Galgotias College of Engineering and Technology

Department of Electrical Engineering

Course Outcomes

1. Course Name: Engineering Mathematics-III (NAS301), Year of Study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NAS301.1	Understand the concept of numerical techniques in finding solution of linear system of equations.
NAS301.2	Analyze the problems which are used in engineering and how to solve these problems using different transforms.
NAS301.3	Comprehend the meaning of analytic function, singularities and Laurent series in evaluating real integral.
NAS301.4	Construct, analyze and evaluate the solution of differential equation by using numerical methods.
NAS301.5	Evaluate the root of the algebraic and transcendental equation by using numerical method.
NAS301.6	Analyze the behavior of statistical data by using testing of hypothesis and different probability distributions.

2. Course Name: Thermal & Hydraulic Machines (NME309), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NME309.1	Demonstrate the basic concept of thermodynamic law and also appraise the rankine, reheat and regenerative cycles.
NME309.2	Illustrate the classification of steam turbine and its velocity diagrams for the purpose of finding the work done, effectively of the turbine and governing of turbines.
NME309.3	Interpret the importance of different cycles mainly Otto, Diesel and Dual cycles.
NME309.4	Understand the features of hydraulic turbines and the impact of hydraulic thurst of jet on various cross sections mainly deals with flat and curve.
NME309.5	Demonstate the classification of power absorbing machines and its construction as well as working

3. Course Name: Electromechanical Energy Conversion-I (NEE301), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE301.1	Understand the energy conversion principles and the concept of magnetic system.
NEE301.2	Explain the constructional details, characteristics and application of various types of DC generators.
NEE301.3	Interpret the performance characteristics of DC motors and their testing.
NEE301.4	Explain the working, performance characteristics and testing of 1-phase transformer operating individually or in parallel.
NEE301.5	Demonstrate various winding connections of 3-phase transformer and their conversion to multiphase system.

4. Course Name: Electrical Measurement & Measuring Instruments (NEE302), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE302.1	Measure various electrical parameters with accuracy, precision and able to get relative error if any.
NEE302.2	Design AC and DC bridges for relevant parameter measurement
NEE302.3	Study Instrument transformers with their design considerations and testing
NEE302.4	Design Signal Generator, frequency counter, CRO and digital IC counter for appropriate measurement.
NEE302.5	Application of appropriate passive or active transducers and data acquisition systems for measurement of physical phenomenon

5. Course Name: Basic Signals & Systems (NEE303), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE303.1	Represent the various types of signals & systems and perform mathematical operations on them.
NEE303.2	Analyze the response of LTI system using Fourier Series and Fourier transform.
NEE303.3	Analyze the properties of continuous time signals and system using Laplace transform
NEE303.4	Apply the concepts of state- space models to SISO & MIMO systems.
NEE303.5	Implement the concepts of Z transform to solve complex engineering problems using difference equations.

6. Course Name: Industrial Sociology (NHU302), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NHU302.1	Comprehend social relations in industry/organization and correlate the dynamics of diverse context of Indian society.
NHU302.2	Understand the global rise and development of industry and empower themselves to analyze and evaluate different aspects of industrialization.
NHU302.3	Demonstrate the implications of policies and its consequences in the context of industrialization and its growth in India
NHU302.4	Evaluate the social consequences of modernization, automation and industrial activities on the ecosystem thereby, sensitizing the engineers on public health and safety issues which shall serve as cornerstone for cultural, societal and environmental considerations.
NHU302.5	Envisage prospective models of industrialization across the globe to understand the consumer society and the sociological concerns of industrial development in the present world.
NHU302.5	Gain and recognize the need for bridging the implications of sociological theories with engineering sciences and encourage themselves for lifelong learning.

7. Course Name: Thermal & Hydraulic Machines Lab (NME359), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NME359.1	Demonstrate working of 2 &4 strokes CI engines.
NME359.2	Illustrate basic concepts of conversion of hydraulic energy to mechanical energy for various types of turbine.

NME359.3	Outline basic concepts between tangential, radial and axial flow turbine depending upon head and discharge.
NME359.4	Interpret controlling of speed of the turbine up to required limits as per requirement.

