

Department of Electrical Engineering

Course Outcomes (CO)

Syllabus Pattern:-2019

Class:-SE

Semester:- I

Sr. No	Subject	Course Outcomes (CO)
1	Power Generation Technologies	CO1. Identify components and elaborate working principle of conventional power plants. CO2. Recognize the importance and opportunities of renewable energies CO3. Calculate and control power output of wind solar, and hydro power plant. CO4. Describe process of grid interconnection of distributed generation and requirements. CO5. Interpret the environmental and social impact of various generation technologies..
2	Material Science	CO1. Discuss classification, properties and characteristics of different electrical engineering materials. CO2. State various applications measuring methods for parameters of different classes of electrical engineering materials. CO3. Solve simple problems based on dielectric, magnetic and conducting materials. CO4. Apply knowledge of Nano-technology to electrical engineering. CO5. Execute tests on dielectric, insulating, magnetic, conducting, resistive materials as per IS to decide the quality of the materials. CO6. Create learning resource material ethically to demonstrate self learning leading to lifelong learning skills and usage of ICT/ online technology through collaborative/active learning activities.
3	Analog And Digital Electronics	CO1. Design logical, sequential and combinational digital circuit using K-Map. CO2. Demonstrate different digital memories and programmable logic families. CO3. Apply and analyze applications of OPAMP in open and closed loop condition. CO4. Design uncontrolled rectifier with given specifications

Sr. No	Subject	Course Outcomes (CO)
4	Electrical Measurements and Instrumentation	CO1. Define various characteristic and classify measuring instruments along with range extension techniques. CO2. Apply measurement techniques for measurement of resistance, inductance and capacitance. CO3. Demonstrate construction, working principle of electro-dynamo type and induction type instruments for measurement of power and energy. CO4. Make use of CRO for measurement of voltage, current and frequency. CO5. Classify transducer and apply it for measurement of physical parameters in real time.
5	Applications of Mathematics in Electrical Engineering	CO1. Apply fundamentals of mathematics in solving electrical engineering problem CO2. Analyze complex electrical engineering problem using mathematical techniques CO3. Implement program and simulation for problems in electrical engineering. CO4. Demonstrate self lifelong learning skills with applications of mathematics in electrical engineering through software.
6	Soft Skill	CO1. DoSWOC analysis. CO2. Develop presentation and take part in group discussion. CO3. Understand and implement etiquette in workplace and in society at large. CO4. Work in team with team spirit. CO5. Utilize the techniques for time management and stress management.
7	Audit Course-III	CO1: Differentiate between types of solar Concentrators CO2: Apply software tool for solar concentrators CO3: Design different types of Solar collectors and balance of plant

Department of Electrical Engineering

Course Outcomes (CO)

Syllabus Pattern:-2019

Class:-SE

Semester:- II

Sr. No	Subject	Course Outcomes (CO)
1	Power System-I	CO1. Recognize different patterns of load curve and calculate associated different factors with it and tariff. CO2. Draft specifications of electrical equipment in power station. CO3. Design electrical and mechanical aspects in overhead transmission and underground cables. CO4. Evaluate the inductance and capacitance of different transmission line configurations CO5. Analyse the performance of short and medium transmission lines.
2	Electrical Machines-I	CO1. Evaluate performance parameters of transformer with experimentation and demonstrate construction along with specifications as per standards. CO2. Distinguish between various types of transformer connections as per vector groups with application and to perform parallel operation of single/three phase transformers. CO3. Select and draft specifications of DC machines and Induction motors for various applications along with speed control methods CO4. Justify the need of starters in electrical machines with merits and demerits. CO5. Test and evaluate performance of DC machines and Induction motors as per IS standard.
3	Network Analysis	CO1. Calculate current/voltage in electrical circuits using simplification techniques, Mesh, Nodal analysis and network theorems CO2. Analyze the response of RLC circuit with electrical supply in transient and steady state. CO3. Apply Laplace transform to analyze behaviour of an electrical circuit. CO4. Derive formula and solve numerical of two port network and Design of filters CO5. Apply knowledge of network theory to find transfer function, poles and zeroes location to perform stability analysis and parallel resonance
4.	Numerical Methods and Computer Programming	CO1 :Demonstrate types of errors in computation and their causes of occurrence. CO2: Calculate root of algebraic and transcendental equations using various methods. CO3: Apply numerical methods for various mathematical problems such as interpolation, numerical differentiation, integration and ordinary differential equation.

Sr. No	Subject	Course Outcomes (CO)
		CO4: Solve linear simultaneous equation using direct and indirect method. CO5: Develop algorithms and write computer programs for various numerical methods.
5	Fundamental of Microcontroller and Applications	CO1. Describe the architecture and features of various types of the microcontroller. CO2. Illustrate addressing modes and execute programs in assembly language for the microcontroller. CO3. Write programs in C language for microcontroller 8051. CO4. Elaborate interrupt structure of 8051 and program to handle interrupt and ADC809. CO5. Define the protocol for serial communication and understand the microcontroller development systems. CO6. Interface input output devices and measure electrical parameters with 8051 in real time.
6	Project Based Learning	CO1. Identify, formulate, and analyze the simple project problem. CO2. Apply knowledge of mathematics, basic sciences, and electrical engineering fundamentals to develop solutions for the project. CO3. Learn to work in teams, and to plan and carry out different tasks that are required during a project.. CO4. Understand their own and their team-mate's strengths and skills. CO5. Draw information from a variety of sources and be able to filter and summarize the relevant points. CO6. Communicate to different audiences in oral, visual, and written forms.
7	Audit Course-IV	CO1: design of Solar PV system for small and large installations. CO2: handle software tools for Solar PV systems