

|| न हि ज्ञानेन सट्टशं पवित्रमिह विद्यते || Dr. Vitthalrao Vikhe Patil Foundation's



Dr. Vithalrao Vikhe Patil College of Engineering Ahmednagar

Department of Electrical Engineering

Course Outcomes

TE – 2012 Course				
Course	Course Name		Course Outcomes	
Code				
Semester –V				
311121	Industrial And Technology Management	CO1	Possess knowledge of types of business organizations; explore the fundamentals of economics and Management.	
		02	management and Quality management.	
		CO3	Analyze and differentiate between marketing management and financial management.	
		CO4	Be able to recognize the importance of Motivation, Group dynamics, Team work, leadership skill and entrepreneurship.	
		CO5	Explain the fundamentals of Human Resource management.	
		CO6	Identify the importance of Intellectual property rights and understand the concept of patents.	
303141	Advance	CO1	PIC 18F458 Microcontroller architecture.	
	Microcontroller	CO2	Assembly and C language programming for PIC 18F458.	
	and its Applications	CO3	Architecture and behavior of different ports of PIC18F458.	
		CO4	Use of Timer in PIC 18F458.	
		CO5	Serial port and Interrupt handling for PIC 18F458.	
		CO6	ADC, DAC, and Sensor interfacing with PIC 18F458.	
303142	Electrical Machines II	CO1	To understand construction and working of synchronous machines	
		CO2	To study various speed control methods of a.c. motors.	
		CO3	To impart various applications of a.c. motors.	
		CO4	To understand various methods to determine regulation and efficiency of a.c. machines.	
303143	Power Electronics	CO1	Fundamentals of power electronic devices and characteristics.	
		CO2	The concepts and operating principles of power electronics circuits.	



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		CO3	Design procedures and techniques of power electronics
303144	Electrical Installation,	CO1	To understand the basic concepts, design and estimation of distribution systems, substation
	Maintenance and Testing	CO2	To enable candidate to design earthing system for residential and commercial
		CO3	To understand practical aspects of condition monitoring and maintenance of various electrical equipments
		CO4	To learn the testing of various electrical equipments.
303145	Seminar and Technical	CO1	Gaining factual knowledge (terminology, classification, methods and advanced trends)
	Communication	CO2	Learning fundamental principles, generalization or theories
		CO3	Discussion and critical thinking about topics of current intellectual importance
		CO4	Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to the courseto

TE – 2012 Course				
Course	Course Name	Course Outcomes		
Code				
Semester				
$-\mathbf{VI}$				
303146	Power System	CO1	To develop analytical ability for Power system subject	
	II		with prerequisite of power system I	
		CO2	To introduction of computational methods for solving	
			problems such as load flow	
		CO3	To discuss in detail techniques and tools for power	
			system analysis with a practical perspective	
303147	Control	CO1	To understand basic concepts of the classical control	
	System-I		theory.	
		CO2	To model physical systems mathematically.	
		CO3	To analyze behaviour of system in time and frequency	
			domain.	
		CO4	To design controller to meet desired specifications.	
303148	Utilization of	CO1	To ensure that the knowledge acquired can be applied in	
	Electrical		various fields such as electric heating, illumination,	
	Energy		chemical processes, electric traction.	



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		CO2	Make the students aware about the importance of
			maximizing the energy efficiency by optimum utilization
			of electrical energy.
		CO3	Calculate tractive effort, power, acceleration and velocity
			of traction.
		CO4	Provide know how about Refrigeration, Air Conditioning
		CO5	Understand collection of technical information and
			delivery of this technical information through
			presentations.
		CO6	Develop self and lifelong learning skills, introduce
			professionalism for successful career.
303149	Design of	CO1	To design transformer.
	Electrical	CO2	To understand determination of parameters of
	Machines		transformer.
		CO3	To understand specifications of transformer.
		CO4	To design Induction motor.
		CO5	To understand determination of parameters of Induction
			motor.
		CO6	To understand specifications of Induction motor.
303150	Energy Audit	CO1	Understand importance of energy and energy security.
	and	CO2	Understand impact of use energy resources on
	Management		environment and emission standards, different operating
			frame work.
		CO3	Follow format of energy management, energy policy.
		CO4	Learn various tools of Demand Control.
		CO5	Calculate economic viability of energy saving option.
303151	Electrical	CO1	To enhance practical knowledge related to different
	Workshop		subjects
		CO2	To develop hardware skills such as soldering, winding
			etc.
		CO3	To develop debugging skills.
		CO4	To increase ability for analysis and testing of circuits.
		CO5	To give an exposure to market survey for available
			components