8. Course Name: Electro-Mechanical Energy Conversion-I Lab (NEE351), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE351.1	Analyse and evaluate performance characteristics of DC machine.
NEE351.2	Analyse and evaluate performance of transformer.

9. Course Name: Electrical Measurements Lab (NEE352), Year Of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE352.1	study the importance of calibration of measuring instruments.
NEE352.2	describe the construction and working of different measuring instruments.
NEE352.3	compute the various physical parameters using different sensors.

10. Course Name: Numerical Technique Lab (NEE353), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE353.1	Use MATLAB to solve basic mathematical problems and model mathematical systems using first and second order differentialequations.
NEE353.2	Apply numerical techniques for root finding, curve fitting, differentiation and integration of various functions.
NEE353.3	Solve Fourier transform , Z –transform and Laplace transform of various functions.

11. Course Name: Laser System & Application (NOE043), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NOE043.1	Understand the elementary quantum physics.
NOE043.2	Understand the principle of Laser action & various components of Laser.
NOE043.3	Understand the various types like Three & four level Lasers.
NOE043.4	Understand the Lasers Applications.

12. Course Name: Analog & Digital Electronics (NEC409A), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEC409A.1	To know about different special diodes and illustrate different power devices used in circuit.
NEC409A.2	Able to understand the working of amplifier and their characteristics.
NEC409A.3	To know about different types of feedback ,and differnt oscillators and its signal generation.
NEC409A.4	To know how to minimize the Boolean expression using graphical and algebraic method and also different logic circuits.
NEC409A.5	To know about different memory storage elements and variours analog-digital components used in the system

13. Course Name: Electro-Mechanical Energy Conversion -II (NEE401), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE401.1	Understand the basic concept of synchronous generator
NEE401.2	Analyse the basic principle and working of synchronous motor
NEE401.3	Evalute the basic concept of three phase induction motor
NEE401.4	Study the working of high torque three phase induction motor
NEE401.5	Explain the basic concept of single phase induction motor

14. Course Name: Network Analysis And Synthesis (NEE402), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE402.1	Understand the Importance of Graph Theory in Network Analysis
NEE402.2	Analyze AC electrical networks using various network theorems.
NEE402.3	Analyze transient and steady state response of first and second order circuit for arbitrary inputs.
NEE402.4	Determine the network functions and different parameters pertaining to one port and two port networks.
NEE402.5	Design an electrical network using driving point function and describe filters and attenuators.

15. Course Name: Instrumentation & Process Control (NEE403), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE403.1	Understand the energy conversion principles and the concept of magnetic system.
NEE403.2	Explain the constructional details, characteristics and application of various types of DC generators.
NEE403.3	Interpret the performance characteristics of DC motors and their testing.
NEE403.4	Explain the working, performance characteristics and testing of 1-phase transformer operating individually or in parallel.
NEE403.5	Demonstrate various winding connections of 3-phase transformer and their conversion to multiphase system.

16. Course Name: Industrial Psychology (NHU401), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NHU401.1	Explain various aspects of Industrial Psychology and its impact on human behavior in organizational context.
NHU401.2	Relate various practices of Industrial Psychology that affect the behavior of human beings in the industrial settings.
NHU401.3	Describe the physical aspects of the work environment, mental health of the employees and use the techniques of recruitment and selection.
NHU401.4	Implement the knowledge pertaining to different techniques adopted to increase employee productivity by using case-studies.

17. Course Name: Electronics Lab (NEC459A), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEC459A.1	Understand and analyze working of different semiconductor devices such diode, transistor, FET and identify its characteristics
NEC459A.2	Analyze and Design the oscillator circuit (passive elements)
NEC459A.3	Understand basics of Op-amp ICs, design it for various applications

18. Course Name: Electro-Mechanical Energy Conversion-II Laboratory (NEE451), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE451.1	Conduct various tests on alternators and obtain their performance indices using standard analytical , graphical and software methods.
NEE451.2	Analyse the performance of induction machines using standard analytical ,graphical and software methods.

