ESWAR COLLEGE OF ENGINEERING

(Approved by AICTE, & Affiliated to JNTUK, A.P.)

KESANUPALLI (V), NARASARAOPETA-522549, AP

www.eswarcollegeofengg.org, email:eswarcollegeofengg@gmail.com

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Course Outcomes

Year/Sem: II B.Tech I SEM **A.Y:2018-2019**

Course Name: ELECTRICAL CIRCUIT ANALYSIS-II	
Course Code:EE2101	
EE2101.1	Solve three- phase circuits under balanced and unbalanced condition.
EE2101.2	Find the transient response of electrical networks for different types of excitations. Find parameters for different types of network.
EE2101.3	Realize electrical equivalent network for a given network transfer function.
EE2101.4	Extract different harmonics components from the response of an electrical network.
EE2101.5	Solve three- phascircuits under unbalanced condition.
EE2101.6	Solve three- phase circuits under balanced.

Course Name: ELECTRICAL MACHINES – I	
Course Code: EE2102	
EE2102.1	Assimilate the concepts of electromechanical energy conversion.
EE2102.2	Mitigate the ill-effects of armature reaction and improve commutation in dc machines.
EE2102.3	Understand the torque production mechanism and control the speed of dc motors.
EE2102.4	Analyze the performance of single phase transformers.
EE2102.5	Predetermine regulation, losses and efficiency of single phase transformers.
EE2102.6	Parallel transformers, control voltages with tap changing methods and achieve three-

Course Name: ELECTRONIC DEVICES AND CIRCUITS	
Course Code: EE2103	
EE2103.1	Understand the concepts of Semiconductor Technology.
EE2103.2	Appraise operation of electronic devices.
EE2103.3	Develop the biasing circuits using the electronic devices.
EE2103.4	Model the amplifier circuits.
EE2103.5	Analyse the characteristics of the devices.
EE2103.6	Appraise the construction of electronic devices.

Course Name: ELECTROMAGNETIC FIELDS	
Course Code: EE2104	
EE2104.1	Determine electric fields and potentials using Guass's law or solving Laplace's orpossion's equations, for various electric charge distributions.
EE2104.2	Calculate and design capacitance, energy stored in dielectrics.
EE2104.3	Calculate the magnetic field intensity due to current, the application of Ampere's law andthe Maxwell's second and third equations.
EE2104.4	.determine the magnetic forces and torque produced by currents in magnetic field.
EE2104.5	Determine self and mutual inductances and the energy stored in the magnetic field.
EE2104.6	Calculate induced EMF, understand the concepts of displacement current and Poyntingvector.

Course Name: THERMAL AND HYDRO PRIME MOVERS	
Course Code: EE2105	
EE2105.1	Able to draw locus diagrams, waveforms and phasor diagrams for lagging and leading networks.
EE2105.2	Determine electric fields and potentials using Guass's law or solving Laplace's orpossion's equations, for various electric charge distributions.
EE2105.3	Calculate and design capacitance, energy stored in dielectrics.
EE2105.4	Calculate the magnetic field intensity due to current, the application of Ampere's law andthe Maxwell's second and third equations.
EE2105.5	Determine the magnetic forces and torque produced by currents in magnetic field.
EE2105.6	Determine self and mutual inductances and the energy stored in the magnetic field.

Course Name:MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS	
Course Code: EE2106	
EE2106.1	The Learner is equipped with the knowledge of estimating the Demand and demand elasticities for a product
EE2106.2	The knowledge of understanding of the Input-Output-Cost relationships and estimation ofthe least cost combination of inputs
EE2106.3	To have the knowledge of different business Units.
EE2106.4	The Learner is able to prepare Financial Statements and the usage of various Accounting tools for Analysis
EE2106.5	The Learner can able to evaluate various investment project proposals with the help ofcapital budgeting techniques for decision making
EE2106.6	Price Output determination under various market conditions and also to have the knowledge of differentbusiness Units

Course Name:THERMAL AND HYDRO LABORATORY	
Course Code: EE21L1	
EE21L1.1	Able to draw locus diagrams, waveforms and phasor diagrams for lagging and leading networks.
EE21L1.2	Determine electric fields and potentials using Guass's law or solving Laplace's orpossion's equations, for various electric charge distributions.
EE21L1.3	Calculate and design capacitance, energy stored in dielectrics
EE21L1.4	Calculate the magnetic field intensity due to current, the application of Ampere's law andthe Maxwell's second and third equations.
EE21L1.5	.determine the magnetic forces and torque produced by currents in magnetic field
EE21L1.6	Determine self and mutual inductances and the energy stored in the magnetic field

