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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	ECA-II	**Class/ Sem**	II-I
Faculty Name:	M. Srinu	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2211.1	Analyze the concepts of balanced and unbalanced three-phase circuits.	Analyze
C2211.2	Analyze transient behavior of electrical networks with DC excitations	Analyze
C2211.3	Analyze the transient behavior of electrical networks with AC excitations.	Analyze
C2211.4	Estimate various parameters of a two port network	Apply
C2211.5	Evaluate the electrical equivalent network for a given network transfer function	Evaluate
C2211.6	Understand the different harmonics components from the response of an electrical network.	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

Faculty signature:

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EM-I	**Class/ Sem**	II-I
Faculty Name:	P.Nagaraju	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2212.1	Explain the construction, principle of operation and performance of DC Machines	Analyze
C2212.2	Calculate the Torque, EMF Equation, Armature reaction, commutation and characteristics of DC Machines.	Evaluate
C2212.3	Understand the torque production mechanism and control the speed of dc motors	Analyze
C2212.4	Design starter to conduct the Testes DC Machines.	Apply
C2212.5	Analyze the performance of single phase transformers and determination of regulation, losses and efficiency of single phase transformers.	Evaluate
C2212.6	Define the different testes in single phase and three phase transformers	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

Course Outcomes (COs)

Program Name:	EEE	**AY**	2020-2021
Course Name:	EDC	**Class/Sem**	EEE-II-I
Faculty Name:	K.Venkannaidu	**Regulation**	R19

Course Outcomes

After completion of this course, the student will be able to:

CO Number	**CO Statement**	**Taxonomy**
C2213.1	Understand the basic concepts of semiconductor physics.	Understand
C2213.2	Understand the formation of p-n junction and how it can be used as a p-n junction as diode in different modes of operation.	Understand
C2213.3	Analyze working principle of rectifiers with and without filters with relevant expressions and necessary comparisons.	Analyze
C2213.4	Understand the construction, principle of operation of transistors, BJT and FET with their V-I characteristics in different configurations.	Understand
C2213.5	Understand transistor biasing, various biasing techniques for BJT and FET and stabilization concepts with necessary expressions.	Evaluate
C2213.6	Analysis of small signal low frequency transistor amplifier circuits using BJT and FET in different configuration	Analyze

#knowledge; Remember; Understand; Apply; Analyse; Evaluate; Create

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Electrical & Electronics Engineering

Course Outcomes (COs)

Program Name:	B.Tech Electrical & Electronics Engineering	**AY**	2020-21
Course Name:	Electro Magnetic Fields	**Class / Sem**	II/I
Faculty Name:	D.Joseph Kumar	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy#
C2214.1	Determine electric fields and potentials using Guass's law or solving Laplace's or Passion's equations, for various electric charge distributions.	Apply
C2214.2	Design the capacitance and energy stored in dielectrics.	Create
C2214.3	Evaluate the magnetic field intensity due to current, the application of Ampere's law and the Maxwell's second and third equations.	Evaluate
C2214.4	Evaluate magnetic forces and torque produced by currents in magnetic field	Evaluate
C2214.5	Illustrate self and mutual inductances and the energy stored in the magnetic field.	Analyse
C2214.6	Calculate induced EMF; understand the concepts of displacement current and Pointing vector.	Apply

Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	THPM	**Class/ Sem**	II-I
Faculty Name:	S. Chandu prasad	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2215.1	Determine the coefficient of discharge of flow measuring devices (orifice meter and Venturi meter)	Analyze
C2215.2	Evaluate the losses in pipes	Analyze
C2215.3	Determine the efficiency and plot the characteristic curves of different types of pumps and turbines	Analyze
C2215.4	Identify various systems and subsystems of Diesel and petrol engines	Apply
C2215.5	Analyse the performance characteristics of internal combustion engines	Evaluate
C2215.6	Illustrate the operational performances of boilers	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	MEFA	**Class/ Sem**	II-I
Faculty Name:	M. Keerthi	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2216.1	The Learner is equipped with the knowledge of estimating the Demand and demand elasticities for a product.	Analyze
C2216.2	The knowledge of understanding of the Input-Output-Cost relationships and estimation of the least cost combination of inputs.	Analyze
C2216.3	The pupil is also ready to understand the nature of different markets and Price Output determination under various market conditions and also to have the knowledge of different Business Units..	Analyze
C2216.4	The Learner is able to prepare Financial Statements and the usage of various Accounting tools for Analysis.	Apply
C2216.5	The Learner can able to evaluate various investment project proposals with the help of capital budgeting techniques for decision making.	Evaluate
C2216.6	The Learner can able to evaluate various investment project proposals with the help of capital budgeting techniques for decision making.	Understand