19. Course Name: Networks Lab (NEE452), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE452.1	Apply various network theorems to determine the circuit response.
NEE452.2	Analyse R,L, C circuits behavior in time and frequency domain.
NEE452.3	Compute two port network parameters.

20. Course Name: Electrical Instrumentation Lab (NEE453), Year of Study 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
NEE453.1	Understand various transducers and sensors for measuring different types of physical quantities and the working of controllers to find the response of electrical circuits
NEE453.2	Simulate the various frequency domain measurements of electrical signal using Spectrum analyzer
NEE453.3	Design a circuit for noise reduction in measurement.

21. Course Name: Engineering Economics (NHU501), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NHU501.1	Understand the basic concepts of Engineering Economics & theory of demand.
NHU501.2	Understand concept of supply and make use of various methods of demand forecasting for estimating demand of any product.
NHU501.3	Explain basic concepts related to production and cost.
NHU501.4	Outline of various market structures.
NHU501.5	Understand nature and structure of Indian economy and basic concepts related to NI, Inflation and business cycle.

22. Course Name: Elements of Power System (NEE501), Year of study: 2015-16

Course outcomes	On completion of this course, the student will be able to
NEE501.1	Apply the knowledge of various kinds of Electrical components for Generation, Transmission and Distribution in a power system.
NEE501.2	Estimate the parameters of transmission line and examine their performance

	characteristics.
NEE501.3	Solve practical problems of Corona and its interference with communication lines.
NEE501.4	Design the overhead transmission line, insulators and cables.
NEE501.5	Apply the various methods of grounding.

23. Course Name: Power Electronics (NEE502), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE502.1	Understand the goal of power electronics.
NEE502.2	Interpret the basic application of power electronics devices and switching characterizes of different switching devices like thyristors group, BJT, IGBT etc
NEE502.3	Get the DC output from an AC input for three phase and single system.
NEE502.4	Control the AC output for three phase and single system
NEE502.5	Control the frequency of input and output.

24. Course Name: Control System (NEE503), Year of study: 2015-16

Course Outcome	On completion of this course, the student will be able to -
NEE503.1	Mathematical modelling of physical system to find transfer function
NEE503.2	Analysis of control system using standard test signal
NEE503.3	Design of controller & compensators
NEE503.4	Study of different component of control system
NEE503.5	Analysis of stability of control system in time & frequency domain

25. Course Name: Microprocessor and its application (NEE504), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE504.1	To study the fundamentals of Microprocessor systems and interfacing
NEE504.2	To learn the fundamentals of 8-bit Microprocessor 8085, instruction set of 8-bit Microprocessor 8085 and assembly language programming for solving problems
NEE504.3	Develope assembly language program using different types of interrupts, subroutines and basic commands of 8-bit Microprocessor 8085.
NEE504.4	To understand the fundamentals and instruction set of 16-bit Microprocessor 8086 and assembly language programming for solving problems in 16-bit Microprocessor 8086 ,
NEE504.5	Develope assembly language program using different types of interrupts, subroutines and basic commands of 16-bit Microprocessor 8086.

26. Course Name: Fundamentals of E.M. Theory (NEC508), Year of study: 2015-16

Course outcomes	On completion of this course, the student will be able to
NEC508.1	Understand the different coordinate systems and their applications in different EM Fields
NEC508.2	Explain the concept of static electric field and different boundary conditions.
NEC508.3	Describe the concept of static magnetic field.
NEC508.4	Discuss the forces due to magnetic field and magnetic boundary conditions.
NEC508.5	Application of Maxwell's equation, wave propagation and Transmission line.

27. Course Name: Power Electronics Lab (NEE551), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE551.1	Understand various Power Electronics devices & its chracteristics SCR,TRIAC, DIAC, IGBT, GTO etc.

