

DEPARTMENT OF ELECTRICAL ENGINEERING

2.6.1. Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated (SEM – III – C – SCHEME)

2022 REGULATION-COURSE OUTCOMES

SEMESTER	COURSE CODE	COURSE NAME	COURSE ID	COURSE OUTCOME
III	EEC301	Engineering Mathematics-III	CO 1	. Apply the concept of Laplace transform to solve the real integrals in engineering problems.
			CO 2	Apply the concept of inverse Laplace transform of various functions in engineering problems.
			CO 3	Expand the periodic function by using Fourier series for real life problems and complex engineering problems.
			CO 4	Find orthogonal trajectories and analytic function by using basic concepts of complex variables.
			CO 5	Illustrate the use of matrix algebra to solve the engineering problems.
			CO 6	Apply the concepts of vector calculus in real life problems.
III	EEC302	Electrical Circuit Analysis	CO 1	Apply network theorems for the analysis of electrical circuits
			CO 2	Obtain the transient and steady-state response of electrical circuits.
			CO 3	Develop and analyse transfer function model of system using two port network parameters.
			CO 4	Analyse time domain behavior from pole zero plot
			CO 5	.Analyse electrical network using graph theory
			CO 6	Analyse the effect of switching conditions on electrical networks using differential equations and Laplace Theorem
III	EEC303	Fundamentals of Electrical Machines & Measurements	CO 1	Illustrate the principle of energy conversion in single and double excited machines
			CO 2	Understand and analyze the significance of the DC machines performance parameters.
			CO 3	Implement various starting methods and speed control methods for DC machines applications
			CO 4	Evaluate the working of various sensors, transducers and analog / digital instruments used in electrical and electronic measurements.
			CO 5	Analyze the use and performance of bridges used in electrical and electronic measurements.
			CO 6	Illustrate the need for extension of range of meters and calibration in instruments
		Electrical Power System-I	CO 1	Understand the power system and its components.
			CO 2	Categorize the ac transmission / distribution lines and understand the insulators



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III	EEC304		CO 3	Evaluate the parameters of different types of ac transmission / distribution lines
			CO 4	Draw the PU reactance diagram of a power system for analysis.
			CO 5	Analyse the performance of transmission lines
			CO 6	Study the performance parameters of electric cable and earthing
III		EEC305 Analog Electronics	CO 1	Analyze the performance of various rectifiers and filter circuits.
			CO 2	Illustrate the use DC and AC parameters of BJT in analysis of amplifier circuits
			CO 3	Apply the knowledge of MOSFET's DC/ AC parameters in analysis of amplifier and switching applications of MOSFET
			CO 4	Understand the functioning of OP-AMP and design OP-AMP based circuits
			CO 5	Illustrate the practical design aspect of regulated power supply circuits using linear regulators
			CO 6	Understand applications of commonly used special semiconductor devices

SEMESTER	COURSE CODE	COURSE NAME	COURSE ID	COURSE OUTCOME
IV	EEC401	Engineering Mathematics-IV	CO 1	Use the concepts of Complex Integration for evaluating integrals, computing residues & evaluate various contour integrals.
			CO 2	Demonstrate the use of Correlation and Regression to the engineering problems in data science, machine learning and AI
			CO 3	Illustrate understanding of the concepts of probability and expectation for getting the spread of the data and distribution of probabilities
			CO 4	Apply the concept of vector spaces and orthogonalization process in Engineering Problems
			CO 5	Use the concept of Quadratic forms and Singular value decomposition in various Engineering applications
			CO 6	Find the extremals of the functional using the concept of Calculus of variation
IV	EEC402	Electrical AC Machines – I	CO 1	Illustrate working principle and performance of single phase transformer under different operating conditions
			CO 2	Understand working principle of autotransformer.

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			CO 3	Analyze various types of connections and performance of three phase transformer under various conditions
			CO 4	Demonstrate working principle and evaluate the performance of three phase induction motor under various operating conditions
			CO 5	Exemplify various starting methods and speed control of three phase induction motor
			CO 6	
IV	EEC403	Digital Electronics	CO 1	Perform conversion of various number systems
			CO 2	Understand working of logic families and logic gates
			CO 3	Design and implement combinational circuits
			CO 4	Design and implement sequential circuits
			CO 5	Understand the process of Analog to Digital conversion and Digital to Analog conversion
			CO 6	Illustrate the use of PLDs to implement the given logical problem
IV	EEC404	Power Electronic Devices and Circuits	CO 1	Understand the basic operation and characteristics of various semi controllable and fully controllable devices
			CO 2	Analyse various single phase and three phase power converter circuits and understand their applications
			CO 3	Analyse dc to dc converter circuits and their applications
			CO 4	Identify and describe various auxiliary circuits and requirements in power electronics applications such as gate driver circuit, snubber circuits and heat sinks
			CO 5	Apply the basic concepts to select devices and converters for various applications
IV	EEC405	Electric and Hybrid Electric Vehicle	CO 1	Identify and describe the history and evolution of electric & hybrid electric vehicles.
			CO 2	Identify and describe the principles of various EV/HEVs drive train topologies
			CO 3	Select electric propulsion system components for EV/HEV drives for the desirable performance and control
			CO 4	Compare and evaluate various energy sources and energy storage components for EV/HEV
			CO 5	Model, analyze and design EV/HEV drive train with energy management strategies.
			CO 6	Recognize the need to adapt and engage in operations EV/HEV for sustainable transportation system.



Saraswati Education Society's
**YADAVRAO TASGAONKAR INSTITUTE
OF ENGINEERING AND TECHNOLOGY**



(Approved by AICTE, New Delhi, DTE (EN/ME/MB/MC-3147), Recognized by Govt. of Maharashtra, Affiliated to University of Mumbai)

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