

V. V. P. Engineering College, Rajkot
Electrical Engineering Department
Course Outcomes & PO/PSO Mapping

Semester:	7
Subject Name:	Summer Internship
Subject Code:	3170001

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170001.1	Get exposure to the industrial environment, which cannot be simulated in the classroom and hence creating competent professionals for the industry.	An
C3170001.2	Get possible opportunities to learn, understand and sharpen the real time technical / managerial skills required at the job(s).	Ap
C3170001.3	Gain experience in writing Technical reports / projects and presentation of it.	U
C3170001.4	Learn and gain exposure to the engineer's responsibilities and ethics.	U
C3170001.5	Understand the social, economic and administrative considerations that influence the working environment of industrial organizations.	U

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Semester:	7
Subject Code:	3170908
Subject Name:	Switchgear And Protection

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170908.1	Explain (With example) protection and relays.	Ap
C3170908.2	Apply protection schemes for transmission lines, transformers, bus-bars, generators and induction motors.	Ap
C3170908.3	Analyse types of circuit breakers for protection of power system.	An
C3170908.4	Estimate parameters of instrument transformers for measurement and power system protection.	E
C3170908.5	Explain static, digital and adaptive relays.	U

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Semester:	7
Subject Code:	3170909
Subject Name:	AC Machine Design

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170909.1	Explain aspects of Electrical Machine design.	U
C3170909.2	Evaluate Transformer design for given specifications.	E
C3170909.3	Evaluate Induction machines design for given specifications.	E
C3170909.4	Evaluate Synchronous machines design for given specifications.	E
C3170909.5	Apply computer aided tools for design of electrical machine.	Ap

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Semester:	7
Subject Code:	3170917
Subject Name:	High Voltage

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170917.1	Apply numerical methods for the electrical field.	Ap
C3170917.2	Compare breakdown strength of liquid and solid dielectrics.	An
C3170917.3	Explain principles of High Voltage generation and measurement techniques.	U
C3170917.4	Describe overvoltage phenomenon and insulation coordination in electric power systems.	U
C3170917.5	Explain the high voltage testing of electrical equipment.	U

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Semester:	7
Subject Code:	3170919
Subject Name:	Power System Operation and Control

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170919.1	Apply methods to control power flow, frequency and voltage.	Ap
C3170919.2	Explain the power system security and its application as a system operator.	U
C3170919.3	Analyse system state estimation and explore its importance.	An
C3170919.4	Explain methods of load forecasting.	U
C3170919.5	Describe significance of power system Deregulation and restructuring.	U

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Semester:	7
Subject Name:	Industrial Electrical Systems
Subject Code:	3170920

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170920.1	Explain electrical wiring systems for residential, commercial and industrial consumers through symbols, drawings and SLD	U
C3170920.2	Justify the need of industrial electrical system components and industrial automation	E
C3170920.3	Evaluate the size, rating and cost of electrical installations for residential and commercial applications	E
C3170920.4	Design appropriate electrical system with protective equipments for industrial applications	C

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Semester:	7
Subject Code:	3170923
Subject Name:	Electrical and Hybrid Vehicle

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170923.1	Select type of motor required for Electrical and Hybrid Vehicle.	E
C3170923.2	Explain drive train topologies.	U
C3170923.3	Describe energy storage devices.	U
C3170923.4	Explain modeling of Hybrid Electrical Vehicles.	U
C3170923.5	Explain the energy management strategies for EVs.	U

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Semester:	7
Subject Name:	AI and Machine Learning
Subject Code:	3170924

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170924.1	Learn the basic concepts of how to use various AI techniques.	U
C3170924.2	Learn, realize and implement various basic machine learning algorithms.	U
C3170924.3	Learn the appropriateness and steps to use fuzzy systems and Genetic algorithm for engineering problem solving	U
C3170924.4	Comprehend basic concepts of Neural network and use of machine learning for training	U

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Semester:	7
Subject Code:	3170925
Subject Name:	Industrial Automation

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170925.1	Explain Industrial Automation system.	U
C3170925.2	Compute industrial parameters like temperature, pressure, force, displacement, speed, flow, level, humidity and pH.	Ap
C3170925.3	Apply PLC in Industrial Automation.	Ap
C3170925.4	Operate the Distributed Control System with PLC and Computer.	Ap
C3170925.5	Explain configuration of robot and its usefulness in industry 4.0.	U