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	T&H Lab	**Class/ Sem**	II-I
Faculty Name:	S.Chanduprasad	**Regulation**	R19

Course Name: Thermal and Hydro primemovers Lab

CO Number	CO Statement	Taxonomy
C2218.1	Determine the coefficient of discharge of flow measuring devices (orifice meter and Venturi meter)	Analyze
C2218.2	Evaluate the losses in pipes	Create
C2218.3	Determine the efficiency and plot the characteristic curves of different types of pumps and turbines	Create
C2218.4	Identify various systems and subsystems of Diesel and petrol engines	Evaluate
C2218.5	Analyse the performance characteristics of internal combustion engines	Analyze
C2218.6	Illustrate the operational performances of boilers	Evaluate

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EC Lab	**Class/ Sem**	II-I
Faculty Name:	M.Srinu	**Regulation**	R19

Course Name: Electrical Circuits Lab

After completion of the course the student will be able to

CO Number	CO Statement	Taxonomy
C2218.1	Apply various theorems	Apply
C2218.2	Determination of self and mutual inductances	Evaluate
C2218.3	Two port parameters of a given electric circuits	Apply
C2218.4	Draw locus diagrams	Apply
C2218.5	Draw Waveforms and phasor diagrams for lagging and leading networks	Analyze
C2218.6	Determine the parameters of choke coil.	Evaluate

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Electrical & Electronics Engineering

Course Outcomes (COs)

Program Name:	EEE	**AY**	2020-2021
Course Name:	EITK	**Class/Sem**	II-I
Faculty Name:	B.MeshakRaju	**Regulation**	R19

Course Outcomes

After completion of this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2219.1	Understand the basic knowledge of traditional knowledge to develop the physical and social changes on traditional knowledge system	Understand
C2219.2	Discuss different characteristics of Indigenous Knowledge (IK) to differentiate it with formal, western and traditional knowledge.	Understand
C2219.3	Describe the significance of traditional knowledge protection to communicate the traditional knowledge information.	Analyze
C2219.4	Explain the acts related to schedule tribes, traditional forest dwellers, plants protection and farmers to inculcate the legal protection information	Understand
C2219.5	Evaluate the legal mechanism of traditional knowledge protection to show the difference between IPR and non-IPR system.	Evaluate
C2219.6	Examine the sustainability and development of environment for standardizing the food security and traditional knowledge of the country.	Analyze

#knowledge; Remember; Understand; Apply; Analyse; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EM&I	**Class/ Sem**	II-II
Faculty Name:	P.NagaRaju	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2221.1	Classify different Analog meters with their advantages and disadvantages.	Analyze
C2221.2	Explain the principle of Electrodynamometer type wattmeter and power factor meters.	Analyze
C2221.3	Analyse the principle of operation and working of various types of DC Bridges.	Analyze
C2221.4	Analyse the principle of operation and working of various types of AC Bridges.	Apply
C2221.5	Identify different types of transducers and make appropriate selection for application.	Evaluate
C221.6	Summarize the working principles of various digital meters.	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EM-II	**Class/ Sem**	II-II
Faculty Name:	T.Venkateswara Rao	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2222.1	Operate and performance of three phase induction motor.	Analyze
C2222.2	Analyse speed torque characteristics and control the speed of induction motors.	Analyze
C2222.3	Constructional features and problem of starting of single phase induction motor.	Analyze
C2222.4	Design the armature winding and determine the regulation of synchronous generators.	Apply
C2222.5	Analyse the two reaction of salient pole machines and phasor diagram	Evaluate
C222.6	Analyse the effects of excitation and mechanical input on the operation of synchronous motor.	Understand

