

## 7th SEM

S. No.	Paper Code	Paper/COs
1	<b>ETEE-401</b>	<b>Electric Drives</b>
	ETEE-401.1	Ascertain the selection of a suitable motor for different types of industrial loads used in electrical drives.
	ETEE-401.2	Illustrate the operation of dc motor drives.
	ETEE-401.3	Compare various speed control schemes used in induction motor drives.
	ETEE-401.4	Design control schemes used for open and closed loop operations in special machine drives.
2	<b>ETEE-403</b>	<b>Advanced Control Systems</b>
	ETEE-403.1	To analyze state space analysis, non linear systems and adaptive systems.
	ETEE-403.2	To analyze various types of system-continuous, discrete, linear and non linear systems.
	ETEE-403.3	To determine stability of non linear system using Lyapunov and Popov methods.
	ETEE-403.4	To design stability for any practical problem of a non linear system.
3	<b>ETEE-405</b>	<b>EHV AC and HVDC Transmissions</b>
	ETEE-405.1	Understand the fundamental design aspects of EHVAC transmission lines and various problems related to it.
	ETEE-405.2	Develop an in-depth knowledge of reactive power management in power system and its characteristics.
	ETEE-405.3	Examine the basics of HVDC systems and their comparison with EHVAC systems.
	ETEE-405.4	Perceive the importance of system control and DC link control and classify the various types of filters.
4	<b>ETEL-405</b>	<b>Electrical Machine Design</b>
	ETEL-405.1	Design of various components of dc machine.
	ETEL-405.2	Design of different components of transformer.
	ETEL-405.3	Design of different components of induction motor.
	ETEL-405.4	Design of different components of synchronous machine.
5	<b>ETEE-419</b>	<b>Renewable Energy Resources</b>
	ETEE-419.1	Understand the need for solar energy and its application.
	ETEE-419.2	Analyze the technology for harnessing the wind power and small mini and micro hydro power plant.
	ETEE-419.3	Understand biomass, geothermal, otec, tidal and wave energy, fuel cell and hydrogen energy as an emerging source.
	ETEE-419.4	Analyze importance of grid connectivity and smart grid in providing continuous power.
6	<b>ETEE-451</b>	<b>Electrical Drives Lab</b>
	ETEE-451.1	Apply power electronics application in control of speed of various types of induction motors.
	ETEE-451.2	Use phase controlled converters for control of different parameters of dc motors.
	ETEE-451.3	Analyze the four quadrant operation of dc motor drives.
	ETEE-451.4	Evaluate the performance characteristics of special purpose machine drives.

7	<b>ES-453</b>	<b>Advanced Control Systems Lab</b>
	ES-453.1	To create and analyze state space model of a given system.
	ES-453.2	Formulate time and frequency response of a given system.
	ES-453.3	Formulate phase plane trajectory for a given Non-linear system.
	ES-453.4	Create and design controller for a practical system in sci-lab.
8	<b>ETEL-455</b>	<b>Electrical Machine Design Lab</b>
	ETEL-455.1	Design of components of dc machines with calculation of performance indices.
	ETEL-455.2	Design a transformer with reduced losses.
	ETEL-455.3	Design the various dimensions of the synchronous motor.
	ETEL-455.4	Design a model of induction motor with different performance parameters.
9	<b>ETEE-457</b>	<b>Seminar</b>
	<b>ETEE-457.1</b>	Gain a comprehensive understanding of the seminar topic, including its principles, theories, and practical applications.
	<b>ETEE-457.2</b>	Develop the ability to critically analyze and evaluate the key concepts and challenges related to the seminar topic.
	<b>ETEE-457.3</b>	Enhance oral and written communication skills to articulate ideas, findings, and insights from the seminar effectively.
	<b>ETEE-457.4</b>	Acquire problem-solving skills relevant to the seminar topic, enabling students to apply their knowledge to real-world scenarios.
10	<b>ETEE-457</b>	<b>Minor Project</b>
	<b>ETEE-457.1</b>	Articulate the problem statement to identify the project objective.
	<b>ETEE-457.2</b>	Identify the engineering system tools, variables and parameters to solve the problem.
	<b>ETEE-457.3</b>	Demonstrate an ability to work in teams.
	<b>ETEE-457.4</b>	Design and develop cost effective solution (application/POC/research based.)
11	<b>ETEE-459</b>	<b>Industrial Training</b>
	<b>ETEE-459.1</b>	Ability to acquire and apply fundamental principle of engineering.
	<b>ETEE-459.2</b>	Analyze the problems related to field application.
	<b>ETEE-459.3</b>	Exposure of latest known-law.
	<b>ETEE-459.4</b>	Awareness of social global and environment responsibility as an engineer.