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BE – 2012 Course				
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Code	Name			
Semest er –VII				
403141	Power	CO1	To develop ability to analyze and use various methods to improve	
	System		stability of power systems	
	Operatio n and	CO2	To understand the need for generation and control of reactive power	
	Control	CO3	To impart knowledge about various advanced controllers such as	
			FACTs controllers with its evolution, principle of operation, circuit diagram and applications	
		CO4	To illustrate the automatic frequency and voltage control strategies for single and two area case and analyze the effects, knowing the necessity of generation control.	
		CO5	To understand formulation of unit commitment and economic load dispatch tasks and solve it using optimization techniques	
		CO6	To illustrate various ways of interchange of power between interconnected utilities and define reliability aspects at all stages of power system.	
403142	PLC and SCADA	CO1	To understand the generic architecture and constituent components of a Programmable Logic Controller.	
Applicati		CO2	To develop architecture of SCADA explaining each unit in detail.	
	ons	CO3	To develop a software program using modern engineering tools and technique for PLC and SCADA.	
		CO4	To apply knowledge gained about PLCs and SCADA systems to identify few real-life industrial applications.	
403143	Power	CO1	To develop ability to identify various power quality issues	
	Quality	CO2	To Understand relevant IEEE standards	
		CO3	To illustrate various PQ monitoring techniques and instruments	
		CO4	To learn and characterize various PQ problems	
		CO5	To identify different mitigation techniques	
403144	EHV AC	CO1	To understand the need of EHV and UHV systems.	
	i ransmis sion	CO2	To describe the impact of such voltage levels on the environment	
		CO3	To know problems encountered with EHV and UHV transmissions	
		CO4	To know methods of governance on the line conductor design, line	
			height and phase etc.	
403145	Control	CO1	To learn the concept of compensation and to realize compensator	
	System II		for a system using active and passive elements.	



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		CO2 CO3	To understand the concept of state and to be able to represent a system in the state space format and to solve the state equation and familiarize with STM and its properties. To design a control system using state space techniques including state feedback control and full order observer.
		CO4	To familiarize with various nonlinearities and their behaviour observed in physical system and to understand the Describing function method and phase plane method.
		CO5	To familiarize with various nonlinearities and their behaviour observed in physical system and to understand the Describing function method and phase plane method.
			BE – 2012 Course
Course Code	Course Name		Course Outcomes
Semeste r – VIII			
403147	Switchg ear and	CO1	To elaborate construction and working principle of different types of HVCBs
	Protecti on	CO2	To describe the need of protective Relaying and operating principles of different types of relays.
		CO3	Study different type of faults in transformer, alternator and various protective schemes related to them.
		CO4	Learn transmission line protection schemes, and characteristics of different types of distance relays
403148	Power Electron	CO1	To understand the stable steady-state operation and transient dynamics of a motor-load system.
	ic Controll	CO2	To study and analyze the operation of the converter, chopper fed dc drive.
	ed Drives	CO3	To study and understand the operation of both classical and modern induction motor drives.
		CO4	To study and analyze the operation of PMSM and BLDC drives.
		CO5	To analyze and design the current and speed controllers for different drives
403149	High	CO1	To make students able to explain the various breakdown processes
	Voltage		in solid, liquid and gaseous materials and describe Lightning
	Enginee		phenomenon, natural cause of overvoltage in detail with formation
	ring	CO^{2}	of charge in clouds.
			measurement methods of DC. AC and impulse voltages and
			current.



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		CO3	To develop ability to carry out various testing procedures as per IS in laboratory with knowledge of earthing, safety and shielding of HV laboratory.		
403150	Smart Grid	CO1	To understand the concept of Smart Grid, compare with conventional grid, and identify its opportunities and barriers.		
		CO2	To understand the concept of Smart Meter, Smart Appliances, Automatic Meter Reading, Outage Management System, Plug in Hybrid Electric Vehicles, Vehicle to Grid, Smart Sensors, Home & Building Automation, Phase Shifting Transformers.		
		CO3	To understand the concept of Substation Automation, Feeder Automation. Intelligent Electronic Devices, Smart storage like Battery, Pumped Hydro, Compressed Air Energy Storage, Wide Area Measurement System, Phase Measurement Unit.		
		CO4	To understand the concept of microgrid		
		CO5	To understand the concept of Power Quality and its issues of Grid connected Renewable Energy Sources, Web based Power Quality monitoring, Power Quality Audit.		
403150	Illumina	CO1	Define and reproduce various terms in illumination.		
tion		CO2	Identify various parameters for illumination system design.		
	Enginee	CO3	Design indoor and outdoor lighting systems.		
	ring	CO4	Enlist state of the art illumination systems.		
403146	Project II	CO1	To develop skills for carrying literature survey and organize the material in proper manner.		
		CO2	To provide opportunity of designing and building complete system/subsystem based on their knowledge acquired during graduation.		
		CO3	To understand the needs of society and based on it to contribute towards its betterment and to learn to work in a team.		
		CO4	To explore and to acquire specified skill in areas related to Electrical Engineering		
		CO5	To ensure the completion of given project such as fabrication, conducting experimentation, analysis, validation with optimized cost.		
		CO6	Collect the data in report form and represent and communicate findings of the completed work in written and verbal form.		