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	DE	**Class/ Sem**	II-II
Faculty Name:	G. Koteswara Rao	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2223.1	Describe the different number systems and generate in various codes	Analyze
C2223.2	Utilize the Boolean algebra in minimization of switching functions	Analyze
C2223.3	Classify the different types of combinational logic circuits.	Analyze
C2223.4	Analyse the Registers and counters using the knowledge of flip-flops .	Apply
C2223.5	Design methodology for sequential circuits	Evaluate
C2223.6	Design methodology for synchronous state machines.	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	Control Systems	**Class/ Sem**	II-II
Faculty Name:	M.Srinu	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2224.1	Derive the transfer function of physical systems and determination of overall transfer function using block diagram algebra and signal flow graphs	Analyze
C2224.2	Determine time response specifications of second order systems and to determine error constants	Analyze
C2224.3	Acquires the skill to analyze absolute and relative stability of LTI systems using Routh's stability criterion and the root locus method.	Analyze
C2224.4	Capable to analyze the stability of LTI systems using frequency response methods.	Apply
C2224.5	Able to design Lag, Lead, Lag-Lead compensators to improve system performance from Bode diagrams.	Evaluate
C2224.6	Ability to represent physical systems as state models and determine the response. Understanding the concepts of controllability and Observability	Understand

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B. Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	PS-I	**Class/ Sem**	II-II
Faculty Name:	S. Rajesh	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2225.1	Understand the principle of operation of different components of a thermal power stations.	Analyze
C2225.2	Understand the principle of operation of different components of a Nuclear power stations.	Analyze
C2225.3	To study the constructional and operation of different components of an Air insulated sub stations.	Analyze
C2225.4	To study the construction of Gas Insulated substations.	Apply
C2225.5	Understand the construction of underground cables.	Evaluate
C2225.6	Evaluating the economic aspects of power generation and tariffs.	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

Faculty signature:

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	Signals & Systems	**Class/ Sem**	II-II
Faculty Name:	K.P. Mani	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2226.1	Illustrate the signals and systems and principles of vector spaces, Concept of orthgonality.	Analyze
C2226.2	Analyze the continuous-time signals and continuous-time systems using Fourier series, Fourier transform and Laplace transform.	Analyze
C2226.3	Apply sampling theorem to convert continuous-time signals to discrete-time signal and reconstruct back.	Analyze
C2226.4	Understand the relationships among the various representations of LTI systems	Apply
C2226.5	Explain the Concepts of convolution, correlation, Energy and Power density spectrum and their relationships.	Evaluate
C2226.6	Apply z-transform to analyze discrete-time signals and systems.	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EM-I Lab	**Class/ Sem**	II-II
Faculty Name:	K.Lakshmi	**Regulation**	R19

Course Name: Electrical Machines-I Lab

After completion of the course the student will be able to

CO Number	CO Statement	Taxonomy
C2227.1	Determine and predetermine the performance of DC machines and Transformers.	Apply
C2227.2	Determine and predetermine the performance of Transformers.	Evaluate
C2227.3	Control the speed of DC motor by using various methods.	Apply
C2227.4	Obtain three phase to two phase transformation.	Apply
C2227.5	Determine constant losses of of DC Machine.	Analyze
C2227.6	Separate core losses of Transformer.	Evaluate

Faculty in-charge

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	EDC Lab	**Class/ Sem**	II-II
Faculty Name:	V.Bhavani	**Regulation**	R19

Course Name: Electronic Devices & Circuits Lab

After completion of the course the student will be able to

CO Number	CO Statement	Taxonomy
C2228.1	Find and analyze an ethical issue in the subject matter under investigation or in a relevant field	Apply
C2228.2	Solve the multiple ethical interests at stake in a real-world situation or practice	Evaluate
C2228.3	Analyze what makes a particular course of action ethically defensible	Apply
C2228.4	solve their own ethical values and the social context of problems	Apply
C2228.5	Apply ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects	Analyze
C2228.6	Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work	Evaluate

Faculty in-charge

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2020-2021
Course Name:	PE&HV	**Class/ Sem**	II-II
Faculty Name:	B. Meshak Raju	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2229.1	Recollect the human, moral values and ethics.	Analyze
C2229.2	Illustrate the principles to being harmony among I, we and nature by focusing on human duties, rights, and dignity.	Analyze
C2229.3	Describe the various Engineering Ethics and social issues that are encountered by every professional in discharging professional duties.	Analyze
C2229.4	Describe the Engineers' Responsibilities towards Safety and Risk and based on this make analysis on designing to keep safety measure**.**	Apply
C2229.5	Demonstrate the professional ethics and techniques for collegiality and problem solving?	Evaluate
C2229.6	Discuss the globalization and MNC issues like – cross culture , business ethics and research ethics etc.	Understand