## 8th SEM

<b>12</b>	<b>ETEE-404</b>	<b>Neuro-Fuzzy Systems</b>
	ETEE-404.1	Recognize & understand the concept of artificial neural networks & the learning.
	ETEE-404.2	Understand the concept of fuzzy logic, operation on fuzzy logic sets, linguistic variables & fuzzy rules.
	ETEE-404.3	Apply fuzzy modelling concept & design.
	ETEE-404.4	Understand genetic algorithm concepts & apply for solving the optimization problem.
<b>13</b>	<b>MS-406</b>	<b>Power System Operation and control</b>
	MS-406.1	Describe automatic generation control and speed governor modelling.
	MS-406.2	Illustrate techniques for optimal load dispatch including transmission losses among the generating units.
	MS-406.3	Interpret transmission congestion and deregulation of power systems.
	MS-406.4	Evaluate real time power control and methods of voltage control in power systems.
<b>14</b>	<b>ETHS-402</b>	<b>Human Values and Professional Ethics-II</b>
	ETHS-402.1	Apply Universal Human Values and Professional Ethics to modern technical and professional world to support a harmonious and prosperous life at all the four levels of living.”
	ETHS-402.2	Describe ‘social and value dimensions of technology’ with the viewpoint of ‘Engineers’ Responsibility for Safety’ by discussing and evaluating various case studies.”
	ETHS-402.3	Generate the ability to analyze systematic ethical decisions on environmental as well as professional global issues and to experiment with situations of personal and professional conflicts.
	ETHS-402.4	Build team spirit and demonstrate an ethical work culture and feeling of job satisfaction while proposing an urge to practice ethical codes.
<b>15</b>	<b>ETEE-416</b>	<b>Electrical Energy Conservation</b>
	ETEE-416.1	Apply various energy policy & energy conservation scheme under development of energy system.
	ETEE-416.2	Analysis of energy conservation in electrical installation as per energy conservation.
	ETEE-416.3	Evaluation of performance of energy efficient motors & energy controll strategy.
	ETEE-416.4	Apply concept of energy conservation in green building.
<b>16</b>	<b>ETEE-432</b>	<b>Electrical Power Quality</b>
	ETEE-432.1	Understand different power quality issues and their monitoring.
	ETEE-432.2	Analysis and assesment of voltage sag in transmission system.
	ETEE-432.3	Analyze PQ considerarion in industrial power system.
	ETEE-432.4	Evaluate harmonics in electrical power system.
<b>17</b>	<b>ETEE-452</b>	<b>Neuro-Fuzzy Systems Lab</b>
	<b>ETEE-452.1</b>	Create an articial neural network using neural network tool box in sci-lab.
	<b>ETEE-452.2</b>	implement various learning algorithm in artificial neuaral sci-lab.
	<b>ETEE-452.3</b>	Evaluate various architecture of neuro-fuzzy network/hybrid learning algorithm in sci-lab.
	<b>ETEE-452.4</b>	Design controller using fuzzy/neural network in sci-lab.

18	<b>ETEE-454</b>	<b>Practical Based on Elective (ELECTRICAL ENERGY CONSERVATION LAB (ETEE-454))</b>
	<b>ETEE-454.1</b>	Understand the LABVIEW software and ELVIS workstation and identify its different tools to execute simple arithmetic & logic operations.
	<b>ETEE-454.2</b>	Analyze the performance and characteristics of electrical & electronic systems.
	<b>ETEE-454.3</b>	Develop an interface between MATLAB & LABVIEW.
	<b>ETEE-454.4</b>	Develop logic design to generate various analog signals using LABVIEW & ELVIS.
19	<b>ETEE-456</b>	<b>Major Project</b>
	<b>ETEE-456.1</b>	Articulate the problem statement to identify the project objective.
	<b>ETEE-456.2</b>	Compare and contrast the alternate solution process to choose the best alternate.
	<b>ETEE-456.3</b>	Justify a reasonable conclusion and communicate the work in a concise way.
	<b>ETEE-456.4</b>	Find the future scope of your researched work.