NEE551.2	Understand application of Power Electronics devices in Choppers, Inverters and Converters etc.for different load
NEE551.3	Design and simulate 1-3 pahse half and fullwaverectifirs,chopper inverter etc, using variour power electronics devices MATLAB

28. Course Name: Control System Lab (NEE552), Year of study: 2015-16

Course Outcome	On completion of this course, the student will be able to -
NEE552.1	Analyze stability of various control system using time domain stability analysis methods
NEE552.2	Design and simulate various control systems in time /frequency domain using MATLAB

29. Course Name: Microprocessor Lab (NEE553), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE553.1	Understand assembly language programming on arithmetic and logical operations using 8-bit Microprocessor 8085 experimental Kit
NEE553.2	Understand assembly language programming for solving problems using 16-bit Microprocessor 8086 experimental Kit
NEE553.3	Understand interfacing the devices with microprocessors and its assembly language programming.

30. Course Name: Simulation Based Minor Project (NEE554), Year of study: 2015-16

Course outcomes	On completion of this course, the student will be able to
NEE554.1	Identify the real world problems and develop solution using modern software tools.
NEE554.2	Design or Simulate a prototype of identified problem.
NEE554.3	Write technical reports following professional ethics.

31. Course Name: Power System Analysis (NEE601), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE601.1	Interpret power system single line diagrams based on their symbolic representation and the concepts of per unit system
NEE601.2	Analyze Power system parameters arising due to occurances of symmetrical and unsymmetrical faults
NEE601.3	Solve the power flow problems by using Gauss Siedel Method, Newton Raphson's Method, Decoupled and Fast Decoupled Load flow methods
NEE601.4	Analyze the power system stability conditions using equal area criteria and swing equation for transient stability and the criteria for steady state stability
NEE601.5	understand the characteristics of voltage and current as travelling waves under differnt line terminations

32. Course Name: Switchgear & Protection (NEE602), Year of study: 2015-16

Course Outcome	On completion of this course, the student will be able to -
NEE602.1	Identify the causes and effects of faults in power system and explain the necessity of protection in power system.
NEE602.2	Describe the operation of electromagnetic relays and draw their characteristic curves
NEE602.3	Understand the apparatus protection
NEE602.4	Explain the role and functioning of the static and numerical relays.

NEE602.5	Recognize the location and functioning of circuit breakers.
NEE602.6	Design a protective system for transmission line

33. Course Name: Special Electrical Machines (NEE603)Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE603.1	Study the basic concept of poly phace induction machines
NEE603.2	Understand the basic principle and working of induction generator
NEE603.3	Explain the basic concept of poly phace Stepper Motors
NEE603.4	Analyse the basic principle and working of Permanent Magnet Machines
NEE603.5	Differentiate between different type poly phace Single Phase Commutator Motors

34. Course Name: Neural Networks and Fuzzy Systems (NEE013), Year of study: 2015-16

Course outcomes	On completion of this course, the student will be able to
NEE013.1	Undersatnd the archeitecture of Neural Network.
NEE013.2	Analyse Neural Networks using Back Propagation algorithm.
NEE013.3	Understand the basic concepts of fuzzy algorithms.
NEE013.4	Implemention of Fuzzy controllers for industrial applications.
NEE013.5	Learn the principles of Genetic Algorithms.

35. Course Name: High Voltage Engineering (NEE021), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE021.1	Compare the evolution of wireless networks and different propagation models.
NEE021.2	Apply the knowledge of channel capacity sharing techniques to improve quality reception
NEE021.3	Examine VOCODERS and multiple access techniques
NEE021.4	Analyze the fundamental concept of Cellular network.

36. Course Name: Industrial Management (NHU 601), Year of study: 2015-16

Course Outcome	On completion of this course, the student will be able to -
NHU601.1	Understand the concept of industrial management.
NHU601.2	Understand the functions & principles of management and basic concept of HRM.
NHU601.3	Understand the process of work study and inventory control techniques
NHU601.4	Apply various quality control techniques for process control & product control.
NHU601.5	Understand basic concepts related to project management and control techniques.

37. Course Name: Power System Lab (NEE651) Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE651.1	To study and analyze the transient and subtransient reactance of alternator.
NEE651.2	Analyze and calculate the different fault of power system.
NEE651.3	Study and undersatnd the function of different types of relay of power system network.