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes(COs)

ProgramName:	B.Tech inElectrical And Electronics Engineering	**AY**	2021-2022
CourseName:	Power Systems-II	**Class/Sem**	III-I
FacultyName:	Dr.KBVSR Subrahmanyam	**Regulation**	R19

CourseOutcomes

Aftercompletingthiscourse,thestudentwillbeableto:

CO Number	COStatement	Taxonomy
C2311.1	Evaluate the parameters of transmission lines for different circuit configurations.	Evaluate
C2311.2	Determine the performance of short, medium and long transmission lines.	Evaluate
C2311.3	Analyze the effect of travelling waves on transmission lines.	Analyze
C2311.4	Analyse the various voltage control methods and effect of corona.	Analyze
C2311.5	Calculate sag/tension of transmission lines and performance of line insulators.	Evaluate
C2311.6	Calculate performance of line insulators.	Evaluate

#Remember;Understand;Apply;Analyse;Evaluate;Create

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CourseOutcomes (COs)

ProgramName:	B.Tech inElectrical And Electronics Engineering	**AY**	2021-2022
CourseName:	Power Electronics	**Class/Sem**	III-I
FacultyName:	N. Hymavathi	**Regulation**	R19

CourseOutcomes

Aftercompletingthiscourse,thestudentwillbeableto:

CO Number	COStatement	Taxonomy
C2312.1	Illustrate the characteristics of various power semiconductor devices and analyze the static and dynamic characteristics of SCR's.	Apply
C2312.2	design firing circuits for SCR.	Create
C2312.3	Analyse the operation of single phase full–wave converters and analyze harmonics in the input current.	Analyze
C2312.4	Demonstratethe operation of three phase full–wave converters.	Apply
C2312.5	Analyze the operation of different types of DC-DC converters	Analyze
C2312.6	explain the operation of inverters and application of PWM techniques for voltage control and harmonic mitigation. analyze the operation of AC-AC regulators	Understand

#Remember;Understand;Apply;Analyse;Evaluate;Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	LICA	**Class/ Sem**	III/I
Faculty Name:	K. Satish kumar	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2313.1	Use various Transistor Current Sources and Differential amplifiers for operational amplifier, different ICs for Voltage regulators.	Analyze
C2313.2	Analyze the gain-bandwidth concept and frequency response of the amplifier configurations.	Analyze
C2313.3	Design circuits using operational amplifiers for various linear and non linear applications.	Create
C2313.4	Analyze multipliers and active filters using Op-amp.	Apply
C2313.5	Develop various timer circuits using IC 555 and PLL circuits	Evaluate
C2313.6	Analyze ADC and DAC Circuits in different applications	Analyze

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	DSP	**Class/ Sem**	III/I
Faculty Name:	N.Maryleena	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2314.1	Understand the concepts of signal processing& transforms	Analyze
C2314.2	Appraise the Fat Fourier algorithm.	Analyze
C2314.3	Design FIR and IIR filters.	Analyze
C2314.4	Appreciate the concepts of multirate signal processing.	Apply
C2314.5	Explore the concepts of multiple sampling rates for DSP.	Evaluate

#Remember; Understand; Apply; Analyze; Evaluate; Create

Faculty signature:

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	MP&MC	**Class/ Sem**	III/I
Faculty Name:	NSLV Sowjanya	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2315.1	Understand the concepts of signal processing& transforms	Analyze
C2315.2	Appraise the Fat Fourier algorithm.	Analyze
C2315.3	Design FIR and IIR filters.	Analyze
C2315.4	Appreciate the concepts of multirate signal processing.	Apply
C2315.5	Explore the concepts of multiple sampling rates for DSP.	Evaluate

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	EM-II Lab	**Class/ Sem**	III/I
Faculty Name:	G.Saibaba	**Regulation**	R19