Course Name:Electrial circuits laboratary	
Course Code: EE21L2	
EE21L2.1	Able to draw locus diagrams, waveforms and phasor diagrams for lagging and leading networks.
EE21L2.2	Determine electric fields and potentials using Guass's law or solving Laplace's orpossion's equations, for various electric charge distributions.
EE21L2.3	Calculate and design capacitance, energy stored in dielectrics
EE21L2.4	Calculate the magnetic field intensity due to current, the application of Ampere's law andthe Maxwell's second and third equations
EE21L2.5	.determine the magnetic forces and torque produced by currents in magnetic field
EE21L2.6	Determine self and mutual inductances and the energy stored in the magnetic field

II YEAR- II SEM

Course Name: ELECTRICAL MEASUREMENTS	
Course Code: EE2201	
EE2201.1	Able to choose right type of instrument for measurement of voltage and current for ac and dc.
EE2201.2	Able to choose right type of instrument for measurement of power and energy – able to calibrate energy meter by suitable method.
EE2201.3	Able to calibrate ammeter and potentiometer.
EE2201.4	Able to select suitable bridge for measurement of electrical parameters
EE2201.5	Able to use the ballistic galvanometer and flux meter for magnetic measuring instruments
EE2201.6	Able to measure frequency and phase difference between signals using CRO. Able to use digital instruments in electrical measurements.

Course Name: ELECTRICAL MACHINES – II	
Course Code: EE2202	
EE2202.1	Able to explain the operation and performance of three phase induction motor.
EE2202.2	Able to analyze the torque-speed relation, performance of induction motor and induction generator.
EE2202.3	Able to explain design procedure for transformers and three phase induction motors. • Implement the starting of single phase induction motors.
EE2202.4	To perform winding design and predetermine the regulation of synchronous generators.
EE2202.5	Implement the starting of single phase induction motors.
EE2202.6	Avoid hunting phenomenon, implement methods of staring and correction of power factor with synchronous motor. Text Books: 1. Electrical Machines – P.S. Bhimb

Course Name: SWITCHING THEORY AND LOGIC DESIGN	
Course Code: EE2203.	
EE2203.1	Ability to derive the transfer function of physical systems and determination of overall transfer function using block diagram algebra and signal flow graphs.
EE2203.2	Capability to determine time response specifications of second order systems and to determine error constants.
EE2203.3	Acquires the skill to analyze absolute and relative stability of LTI systems using Routh's stability criterion and the root locus method.
EE2203.4	Capable to analyze the stability of LTI systems using frequency response methods.
EE2203.5	Able to design Lag, Lead, Lag-Lead compensators to improve system performance from Bode diagrams.
EE2203.6	Ability to represent physical systems as state models and determine the response. Understanding the concepts of controllability and observability.

Course Name: CONTROL SYSTEMS	
Course Code: EE2204	
EE2204.1	Ability to derive the transfer function of physical systems and determination of overall transfer function using block diagram algebra and signal flow graphs.
EE2204.2	Capability to determine time response specifications of second order systems and to determine error constants.
EE2204.3	Cquires the skill to analyze absolute and relative stability of LTI systems using Routh's stability criterion and the root locus method.
EE2204.4	Apable to analyze the stability of LTI systems using frequency response methods.
EE2204.5	Able to design Lag, Lead, Lag-Lead compensators to improve system performance from Bode diagrams.
EE2204.6	• Ability to represent physical systems as state models and determine the response. Understanding the concepts of controllability and observability.

Course Name: POWER SYSTEMS-I	
Course Code: EE2205	
EE2205.1	Students are able to identify the different components of thermal power plants.
EE2205.2	Students are able to identify the different components of nuclear Power plants.
EE2205.3	Students are able to distinguish between AC/DC distribution systems and also estimate voltage drops of distribution systems.
EE2205.4	Students are able to identifythe different components of air and gas insulated substations.
EE2205.5	Students are able to identifysingle core and multi core cables with different insulating materials.
EE2205.6	Students are able to analyzethe different economic factors of power generation and tariffs.

