters   |
| C4EE3A | C01 Select various types of test and measuring instruments for proper applications.                                   |
|        | C02 Measure real and reactive power for power transformer and get familiarized with instrument transformer.           |
|        | C03 Measuring to calibrate both AC and DC meters.   |
|        | C04 Measure resistance including earth resistance by using various methods  |
|        | C05 Measure resistance, inductance and capacitance using AC bridge  |
| C4EE4A | C01 Working of various types of conventional power plants.  |
|        | C02 to address the harmful effects of conventional power plants and introduction to nonconventional sources for power |
|        | C03 Plan power generation as per the load requirement   |
|        | C04 Analyze the cost of energy  |

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|        | CO5 Decide about effective traiff for different category of consumers   |
| C4EE5A | C01 To analyze the basics of AC machines.   |
|        | C02 To analyze polyphase induction motor construction, principle etc.   |
|        | C03 To analyze the poly phase induction motor   |
|        | CO4 to anlyze the synchronous generator   |
|        | CO5 To analyze the synchronous motor  |
| C4EE6A | C01 derive numericals methods for interpolation, differentiation and integration , solve ordinary differential equation |
|        | C02 To understand the Bessels and legendre's function & their Properties  |
|        | C03 To understand the concepts of probability and its use in statistical measure  |
|        | CO4 To understand the concepts of Z transform & its application to slove different equtions.                            |
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Course outcome semester 3 EE department

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| C3EE1A | C01 Acquire knowledge in the field of solid state materials.   |
|        | C02 Be able to analyze the structure of different types of semiconductor crystal structures. Know the intrinsic property of semiconductor materials. |
|        | CO3 know complete internal structure of PN junction including different types of bias  |
|        | CO4 Sound knowledge of BJT and MOS including types & structures  |
|        | CO5 Knowledge of small s/g amplifier at low frequency  |
| C3EE2A | C01 Acquired knowledge about circuit components and network graph.   |
|        | C02 Ability to indentify the network theorems.   |
|        | CO3 To understand the three phase system and power improvement   |
|        | CO4 To analyze the non sinusoidal waves in mathematical form   |
|        | CO5 To understand the concept of transient and steady-state for different excitations.   |
| C3EE3A | C01 Solve the basic problems of digital electronics related to number system and Boolean algebra   |
|        | C02 Attain knowledge about design and characteristics of digital logic gates through different logic families  |
|        | CO3 Learn the concept of minimization technique for simplifying the boolean expression   |
|        | CO4 Indentify , analyze and designing of combinational circuits  |
|        | CO5 Design various synchronous and asynchronous sequential circuits (Flip Flop and counter)  |
|        | C01 Classify abroad vision of the paradigms of object oriented programming in comparison of procedural oriented programming.                         |

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| C3EE4A | C02 To apply the class structure as fundamental, building block for computational programming.   |
|        | C03 Identify variety of programming language constructs and implementations technique allows the graduate to implementation technique allows the graduate to implement computing problems in object oriented programming |
|        | C04 To apply the role of abstraction inheritance , polymorphism, dynamic binding and generic structure in building reusable code   |
| C3EE5A | C01 Learn concept of energy in magnetic system, field-energy force relationships and conversion of energy from Mechanical to Electrical and vice-versa.  |
|        | C02 Examine and evaluate the behavior of electric machines their characteristics, operation and application of DC generators.  |
|        | C03 Learn about different parameters of DC motors and operation of upcoming electrical drives and mashies along with starting of DC motor  |
|        | C04 Be able to understand and analyze single-phase transformers and Learn concept of transformer testing without actual loading and basics of parallel operation of transformers.  |
|        | C05 They will learn concept of pharos groups of three phase transformers and they will be also able to convert three phases to two phases, six phases to twelve phases   |
| C3EE6A | C01 Use Laplace Transform to solve Differential equations with boundary value problems.  |
|        | C02 Fourier Transform to solve Differential equations with boundary value problems.  |
|        | C03 Represent function in Sine and Cosine series and evaluate the sum of infinite series and able to solve boundary value problem with calculus of variation.  |
|        | C04 Differentiate and Integrate complex function, Counter Integration and Integrals using residues. They can apply techniques of complex analysis to summation of series.  |
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