Course Name: Electrical Machines -II Lab

CO Number.	CO Statement	**Taxonomy**
C222.1	Assess the performance of single phase and three phase induction motors	Analyze
C2226.2	Control the speed of three phase induction motor.	Evaluate
C2226.3	Predetermine the regulation of three–phase alternator by various methods.	Apply
C2226.4	Find the Xd/ Xq ratio of alternator and asses the performance of three–phase synchronous motor	Apply
C2226.5	Determine the performance single phase AC series motor.	Analyze
C2226.6	Determine the Regulation of Alternator by various methods.	Evaluate

Faculty in-charge

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	CS Lab	**Class/ Sem**	III/I
Faculty Name:	D. Joseph Kumar	**Regulation**	R19

COURSE OUTCOMES

Course Name: Control Systems Lab

CO Number	CO Statement	Taxonomy
C2316.1	Analyze the performance and working Magnetic amplifier, D.C and A.C. servo motors and synchros	Analyze
C2316.2	Design P,PI,PD and PID controllers	Evaluate
C2316.3	Design lag, lead and lag–lead compensators	Apply
C2316.4	Control the temperature using PID controller	Apply
C2316.5	Test the controllability and observability	Analyze
C2316.6	Judge the stability of any system in time and frequency domain.	Evaluate

Faculty in-charge

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CourseOutcomes(COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	EM&I Lab	**Class/ Sem**	III/I
Faculty Name:	M. R.Balusula Rao	**Regulation**	R19

Course Name: Electrical Measurements & Instrumentation Lab

After completion of this course the student is in a position to

CO Number	CO Statement	Taxonomy
C2318.1	Measure the electrical parameters voltage, current, power, energy and electrical characteristics of resistance, inductance and capacitance	Analyze
C2318.2	Known the characteristics of transducers	Evaluate
C2318.3	Measure the strains, frequency and phase difference	Apply
C2318.4	Calibrate wattmeters by using direct and indirect loadings	Apply
C2318.5	Test the CTs and PTs.	Analyze
C2318.6	Analyze different Transducer circuits.	Evaluate

Faculty in-charge

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CourseOutcomes(COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	Social Relevant Project	**Class/ Sem**	III/I
Faculty Name:	T.Venkateswara Rao	**Regulation**	R19

Course Name: Electrical Measurements & Instrumentation Lab

After completion of this course the student is in a position to

CO Number.	CO Statement	**Taxonomy**
C2318.1	Students will be able to identify pertinent social issues and challenges within the realm of EEE, analyze their root causes, and assess their impact on communities.	Understand
C2318.2	Students will demonstrate the ability to develop innovative solutions or technologies that address social problems within the domain of EEE, integrating principles of sustainable design and societal impact.	Analyze
C2318.3	Students will exhibit a deep understanding of the ethical considerations in EEE projects, showcasing a commitment to social responsibility, inclusivity, and the well-being of diverse communities.	Understand
C2318.4	Students will engage in effective interdisciplinary teamwork, collaborating with professionals from various fields, such as sociology, economics, and public policy, to create holistic solutions for societal challenges.	Apply
C2318.5	Students will communicate technical concepts effectively to diverse audiences, advocating for their social relevant projects through presentations, reports, and outreach efforts targeted at community stakeholders and policymakers.	Analyze
C2318.6	Students will demonstrate the ability to implement their social relevant projects effectively, monitoring progress, evaluating impact, and adapting strategies to ensure sustainable and meaningful outcomes for the community.	Apply

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	ELECTRIC DRIVES	**Class/ Sem**	III/II
Faculty Name:	N.Hymavathi	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2321.1	Illustrate various braking methods of Electric Drive	Analyze
C2321.2	Develop the output voltage and speed -torque expression for single phase half and fully controlled converter	Analyze
C2321.3	Explain various quadrant operations of self and separately excited DC motor	Analyze
C2321.4	Discuss Variable voltage Variable Frequency control of induction motor by PWM	Apply
C2321.5	Elaborate various rotor side control schemes of induction motor	Evaluate
C2321.6	Demonstrate the operation of self-controlled synchronous motors by VSI	Apply

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	POWER SYSTEM ANALYSIS	**Class/ Sem**	III/II
Faculty Name:	P. Nagaraju	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2322.1	Analyse the concepts of circuit topology.	Analyze
C2322.2	Analyze the load flow methods.	Analyze
C2322.3	Evaluate the concept of zbus algorithm.	Analyze
C2322.4	Evaluate the symmetrical fault analysis.	Apply
C2322.5	Find the symmetrical components and fault analysis.	Evaluate
C2322.6	Applying the performance of power system stability analysis.	Apply