Course Name: MANAGEMENT SCIENCE	
Course Code: EE2206	
EE2206.1	After completion of the Course the student will acquire the knowledge on management functions and organizational behavior.
EE2206.2	Fter completion of the Course the student will acquire the knowledge global leadership and organizational behavior.
EE2206.3	Fter completion of the Course the student will acquire the knowledge on management functions, global leadership and organizational behavior.
EE2206.4	Will familiarize with the concepts of functional management and strategic management.
EE2206.5	Will familiarize with the concepts of functional management.
EE2206.6	Will familiarize with the concepts of functional management project management and strategic management.

Course Name: ELECTRICAL MACHINES – I LABORATORY	
Course Code: EE22L1	
EE22L1.1	To determine and predetermine the performance of DC machines and Transformers.
EE22L1.2	To determine the performance of DC machines and Transformers.
EE22L1.3	To control the speed of DC motor
EE22L1.4	To determine the performance of DC machines.
EE22L1.5	To achieve three phase to two phase transformation.
EE22L1.6	To achieve three phase transformation.

Course Name: ELECTRONIC DEVICES AND CIRCUITS LAB	
Course Code: EE22L2	
EE22L2.1	Able to draw locus diagrams, waveforms and phasor diagrams for lagging and leading networks.
EE22L2.2	Determine electric fields and potentials using Guass's law or solving Laplace's orpossion's equations, for various electric charge distributions.
EE22L2.3	Calculate and design capacitance, energy stored in dielectrics
EE22L2.4	Calculate the magnetic field intensity due to current, the application of Ampere's law andthe Maxwell's second and third equations
EE22L2.5	.determine the magnetic forces and torque produced by currents in magnetic field
EE22L2.6	Determine self and mutual inductances and the energy stored in the magnetic field.

III YEAR- I SEM

Course Name:POWER SYSTEMS–II	
Course Code: EE3101	
EE3101.1	Able to understand parameters of various types of transmission lines during different operating conditions
EE3101.2	Able to understand the performance of short and medium transmission lines.
EE3101.3	Student will be able to understand travelling waves on transmission lines.
EE3101.4	Will be able to understand various factors related to charged transmission lines.
EE3101.5	Will be able to understand sag of transmission lines and performance of line insulators.
EE3101.6	Will be able to understand tension of transmission lines and performance of line insulators.

Course Name: RENEWABLE ENERGY SOURCES	
Course Code: EE3102	
EE3102.1	Analyze solar radiation data, extraterrestrial radiation, and radiation on earth's surface
EE3102.2	Design solar thermal collectors, solar thermal plants.
EE3102.3	Design solar photo voltaic systems.
EE3102.4	Develop maximum power point techniques in solar PV and wind energy systems.
EE3102.5	Explain wind energy conversion systems, wind generators, power generation.
EE3102.6	Explain basic principle and working of hydro, tidal, biomass, fuel cell and geothermal systems

Course Name: SIGNALS SYSTEMS	
Course Code: EE3103.	
EE3103.1	Characterize the signals and systems and principles of vector spaces, Concept of orthgonality
EE3103.2	Analyze the continuous-time signals and continuous-time systems using Fourier series, Fourier transform and Laplace transform.
EE3103.3	Apply sampling theorem to convert continuous-time signals to discrete-time signal and reconstruct back.
EE3103.4	Understand the relationships among the various representations of LTI systems.
EE3103.5	Understand the Concepts of convolution, correlation, Energy and Power density spectrum and their relationships.
EE3103.6	Apply z-transform to analyze discrete-time signals and systems

Course Name: PULSE AND DIGITAL CIRCUITS	
Course Code: EE3104	
EE3104.1	Design linear and non-linear wave shaping circuits.
EE3104.2	Apply the fundamental concepts of wave for various switching and signal generating circuits.
EE3104.3	Design different multivibrators and time base generators.
EE3104.4	Utilize the non sinusoidal signals in many experimental research areas.
EE3104.5	Apply the fundamental concepts of wave shaping for various and signal generating circuits.
EE3104.6	Different multivibrators and base generators.

Course Name: POWER ELECTRONICS	
Course Code: EE3105	
EE3105.1	Explain the characteristics of various power semiconductor devices and analyze the static and dynamic characteristics of SCR's.
EE3105.2	Design firing circuits for SCR.
EE3105.3	Explain the operation of single phase full–wave converters and analyze harmonics in the input current.
EE3105.4	Explain the operation of three phase full–wave converters.
EE3105.5	Analyze the operation of different types of DC-DC converters.
EE3105.6	Explain the operation of inverters and application of PWM techniques for voltage control and harmonic mitigation.

