|| न हि ज्ञानेन सदृशं पवित्रमिह विद्यते ||

Dr. Vitthalrao Vikhe Patil Foundation's

Dr. Vithalrao Vikhe Patil
College of Engineering Ahmednagar

Dr. Vithalrao Vikhe Patil Foundation
Ahmednagar

DTE College Code: EN-5161

Estt.1983

Department of Electrical Engineering

Course Outcomes

SE – 2019 Course		
Course Code	**Course Name**	**Course Outcomes**
Semester – III		
203141	**Power Generation Technologies**	CO1 Identify operations of thermal power plant with all accessories and cycles.
		CO2 Be aware of the principle of operation, components, layout, location, environmental and
		CO3 Identify and demonstrate the components of hydro power plant and calculation of turbine
		CO4 Find the importance of wind based energy generation along with its design, analysis and
		CO5 Apply solar energy in thermal and electrical power generation considering energy crisis,
		CO6 Understand the operation of electrical energy generation using biomass, tidal, geothermal,
207006	**Engineering Mathematics-III**	CO1 Solve higher order linear differential equation using appropriate techniques for modeling and analyzing electrical circuits.
		CO2 Solve problems related to Laplace transform, Fourier transform, Z-Transform and applications to Signal processing and Control systems.
		CO3 Perform vector differentiation and integration, analyze the vector fields and apply to Electro-Magnetic fields.
		CO4 Analyze conformal mappings, transformations and perform contour integration of
		CO5 complex functions in the study of electrostatics and signal processing.
		CO6
203142	**Material Science**	CO1 Categorize and classify different materials from Electrical Engineering applications
		CO2 point of view.
		CO3 Explain and summarize various properties and characteristics

			of different classes of materials.
		CO4	Choose materials for application in various electrical equipment.
		CO5	Explain and describe knowledge of nanotechnology, batteries and solar cell materials.
		CO6	Test different classes of materials as per IS.
203143	**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
203144	**Electrical Measurements and Instrumentation**	CO1	Understand various characteristics of measuring instruments, their classification and range extension technique.
		CO2	Classify resistance, apply measurement techniques for measurement of resistance, inductance.
		CO3	Explain construction, working principle and use of dynamometer type wattmeter for measurement of power under balance and unbalance condition.
		CO4	Explain Construction, working principle of 1-phase and 3-phase induction, static energy meter and calibration procedures.
		CO5	Use of CRO for measurement of various electrical parameters, importance of transducers, their classification, selection criterion and various applications.
		CO6	Classify transducer and apply it for measurement of physical parameters in real time.
203150	**Applications of Mathematics in Electrical**	CO1	Apply fundamentals of mathematics in solving electrical engineering problem
		CO2	Analyze complex electrical engineering problem using mathematical techniques.

	Engineering	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.
203151	**Soft Skills**	CO1	DoSWOT analysis.
		CO2	Develop presentation and take part in group discussion.
		CO3	Understand andImplement etiquettes in workplace and in society at large.
		CO4	Work in team with team spirit.
		CO5	Utilize the techniques for time management and stress management.
203152	**Audit Course-III Solar Thermal System**	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

SE – 2019 Course

Course Code	Course Name	Course Outcomes	

Semester – IV

2031 45	**Power System I**	CO1	Recognize different patterns of load curve, calculate different factors associated with it and tariff structure for LT and HT consumers.
		CO2	Aware of features, ratings, application of different electrical equipment in power
		CO3	station and selection of overhead line insulators.
		CO4	Analyze and apply the knowledge of electrical and mechanical design of transmission lines.
		CO5	Identify and analyze the performance of transmission lines.
2031 46	**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.
2031 47	**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 stead state.
		CO3	Apply Laplace transform to analyze behavior 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
2031 48	**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	Identify various types of equations and apply appropriate numerical method to solve different equations.
		CO4	Solve linear simultaneous equation using direct and indirect method.
		CO5	Develop algorithms and write computer programs for various numerical methods.
2031 49	**Fundamentals 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	Demonstrate programming proficiency using the various addressing modes and all types of instructions of the target microcontroller.
		CO4	Program using the capabilities of the stack, the program counter the internal and external memory, timer and interrupts and show how these are used to execute a programme.
		CO5	Write assemble assembly language programs on PC and download and run their program on the training boards.

		CO6	Interface input output devices and measure electrical parameters with 8051 in real time.
2031 52	**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.
2031 53	**Audit Course-IV**	CO1	Will be able to do design of Solar PV system for small and large installations
		CO2	Will be able to handle software tools for Solar PV systems