

5th SEM		
S. No.	Paper Code	Paper/COs
1	<b>ETHS-301</b>	<b>Communication Skills Professionals</b>
	ETHS-301.1	To understand and implement the communication cycle and development of soft skills for successful career.
	ETHS-301.2	To analyze, create and compile various communication skills for formal written communication like reports, research papers and formal letters.
	ETHS-301.3	To apply the use of paralanguage and various prosodic features for proficiency in communication skills.
	ETHS-301.4	To be able to demonstrate all the acquired skills for various public speaking platforms and other formal meetings.
2	<b>ETEE-303</b>	<b>Power Electronics</b>
	ETEE-303.1	To understand various power electronics devices, their characteristics and uses.
	ETEE-303.2	To analyze or design phase controlled converter and choppers.
	ETEE-303.3	To describe AC-AC voltage controller and cycloconverter and their industrial application.
	ETEE-303.4	To Explain square wave, square wave, PWM and multi-level inverter.
3	<b>ETEE-305</b>	<b>Sensor and Transducers</b>
	ETEE-305.1	Understand the concept of sensor & transducers along with their classifications & characteristics and various types of sensors.
	ETEE-305.2	Learn about the basic design, working principle of magnetic, thermal & radiation sensors along with their application.
	ETEE-305.3	Comprehend the principle of electro analytical sensor along with the various types of electrodes & advancement in sensor technology.
	ETEE-305.4	Understand the different types of transducers & their applications.
4	<b>ETEE-307</b>	<b>Switching Theory and Logic Design</b>
	ETEE-307.1	Understand basic computer network technology.
	ETEE-307.2	Understand and explain Data Communications System and its components.
	ETEE-307.3	Implements various network topologies and IP addressing, subnetting.
	ETEE-307.4	Enumerate the layers of the OSI model and TCP/IP.
5	<b>ETEE-309</b>	<b>Communication Systems</b>
	ETEE-309 .1	Identify and solve basic random variable and random process based problem
	ETEE-309 .2	Use of different analog modulation and demodulation techniques in communication system.
	ETEE-309 .3	Analyze and compare various Digital modulation techniques.
	ETEE-309 .4	Investigate the concepts of advanced communication systems.
6	<b>ETEE-311</b>	<b>Industrial Management</b>
	ETEE-311.1	Interpret the concept of industrial relations, industrial disputes, dispute settlement machineries and factory legislation.
	ETEE-311.2	Understand trade unionism and its functioning in India.
	ETEE-311.3	Apply the concept of work study and method study and their application to office work.
	ETEE-311.4	Understand the concept of quality management and implement the various instruments of quality improvement including control charts.

7	<b>ETEE-351</b>	<b>Sensor and Transducers Lab</b>
	ETEE-351.1	understand the basic working principle of different transducers used for the measurement of temp, level, speed, pressure, strain, displacement.
	ETEE-351.2	Practically use thermocouple, RTD, Thermistor, Strain gauge, Tacho-generator, Stroboscope, LVDT, Capacitive Transducer for the Measurement of physical quantity such as temp, Strain, speed and water level.
	ETEE-351.3	Compare the characteristics of optical transducers, photovoltaic, photo conductive, photodiode & photo transistor.
	ETEE-351.4	Learn the application of different transducers for different processes according to range of measurement, environmental condition, cost etc.
8	<b>ETEE-353</b>	<b>Power Electronics Lab</b>
	ETEE-353 .1	Demonstrate static and dynamic characteristics of various semiconductor devices
	ETEE-353 .2	Illustrate performance of different chopper circuits
	ETEE-353 .3	Analyse operation of inverters and cycloconverters
9	ETEE-353 .4	Compare performance of various converter circuits using different loads.
	<b>ETEE-355</b>	<b>Switching Theory and Logic Design Lab</b>
	ETEE-355 .1	Design and analyze combinational circuits using basic gate IC'S
	ETEE-355 .2	Design and analyse Combinational circuits using MUX Ics
10	ETEE-355 .3	Implement and analyze various sequential circuits using logic gate ICS and flip flip Ics
	ETEE-355 .4	Implement small projects related to digital circuitry
11	<b>ETEE-357</b>	<b>Communication Systems Lab</b>
	ETEE-357.1	Demonstrate the concept of Amplitude Modulation by learning different Amplitude Modulation techniques like DSB-FC, DSB-SC and SSB
	ETEE-357.2	Demonstrate various types of Frequency Modulation and Demodulation techniques using CRO and DSO
	ETEE-357.3	Develop the relation between Continuous and Discrete time Signals through different Sampling and Reconstruction techniques.
12	ETEE-357.4	Examine the different Pulse Analog Modulation schemes like PAM,PWM and PPM by obtaining the waveforms on CRO and DSO.
	<b>ETEE-359</b>	<b>Electrical and Electronic Workshop</b>
	ETEE-359.1	Identify the electrical and electronics component and their symbol and become familiar with electrical safety precaution.
	ETEE-359 .2	To understand the domestic and industrial wiring and accessories used in wiring installation.
12	ETEE-359 .3	To demonstrate various types of illumination devices and their wiring connection.
	ETEE-359 .4	Discuss the component of single step down transformer and study of 3-phase induction motor starting,running and braking.
	<b>ETHS 351</b>	<b>Communication Skills Professionals Lab</b>
	ETHS 351.1	To analyze and develop the habit of reading as well as listening for various purposes and to make the students aware of varied uses and functions of language.
12	ETHS 351.2	To implement the ability for written, oral and graphical communication in both technical and non-technical environments along with an ability to identify and use appropriate technical vocabulary and related literature.
	ETHS 351.3	To develop an ability to select and apply the knowledge, techniques, skills, and modern tools for conversational skills; i.e. D-day conversation, professional conversation, telephone conversation, interview, group discussions etc.
	ETHS 351.4	To compose an ability to perform effectively as a member or leader for a technical or professional teamwork during an Oral Presentation, PowerPoint Presentation (PPT) & Public Speaking etc.