Course Name: ELECTRICAL MACHINES – II LABORATORY	
Course Code: EE31L1	
EE31L1.1	Able to assess the performance of single phase and three phase induction motors.
EE31L1.2	Able to control the speed of three phase induction motor.
EE31L1.3	Able to predetermine the regulation of three–phase alternator by various methods.
EE31L1.4	Able to find the Xd/ Xqratio of alternator and asses the performance of three–phasesynchronous motor.
EE31L1.5	Able to find the alternator and asses the performance of three–phasesynchronous motor.
EE31L1.6	Able to control the speed of three phase induction motor.

Course Name: CONTROL SYSTEMS LAB	
Course Code: EE31L2	
EE31L2.1	Able to analyze the performance and working Magnetic amplifier, D.C and A.C. servo motors and synchronous motors.
EE31L2.2	Able to design P,PI,PD and PID controllers.
EE31L2.3	Able to design lag, lead and lag–lead compensators.
EE31L2.4	Able to control the temperature using PID controller.
EE31L2.5	Able to determine the transfer function of D.C.motor.
EE31L2.6	Able to control the position of D.C servo motor performance.

Course Name: ELECTRICAL MEASUREMENTS LABORATORY	
Course Code: EE31L3.	
EE31L3.1	To be able to measure the electrical parameters voltage, current, power.
EE31L3.2	To be able to measure the current, power, energy and electrical characteristics of resistance, inductance and capacitance
EE31L3.3	To be able to measure the electrical parameters voltage, current, power, energy and electrical characteristics of resistance.
EE31L3.4	To be able to test transformer oil for its effectiveness.
EE31L3.5	To be able to measure the parameters of inductive coil.
EE31L3.6	Test transformer oil.

III YEAR- II SEM

Course Name: POWER ELECTRONIC CONTROLLERS DRIVES	
Course Code: EE3201	
EE3201.2	Analyze the operation of three phase converter fed dc motors and four quadrant operations of dc motors using dual converters.
EE3201.3	Describe the converter control of dc motors in various quadrants of operation.
EE3201.4	Know the concept of speed control of induction motor by using AC voltage controllers and voltage source inverters.
EE3201.5	Differentiate the stator side control and rotor side control of three phase induction motor..
EE3201.6	Explain the speed control mechanism of synchronous motors.

Course Name: POWER SYSTEM ANALYSIS	
Course Code: EE3202	
EE3202.1	Able to draw impedance diagram for a power system network and to understand perunit quantities.
EE3202.2	Able to form aybusand Zbusfor a power system networks.
EE3202.3	Able to understand the load flow solution of a power system using different methods.
EE3202.4	Able to find the fault currents for all types faults to provide data for the design ofprotective devices.
EE3202.5	• Able to findthe sequence components of currents for unbalanced power systemnetwork.
EE3202.6	• Able to analyze the steady state, transient and dynamic stability concepts of a power system.

Course Name: MICROPROCESSORS AND MICROCONTROLLERS	
Course Code: EE3203.	
EE3203.1	To be able to understand the microprocessor capability in general and explore the evaluation of microprocessors.
EE3203.2	To be able to understand the addressing modes of microprocessors.
EE3203.3	To be able to understand the micro controller capability.
EE3203.4	To be able to program mp and mc.
EE3203.5	To be able to interface mp and mc with other electronic devices.
EE3203.6	To be able to develop cyber physical systems.

Course Name: DATA STRUCTURES	
Course Code: EE3204.	
EE3204.1	Distinguish between procedures and object oriented programming.
EE3204.2	Apply advanced data structure strategies for exploring complex data structures.
EE3204.3	Compare and contrast various data structures and design techniques in the area of Performance.
EE3204.4	Incorporate data structures into the applications such as binary search trees, AVL and B Trees.
EE3204.5	Implement data structure algorithms through C++.
EE3204.6	Implement all data structures like stacks, queues, trees, lists and graphs and compare their Performance and trade offs.

Course Name: Energy audit and conservation &management	
Course Code: EE3205	
EE3205.1	To understand artificial neuron models.
EE3205.2	To understand learning methods of ANN.
EE3205.3	To utilize different algorithms of ANN.
EE3205.4	To distinguish between classical and fuzzy sets.
EE3205.5	To understand different modules of fuzzy controller.
EE3205.6	To understand applications of neural networks and fuzzy logic.

