



MACET
MARTHANDAM COLLEGE OF
ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES



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S.No	Sem	Course Code	Course Name
1.	I	MA5155	Applied Mathematics For Electrical Engineers
2	I	PX5152	Analysis and design of power converters
3	I	IN5152	System Theory
4	I	PX5151	Analysis of Electrical Machines
5	II	ET5091	MEMS Technology
6	II	PX5202	Solid State Drives
7	II	PX 5251	Special Electrical Machines
8	III	PS5092	Solar and Energy Storage Systems



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I SEMESTER



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Course Code & Course Name: MA5155 Applied Mathematics For Electrical Engineers

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Apply various methods in matrix theory to solve system of linear equations.
CO2	Maximizing and minimizing the functional that occur in electrical engineering discipline.
CO3	Computation of probability and moments, standard distributions of discrete and continuous random variables and functions of a random variable.
CO4	Could develop a fundamental understanding of linear programming models, able to develop a linear programming model from problem description, apply the simplex method for solving linear programming problems.
CO5	Fourier series analysis and its uses in representing the power signals

Course Code & Course Name : **PX5152 Analysis and design of power converters**

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Analyze various single phase and three phase power converters.
CO2	Select and design dc-dc converter topologies for a broad range of power conversion applications.
CO3	Design the different power electronic converter components.
CO4	Develop an in-depth knowledge about resonant DC/DC converters.
CO5	Design ac-ac converters for variable frequency applications

Course Code & Course Name: **IN5152 System Theory**

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Ability to represent the time-invariant systems in state space form
CO2	Ability to analyze the solution of state equations and evaluation of matrix exponentials
CO3	Ability to classify singular points and construct phase trajectory using delta and isocline methods.
CO4	Ability to design state feedback controller and state observers



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CO5	Use the techniques such as describing function, Lyapunov Stability, Popov's Stability Criterion and Circle Criterion to assess the stability of certain class of non-linear system.
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Course Code & Course Name: PX5151 Analysis of Electrical Machines

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Ability to understand the various electrical parameters in mathematical form.
CO2	Ability to understand the different types of reference frame theories and transformation relationships.
CO3	Ability to find the electrical machine equivalent circuit parameters and modeling of electrical machines.



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II SEMESTER



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Course Code & Course Name : ET5091 MEMS Technology

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Understand basics of micro fabrication, develop models and simulate electrostatic and electromagnetic sensors and actuators .
CO2	Understand material properties important for MEMS system performance, analyze dynamics of resonant micromechanical structures
CO3	The learning process delivers insight onto design of micro sensors, embedded sensors & Understand the design process and validation for MEMS devices and systems, and learn actuators in power aware systems like grid.
CO4	Understand the design process and validation for MEMS devices and systems, and learn the state of the art in optical micro systems.
CO5	Improved Employability and entrepreneurship capacity due to knowledge up gradation on recent trends in embedded systems design

Course Code & Course Name: PX5202 Solid State Drives

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Will be able to formulate, design and analyze power supplies for rectifier control of DC drives.
CO2	Will be able to formulate, design and analyze power supplies for chopper control of DC drives.
CO3	Will acquire knowledge on the operation of VSI and CSI fed induction motor drives.
CO4	Will get expertise in the field oriented control of Induction motor drives.
CO5	Will be able to formulate the control schemes for synchronous motor drives.

Course Code & Course Name : **PX 5251 Special Electrical Machines**

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Ability to acquire the knowledge on construction and operation of permanent magnet brushless D.C. motors.
CO2	Ability to acquire the knowledge on construction and operation of permanent magnet synchronous motors
CO3	Ability to construction, principle of operation, switched reluctance motors.



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CO4	Ability to acquire the knowledge on construction and operation of stepper motor.
CO5	Ability to select a special Machine for a particular application



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III SEMESTER



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Course Code & Course Name: PS5092 Solar and Energy Storage Systems

COURSE OUTCOMES (COs)

List of Course Outcomes

CO1	Students will develop more understanding on solar energy storage systems
CO2	Students will develop basic knowledge on standalone PV system
CO3	Students will understand the issues in grid connected PV systems
CO4	Students will study about the modeling of different energy storage systems and their performances
CO5	Students will attain more on different applications of solar energy