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<b>13</b>	<b>ETEE-302</b>	<b>Power System-II</b>
	ETEE-302.1	Analyze construction and operating characteristics of protective relays and instrument transformers.
	ETEE-302.2	Gain Knowledge of various methods for protection of generators and transformers.
	ETEE-302.3	Comprehend different methods for protection of transmission lines.
	ETEE-302.4	Demonstrate the working principle of fuse and circuit breaker and their application.
<b>14</b>	<b>ETEE-304</b>	<b>Utilization of Electrical Energy and Electrical Traction</b>
	<b>ETEE-304.1</b>	Understand the principle of illumination and lighting schemes.
	<b>ETEE-304.2</b>	Apply the knowledge to solve the problem with the electric heating
	<b>ETEE-304.3</b>	Analyze the performance of electric traction systems.
	<b>ETEE-304.4</b>	Analyze the performance of different types energy stores devices.
<b>15</b>	<b>ETEE-306</b>	<b>Digital Signal Processing</b>
	<b>ETEE-306.1</b>	Illustrate and extend the basic knowledge of DFT, its properties, FFT and its applications.
	<b>ETEE-306.2</b>	Develop and interpret the design of FIR and IIR filters and its realization.
	<b>ETEE-306.3</b>	Classify and distinguish quantization errors in Digital Signal Processing.
	<b>ETEE-306.4</b>	Understand the Multi-rate Digital Signal processing.
<b>16</b>	<b>ETEE-308</b>	<b>VLSI Design</b>
	<b>ETEE-308.1</b>	Discuss design flow of VLSI and Explain the phenomenon of MOS technology.
	<b>ETEE-308.2</b>	Classify static characteristics of MOS, and CMOS inverters.
	<b>ETEE-308.3</b>	Design of combinational and sequential circuits using MOS technology.
	<b>ETEE-308.4</b>	Implementations of dynamic logic circuits.
<b>17</b>	<b>ETEE-310</b>	<b>Microprocessor Microcontroller</b>
	<b>ETEE-310.1</b>	Understand the internal organization of 8-bit and 16-bit Intel microprocessors and 8051 microcontrollers.
	<b>ETEE-310.2</b>	Apply the knowledge of microprocessors to develop assembly language programs.
	<b>ETEE-310.3</b>	Design and implement assembly language programs for 8051 microcontrollers.
	<b>ETEE-310.4</b>	Design and implement microcomputer systems.
<b>18</b>	<b>ETEE-312</b>	<b>Power Station Practice</b>
	<b>ETEE-312.1</b>	Students understand their knowledge of different forms and sources of energy & process of energy generation.
	<b>ETEE-312.2</b>	To discuss type of generating power station, their layout & their sub parts.
	<b>ETEE-312.3</b>	To execute power plant economics considering different economics operation of power systems parameters.
	<b>ETEE-312.4</b>	To distinguish substation & their layouts.

19	<b>ETEE-352</b>	<b>Power System-II Lab</b>
	<b>ETEE-352.1</b>	Understand the single line to ground fault and three phase fault in transmission lines using experimental set-up.
	<b>ETEE-352.2</b>	Analyze the characteristics of instantaneous over-current relay using experimental set-up.
	<b>ETEE-352.3</b>	Apply & analyze the characteristics of HRC fuse MCB using experimental set-up.
	<b>ETEE-352.4</b>	Analyze the characteristics of thermal bimetallic relay and IDMT earth fault relay using experimental set-up.
20	<b>ETEE-354</b>	<b>Utilization of Electrical Energy Lab</b>
	<b>ETEE-354.1</b>	Undersatnd braking scheme of traction motor.
	<b>ETEE-354.2</b>	Illustrate the charging and discharging of super capacitor.
	<b>ETEE-354.3</b>	Analyze the laws of illumination.
	<b>ETEE-354.4</b>	Evaluate the performance of electrical heating and welding.
21	<b>ETEE-356</b>	<b>Digital Signal Processing Lab</b>
	<b>ETEE-356.1</b>	Compute the convolutions and correlations of discrete-time sequences.
	<b>ETEE-356.2</b>	Evaluate the DFT of given sequence using user-defined functions
	<b>ETEE-356.3</b>	Analyze and design FIR and IIR filters to meet specific magnitude and phase requirements.
	<b>ETEE-356.4</b>	Understand the working of DSP processor and demonstrate its applications.
22	<b>ETEE-358</b>	<b>Microprocessor Microcontroller Lab</b>
	<b>ETEE-358.1</b>	Compile and run microprocessor and microcontroller programs on kits.
	<b>ETEE-358.2</b>	Compile and simulate microprocessor and microcontroller programs on assembler
	<b>ETEE-358.3</b>	Design and program interfacing of microprocessor and their peripheral devices
	<b>ETEE-358.4</b>	Demonstrate ability to effectively work as a team.