Course Name: POWER ELECTRONICS LAB	
Course Code: EE32L1.	
EE32L1.1	Able to study the characteristics of various power electronic devices and analyze gate drive circuits of IGBT.
EE32L1.2	Able to analyze the performance of single–phase and three–phase full–wave bridgeconverters with bothinductive loads
EE32L1.3	Able to understand the operation of single phase AC voltage regulator with resistive and inductive loads.
EE32L1.4	Abletounderstandtheworkingofbuckconverter,single–phase square wave inverter and PWM inverter.
EE32L1.5	Abletounderstandtheworkingofboostconverter,single–phase square wave inverter and PWM inverter.
EE32L1.6	Able to analyze the performance of single–phase and three–phase full–wave bridgeconverters with both resistive loads

Course Name: MICRO MPROCESSORS AND MICRO CONTROLLERS LAB	
Course Code:EE32L2	
EE32L2.1	Will be able to write assembly language program using 8086 micro based on arithmetic, logical, and shift operations.
EE32L2.2	Will be able to interface 8086 with I/O and other devices.
EE32L2.3	Will be able to do parallel communication using 8051 & PIC 18 micro controllers.
EE32L2.4	Will be able to do serial communication using 8051 & PIC 18 micro controllers.
EE32L2.5	Will be able to write assembly language program using 8086 micro based on logical, and shift operations.
EE32L2.6	Will be able to write assembly language program using 8086 micro based on Arithmetic, logical operations.

Course Name: Data structures lab	
Course Code: EE32L3	
EE32L3.1	Beabletodesign andanalyzethetimeefficiencyofthedata structure
EE32L3.2	Becapabletoidentitythe appropriatedatastructureforgiven problem
EE32L3.3	Havepracticalknowledgeontheapplicationofdatastructures
EE32L3.4	Beabletodesign andanalyzethespaceefficiencyofthedata structur

EE32L3.5	Analyzesimplelinearandnonlineardata structures.
EE32L3.6	Applythesuitabledatastructureforthegiven real world problem

IV YEAR- I SEM

Course Name: RENEWABLE ENERGY SOURCES AND SYSTEMS	
Course Code: EE4101.	
EE4101.1	Analyze solar radiation data, extraterrestrial radiation, radiation on Earth's surface.
EE4101.2	Design solar thermal collections.
EE4101.3	Design solar photo voltaic systems.
EE4101.4	Develop maximum power point techniques in solar PV and wind.
EE4101.5	Explain wind energy conversion systems, Betz coefficient, tip speed Ratio.
EE4101.6	Explain basic principle and working of hydro, tidal, biomass, fuel Cell and geothermal systems.

Course Name: HVAC & DC TRANSMISSION	
Course Code: EE4102	
EE4102.1	To be able to acquaint with HV transmission system with regard to Power handling capacity, losses, conductor resistance and Electrostatic field associate with HV.
EE4102.2	To develop ability for determining corona, radio interference, Audible noise generation and frequency spectrum for single and Three phase transmission lines.
EE4102.3	To be able to acquire knowledge in transmission of HVDC power With regard to terminal equipments.
EE4102.4	To be able to develop knowledge with regard to choice of pulse Conversion, control characteristic, firing angle control and effect of Source impedance.
EE4102.5	To develop knowledge of reactive power requirements of Conventional control, filters and reactive power compensation in AC. Side of HVDC system.
EE4102.6	Able to calculate voltage and current harmonics, and design of Filters for six and twelve pulse conversion.

Course Name:POWER SYSTEM OPERATION AND CONTROL	
Course Code: EE4103	
EE4103.1	Able to compute optimal scheduling of Generators
EE4103.2	Able to understand hydrothermal scheduling.
EE4103.3	Understand the unit commitment problem.
EE4103.4	Able to understand importance of the frequency.
EE4103.5	Understand importance of PID controllers in single area and two area systems.
EE4103.6	Will understand reactive power control and line power compensation.

Course Name:INSTRUMENTATION	
Course Code: EE4104	
EE4104.1	Able to represent various types of signals .
EE4104.2	Acquire proper knowledge to use various types of Transducers.
EE4104.3	Able to monitor and measure various parameters such as strain, velocity, temperature, pressure etc.
EE4104.4	Acquire proper knowledge and working principle of various types of digital voltmeters.
EE4104.5	Able to measure various parameter like phase and frequency of a signal with the help of CRO.
EE4104.6	Acquire proper knowledge and able to handle various types of signal analyzers.