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	DATA STRUCTURE	**Class/ Sem**	III/II
Faculty Name:	G.V.S..Sriram	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2323.1	Illustrate the properties, interfaces and behaviors of basic abstract data type.	Analyze
C2323.2	Analyze different Sorting, Searching techniques and understand various file organizations.	Analyze
C2323.3	Explain the basic data structures such as Arrays and Linked Lists.	Analyze
C2323.4	Analyze Use of Stacks and Queues in programming	Apply
C2323.5	Describe different methods for traversing trees.	Evaluate
C2323.6	Solve the problem involving Graphs	Evaluate

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	DIGITAL CONTROL SYSTEMS	**Class/ Sem**	III/II
Faculty Name:	M.Srinu	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2324.1	Understand the advantages of discrete time control systems and various associated accessories.	Analyze
C2324.2	Application of z–transformations and their role in the mathematical analysis of different systems (like Laplace transforms in analog systems).	Analyze
C2324.3	Apply state space analysis for concepts of Controllability and Observability	Analyze
C2324.4	Evaluate the stability criterion for digital systems and methods adopted for testing the digital systems	Apply
C2324.5	Design of discrete–time control systems by conventional methods	Create
C2324.6	Design of State feedback controllers.	Create

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	COMPUTER NETWORKS	**Class/ Sem**	III/II
Faculty Name:	N. Bharathi	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2326.1	Generalize functionalities and services of each layerof OSI model.	Analyze
C2326.2	Explains the concept of data framing and errorcontrol mechanisms	Analyze
C2326.3	Interpret the Various multiple access Protocols.	Analyze
C2326.4	Basis of ETHERNET in MAC Sublayer.	Apply
C2326.5	Identify the concepts of routing and congestion control algorithms.	Evaluate
C2326.6	With the World Wide Web concepts.	Apply

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	OPERATING SYSTEMS	**Class/ Sem**	III/II
Faculty Name:	E. Sarath Chandra	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C3206.1	Understand the basic concepts and functions of operating system	Understand
C3206.2	Study the various scheduling algorithms	Analyze
C3206.3	Explain deadlock, prevention and avoidance algorithms	Understand
C3206.4	Compare and contrast various memory management schemes	Analyze
C3206.5	Design and Implement a prototype file systems	Create
C3206.6	Explain the goals of protection? What are the principles of protection	Understand

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	POWER ELECTRONICS LAB	**Class/ Sem**	III/II
Faculty Name:	E. Rajasunil	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2327.1	Analyze the characteristics of various power electronic devices	Analyze
C2327.2	Describe the performance of single–phase and three–phase full–wave bridge converters with both resistive and inductive loads.	Analyze
C2327.3	Understand the operation of single phase AC voltage regulator with resistive and inductive loads	Analyze
C2327.4	Explain the working of Buck converter, Boost converter, single–phase square wave inverter and PWM inverter	Apply
C2327.5	Construct Boost converter in Continuous Conduction Mode operation.	Evaluate
C2327.6	Construct single phase AC Voltage regulator.	Apply

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical & Electronics Engineering

CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	MICRO MPROCESSORS AND MICRO CONTROLLERS LAB	**Class/ Sem**	III/II
Faculty Name:	N.S.L.V.Sowjanya	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2328.1	Understand the fundamentals of assembly level programming of microprocessors & microcontrollers	Analyze
C2328.2	Apply the programming knowledge for arithmetic and logical operations in 8086 & 8051	Analyze
C2328.3	Develop the programs for sorting	Analyze
C2328.4	Develop the programs for string manipulation programs	Apply
C2328.5	Contrast how different I/O devices can be interfaced to processor and will explore several techniques of interfacing	Evaluate
C2328.6	Apply the programming knowledge for understanding of communication standards in 8086, 8051 & PIC18	Apply

#Remember; Understand; Apply; Analyze; Evaluate; Create

Faculty signature:

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CourseOutcomes (COs)