38. Course Name: Electrical Cad Lab (NEE652), Year of study: 2015-16

Course outcomes	On completion of this course, the student will be able to
NEE652.1	Design single phase transformer and DC-DC convertor
NEE652.2	Design induction motor and PI, PD, PID controllers.
NEE652.3	Design DC shunts motor and DC generator.
NEE652.4	Design field system and armature of alternator
NEE652.5	Design lead-lag compensator

39. Course Name: Minor Project (NEE653), Year of study: 2015-16

Course outcome	On completion of this course, the student will be able to -
NEE653.1	Investigate the emerging problems in electrical engineering and solve them by referring standard journals.
NEE653.2	Illustrate the state of the art technologies in the area of electrical engineering.
NEE653.3	Analyze various technological advancements in the area of machines, control system through software or hardware implementation.
NEE653.4	Analyze various technological advancements in the area of machines, control system through software or hardware implementation.
NEE653.5	Formulate a research paper and write the project report.

40. Course Name: Seminar (NEE654), Year of study: 2015-16

Course Outcome	On completion of this course, the student will be able to -
NEE654.1	Practical implementation of the identified software/hardware module.
NEE654.2	Analyze presentation and writing skills
NEE654.3	Subject knowledge and understanding of the theme.

41. Course Name: Entrepreneurship Development (EOE071), Year of study: 2015-16

Course Outcome	**Statement (On completion of this course, the student will be able to)**
EOE071.1	Understand the role and functions of entrepreneur.
EOE071.2	Able to formulate and evaluate the project.
EOE071.3	Understand the concept of NPV & IRR, accountancy, PPC and decision making.
EOE071.4	Determine process quality, understand marketing, IR, advertising, wages & incentive and inventory control.
EOE071.5	Understand various aspects of financial management of a project ,
EOE071.6	Understand legal provisions and assistance provided by various agencies to SSIs

42. Course Name: Power System Operation & Control(EEE031), Year of study: 2015-16

Course Outcome	**Statement (On completion of this course, the student will be able to)**
EEE031.1	Understand the functioning of power system control centers and the role of computers in real time control power system
EEE031.2	Apply the underlying concepts of unit commitment and on-line economic dispatch in the scheduling of generators
EEE031.3	Evaluate the load frequency control of an isolated power system
EEE031.4	Evaluate the load frequency control of an interconnected power system and the importance of tie-line power flow control
EEE031.5	Apply the various methodologies of voltage and reactive power control
EEE031.6	Understand the objectives of state estimation and the underlying concepts and functioning of FACTS devices

43. Course Name: EHV AC & DC Transmission (EEE041),Year of study: 2015-16

Course Outcome	**Statement (On completion of this course, the student will be able to)**
EEE041.1	Investigate the need of EHV Transmission and also the recent trends in power transmission system
EEE041.2	Understand the basics of EHV AC transmission
EEE041.3	Assemble the characteristics of EHV testing and design factors of EHV lines.

EEE041.4	Differentiate between types of EHV DC links and investigate the basic principles of DC link.
EEE041.5	Analyze various faults in EHV DC transmission and the concept of MTDC.

44. Course Name: Switchgear & Protection (EEE701), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE701.1	Identify the causes and effects of faults in power system and explain the necessity of protection in power system.
EEE701.2	Describe the operation of electromagnetic relays and draw their characteristic curves
EEE701.3	Understand the apparatus protection
EEE701.4	Explain the role and functioning of the static and numerical relays.
EEE701.5	Recognize the location and functioning of circuit breakers.
EEE701.6	Design a protective system for transmission line

45. Course Name: Electric Drives (EEE702), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE702.1	Basic knowledge of Different types of Fundamentals of Electric Drives and its parts.
EEE702.2	Basic knowledge of Dynamics of motor-load combination Steady state stability of Electric Drive Transient stability of electric Drive Selection of Motor Power rating.
EEE702.3	Understanding of Electric Braking, Purpose and types of electric braking, braking of dc, three phase induction and synchronous motors Dynamics during Starting and Braking.
EEE702.4	Basic knowledge of Power Electronic Control of DC Drives: Single phase and three phase-controlled converter fed separately.
EEE702.5	Understanding of Three Phase Induction Motor Drive. Basic knowledge of static rotor resistance and slip power recovery control schemes.

