

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER
Department of Electrical Engineering
Course Outcomes(CO)

Second Year – 2012 Course			
Course Code	Course Name	Course Outcomes	
Semester - I			
(207006)	Engineering Mathematics-III	CO1	Solve higher order linear differential equation using appropriate techniques for
		CO2	modeling and analyzing electrical circuits.
		CO3	Solve problems related to Laplace transform, Fourier transform, Z-Transform and
		CO4	applications to Signal processing and Control systems.
(203141)	Power Generation Technologies	CO1	Student will be able to demonstrate knowledge of basic power system.
		CO2	Student will be able to decide capacity of plant, load availability & selection of power plant.
		CO3	Student will be able to understand various types of tariffs
		CO4	Student will be able to find various equipments used in power stations (insulators, busbars etc)
		CO5	Student will be able to demonstrate effectively in verbal, written & design form.
		CO 6	Student will be able to develop confidence for self education & ability for life long learning.
(203142)	Material Science	CO1	1. Familiar with different materials used for the specific application.
		CO2	2. Classify the magnetic materials according to the application in the electrical devices as soft and hard magnetic materials.
		CO3	3. To know the methods of measuring resistivity of conducting materials.
		CO4	4. To differentiate between carbon nanostructure, carbon molecule, carbon clusters and able to use nanotechnology for special application like SET, molecular machine, BN nanotube, in medical

			fields.
		CO5	5. To develop confidence to perform the high voltage testing procedure in laboratory.
(203143)	Analog and Digital Electronics	CO1	Understand conversion of number system, perform binary arithmetic and reduce Boolean expressions by K- Map.
		CO2	Demonstrate basics of various types of Flip flops, design registers and counter.
		CO3	Analyze parameter of Op-amp and its applications..
		CO4	Apply the knowledge of Op-amp as wave form generators & filters.
		CO5	Use BJT as amplifier with various configurations.
		CO6	Analysis of uncontrolled rectifier
(203144)	Electrical Measurements and Instrumentation	CO1	Understand various characteristics of measuring instruments, their classification and range extension technique
		CO2	Categorized resistance, apply measurement techniques for measurement of resistance, inductance
		CO3	Elaborate construction, working principle and use of 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	Measurement of various physical parameters using transducers
(203151)	Soft Skills	CO1	Do SWOT analysis.
		CO2	Develop presentation and take part in group discussion.
		CO3	Understand and Implement

			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
203154	Audit Course I Solar Thermal Systems	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
(203145)	Power System I	CO1	1. Recognize different patterns of load curve, calculate different factors associated with it and tariff structure for LT and HT consumers.
		CO2	2. Aware of features, ratings, application of different electrical equipment in power station and selection of overhead line insulators.
		CO3	3. Calculation and analysis of underground cable insulation
		CO4	4. Analyze and apply the knowledge of electrical and mechanical design of transmission lines.
		CO5	5. Identify and analyze the performance of transmission lines.
(203146)	Electrical Machines I	CO1	Understand equivalent circuit of transformer & apply acquired knowledge to determine circuit parameters and performance by conducting test on it.
		CO2	Understand various transformer connections so as to select machines for specific applications.
		CO3	Demonstrate constructional details and operating principles of dc machines.

		CO4	Illustrate different characteristics of dc motors and commutation process.
		CO5	Illustrate constructional details, operating principle of 3 phase induction motor and determine torque & power flow in it.
		CO6	Analyze performance of 3 phase induction motor by drawing circle diagram.
(203147)	Network Analysis	CO1	Calculate current/voltage in electrical circuits using simplification techniques, Mesh, Nodal analysis
		CO2	Application of network theorems for solving the networks
		CO3	Analyze the response of RLC circuit with electrical supply in transient and steady state.
		CO4	Analyzing behavior of an electrical circuit by applying Laplace transform
		CO5	Derive formula and solve numerical of two port network and Design the filters
		CO6	Apply knowledge of network theory to find transfer function, poles and zeroes location to perform stability analysis and parallel resonance
(203148)	Numerical Methods and Computer Programming	CO1	Demonstrate types of errors in computation and their causes of occurrence.
		CO2	Formulate ,Analyze &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.
		CO4	Solve linear simultaneous equation using direct and indirect method.
		CO5	Develop algorithms and write

			computer programs by using C programming language for various numerical methods.
(203149)	Fundamentals of Microcontroller and Applications	CO1	Differentiate between microprocessor and microcontroller.
		CO2	Describe the architecture and features of various types of 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	Design electrical circuitry to the Microcontroller I/O ports in order to interface with external devices.
203155	Audit Course II (A) Solar Photovoltaic Systems	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
203155	Audit Course II (B) Course Name: Installation & Maintenance of Electrical appliances	CO1	Observing the safety precautions while working,
		CO2	Test line cord for continuity with test lamp/ multi-meter
		CO3	Dismantle and reassemble an electric iron
		CO4	Heater, kettle, room heater, toaster, hair dryer, mixer grinder etc
		CO5	Install a ceiling fan and the regulator
		CO6	Check a fluorescent lamp chock, starter and install it
		CO7	Domestic installation testing before energizing a domestic installation