Course Name:Electrical Distribution systems	
Course Code: EE4105	
EE4105.1	Able to understand the various factors of distribution system
EE4105.2	Able to design the substation and feeders
EE4105.3	Able to determine the voltage drop and power loss
EE4105.4	Able to understand the protection and its coordination.
EE4105.5	Able to understand the effect of compensation on p.f improvement.
EE4105.6	Able to understand the effect of voltage, current distribution system performance

Course Name:MICROPROCESSORS AND MICROCONTROLLERS LAB	
Course Code: EE41L1	
EE41L1.1	Will be able to write assembly language program using 8086 micro based on arithmetic, logical, and shift operations.
EE41L1.2	Will be able to do modular and Dos/Bios programming using 8086 micro processor.
EE41L1.3	Will be able to interface 8086 with I/O and other devices.
EE41L1.4	Will be able to do parallel and serial communication using 8051 micro controllers.
EE41L1.5	Will be able to write assembly language program using 8086 micro based on arithmetic.
EE41L1.6	Will be able to do parallel communication using 8051 micro controllers.

Course Name:ELECTRICAL SIMULATION LAB	
Course Code: EE41L2	
EE41L2.1	Able to simulate integrator circuit, differentiator circuit, Boost converter, Buck converter, full convertor and PWM inverter.
EE41L2.2	Able to simulate transmission line by incorporating line, load.
EE41L2.3	Able to perform transient analysis of RLC circuit and single machine connected to

	infinite bus (SMIB).
EE41L2.4	Able to find load flow solution for a transmission network with Newton–Rampson method.
EE41L2.5	Able to simulate transmission line by incorporating line transformer models.
EE41L2.5	Able to perform transient analysis of RLC circuit and single machine connected to infinite bus (SMIB).

Course Name:POWER SYSTEMS LAB	
Course Code: EE41L3	
EE41L3.1	The student is able to determine the parameters of various power system components which are frequently occur in power system studies and he can execute energy management systems functions at load dispatch centre.
EE41L3.2	The student is able to determine the parameters energy management systems.
EE41L3.3	The student is able to determine the parameters of various power system.
EE41L3.4	The student is able to determine the parameters of varioussystems functions .
EE41L3.5	The student is able to determine the parameters of variousfunctions at load dispatch .
EE41L3.5	The student is able to determine the parameters of variousfrequently occur in power system studies and hecan execute.

IV YEAR- II SEM

Course Name: DIGITAL CONTROL SYSTEMS	
Course Code: EE4201	
EE4201.1	The students learn the advantages of discrete time control systems and the “know how” of various associated accessories.
EE4201.2	The learner understand z–transformations and their role in the mathematical analysis of different systems(like laplace transforms in analog systems).
EE4201.3	The stability criterion for digital systems and methods adopted for testing the same are explained.
EE4201.4	Finally, the conventional and state–space methods of design are also introduced.
EE4201.5	The learner understand z–transformations and their role in the mathematical (like laplace transforms in analog systems).
EE4201.6	The students learn the advantages “know how” of various associated accessories.

Course Name: SPECIAL ELECTRICAL MACHINES	
Course Code: EE4202	
EE4202.1	Explain theory of operation and control of switched reluctance motor.
EE4202.2	Explain the performance and control of stepper motors, and their applications.
EE4202.3	Describe the operation and characteristics of permanent magnet dc motor.
EE4202.4	Distinguish between brush dc motor and brush less dc motor
EE4202.5	Explain the theory of travelling magnetic field and applications of linear motors.
EE4202.6	Understand the significance of electrical motors for traction drive

Course Name: FLEXIBLE ALTERNATING CURRENT TRANSMISSION SYSTEMS	
Course Code: EE4203	
EE4203.1	To learn the basics of power flow control in transmission lines by using FACTS controllers
EE4203.2	To explain the operation and control of voltage source converter.
EE4203.3	To discuss compensation methods to improve stability and reduce power oscillations in the transmission lines
EE4203.4	To learn the method of shunt compensation by using static VAR compensators.
EE4203.5	To learn the methods of compensation by using series compensators.
EE4203.6	To explain the operation of two modern power electronic controllers (Unified Power Quality Conditioner and Interline Power Flow Controller).

Course Name: AI TECHNIQUES	
Course Code: EE4204	
EE4204.1	Explain theory of operation and control of switched reluctance motor.
EE4204.2	Explain the performance and control of stepper motors, and their applications.
EE4204.3	Describe the operation and characteristics of permanent magnet dc motor.
EE4204.4	Distinguish between brush dc motor and brush less dc motor
EE4204.5	Explain the theory of travelling magnetic field and applications of linear motors.
EE4204.6	Understand the significance of electrical motors for traction drive