46. Course Name: Power Systems Lab (EEE751), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE751.1	Study and analyze the transient and subtransient reactance of alternator
EEE751.2	Analyze and calculate the different fault of power system
EEE751.3	Study and understand the function of different types of relayof power system network

47. Course Name: Electric Drives Lab (EEE752), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE752.1	Demonstrate various speed control tests on dc motors using power electronic converters
EEE752.2	Demonstrate various speed control tests on Induction motors using power electronic converters
EEE752.3	Analyze using MATLAB the speed control of dc motor/induction motor using power electronic converters

48. Course Name: Project (EEE753), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEN851.1	Identify the particular problem in the field and demonstrate independent learning.
EEN851.2	Plan, design and analyze the particular problem as project
EEN851.3	Demonstrate the usefulness of project in society and understanding of professional ethics and participate in a class or project team.

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50. Course Name: Industrial Training (EEE754), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE754.1	To expose students to the 'real' working environment and get acquainted with the organization structure, business operations and administrative functions.
EEE754.2	To have hands-on experience in the students' related field so that they can relate and reinforce what has been taught at the university.
EEE754.3	To promote cooperation and to develop synergetic collaboration between industry and the university in promoting a knowledgeable society.

51. Course Name: Non-Conventional Energy Resources (EOE081), Year of study:2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EOE081.1	Distinguish various conventional & non-conventional energy resources and its applications in various fields to minimize energy use in devices and buildings. About Solar cells & solar cell power plant
EOE081.2	Comprehend the overall solar energy and power plants based on it, Their application, performance & limitations.
EOE081.3	Develop an ability to understand resources of Geothermal energy, About MHD and Fuel cells, Power plants based on them, Their performance and limitations.
EOE081.4	Analyze principle of working of Thermo-electrical & thermionic conversion, Comprehensive knowledge of Wind power and its sources, Gain an assessment skill of the relative costs of energy conservation and energy production in various applications.
EOE081.5	Describe the availability & working of bio-mass, OTEC, wave & Tidal wave, Waste Recycling plants. This is also giving an opportunity to students to work as enterpreneurs with small investments or help NGOs for use of non-conventional energy in different forms.

52. Course Name: Energy Efficiency & Conservation (EEE054), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)
EEE054.1	Understand the basic principle of energy conservation and energy audit.
EEE054.2	Explain the concept nad implementation of demand side management
EEE054.3	Understand the importance of reactive power support in distribution systems
EEE054.4	Analyse the importance of efficiency in motor and lightining system

53. Course Name: Power Converter Application (EEE063), Year of study: 2015-16

Course Outcome	Statement (On completion of this course, the student will be able to)

EEE063.1	Introduction of power conversion and devices
EEE063.2	Understand the priciple of various FACTS devices.
EEE063.3	Explain the concept of different type of power supply
EEE063.4	Explain varous industrial applications using power converter
EEE063.5	Study the Interconnection of renewable energy sourcres

54. Course Name: Utilization of Electrical Energy and Traction (EEE801), Year of study: 2015-16

Course Outcome	**Statement (On completion of this course, the student will be able to)**
EEE801.1	Understand the processes of electrical heating and their application
EEE801.2	Explain the working of various Electric Welding and Electrolyte processes along with their applications
EEE801.3	Understand the designing of indoor and outdoor lighting system along with the working of the refrigeration and air-conditioning systems
EEE801.4	Describe the mechanics of train movement and the different types of electric traction
EEE801.5	Comprehend the use of power electronics control in ac and dc traction drives.

55. Course Name: Project EEE851), Year of study: 2015-16

Course Outcome	**Statement (On completion of this course, the student will be able to)**
EEN851.1	Identify the particular problem in the field and demonstrate independent learning.
EEN851.2	Plan, design and analyze the particular problem as project
EEN851.3	Demonstrate the usefulness of project in society and understanding of professional ethics and participate in a class or project team.