Program Name:	B.Tech in Electrical & Electronics Engineering	**AY**	2021-2022
Course Name:	Employability Skills	**Class/ Sem**	III/II
Faculty Name:	M. AnjanKumar	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2329.1	Recollect the human, moral values and ethics.	Analyze
C2329.2	Illustrate the principles to being harmony among I, we and nature by focusing on human duties, rights, and dignity.	Analyze
C2329.3	Describe the various Engineering Ethics and social issues that are encountered by every professional in discharging professional duties.	Analyze
C2329.4	Describe the Engineers' Responsibilities towards Safety and Risk and based on this make analysis on designing to keep safety measure**.**	Apply
C2329.5	Demonstrate the professional ethics and techniques for collegiality and problem solving?	Evaluate
C2329.6	Discuss the globalization and MNC issues like – cross culture , business ethics and research ethics etc.	Analyze

#Remember; Understand; Apply; Analyze; Evaluate; Create

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CourseOutcomes (COs)

Program Name:	B. Tech in Electrical &Electronics Engineering	**AY**	2022-23
Course Name:	Switch Gear And Protection	**Class / Sem**	IV/I
Faculty Name:	P. Nagaraju	**Regulation**	R19

CourseOutcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2321.1	Explain the principle of operation of various Circuit Breakers	Understand
C2321.2	Classify various types of relays with their characteristics	Analyze
C2321.3	Apply the Knowledge of various protective schemes for Generators and Transformers	Apply
C2321.4	Examine Feeder and Busbar protection schemes	Evaluate
C2321.5	Compare various types of static relays	Evaluate
C2321.6	Discuss the concept of overvoltage's and methods of neutral grounding	Understand

Remember; Understand; Apply; Analyse; Evaluate; Create

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Course Outcomes (COs)

Program Name:	B. Tech(EEE)	**AY**	2022-23
Course Name:	OOPS THROUGH JAVA	**Class/Sem**	IV/I
Faculty Name:	G.V.S.SRIRAM	**Regulation**	R19

Course Outcomes

After completing this course the student will be able to:

CO Number	CO Statement	Taxonomy
C2412.1	Understand Java programming concepts and utilize Java Graphical User Interface in Program writing.	Understand
C2412.2	write, compile, execute and troubleshoot Java programming for networking concepts	Apply
C2412.3	build Java Application for distributed environment.	Remember
C2412.4	design and Develop multi-tier applications.	Apply
C2412.5	identify and Analyze Enterprise applications.	Analyze
C2412.6	Develop GUI applications using Applet classes, Swing components and Event handling programs	Apply

Signature of the Faculty

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	Renewable Energy sources	**Class / Sem**	IV/ I
Faculty Name:	N.HYMAVATHI	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2413.1	Study The Solar Photo Volcanic Systems.	Understanding
C2413.2	Understand The Solar Irradiation Data And Evaluate The Problems On Irradiation Surfaces.	Evaluating
C2413.3	Study The Performance Of Wind Energy Systems.	Remembering
C2413.4	Understand The Hydro And Tidal Power Systems Performance.	Understanding
C2413.5	Understand The Concept Of Biomass Energy Systems.	Understanding
C2413.6	Study The Concepts Of Fuel Cells And Geothermal Energy Systems.	Remembering

[#] Remember; Understand; Apply; Analyse; Evaluate; Create

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3- Applying, 4-Analyzing, 5-Evaluating, 6- Creating)

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Electrical and Electronics Engineering Department

CourseOutcomes (COs)

Program Name:	B. Tech in Electrical &Electronics Engineering	**AY**	2022-23
Course Name:	Utilization Of Electrical Energy	**Class / Sem**	IV/I
Faculty Name:	M.Srinu	**Regulation**	R19

CourseOutcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2414.2	Identify a suitable motor for electric drives and industrial applications	Understand
C2414.3	Identify most appropriate heating or welding techniques for suitable applications	Analyze
C2414.4	Understand various level of luminosity produced by different illuminating sources.	Understand
C2414.5	Estimate the illumination levels produced by various sources and recommend the most efficient illuminating sources and should be able to design different lighting systems by taking inputs and constraints in view.	Create
C2414.6	Determine the speed/time characteristics of different types of traction motors.	Evaluate
C2414.2	Estimate energy consumption levels at various modes of operation.	Understand

Remember; Understand; Apply; Analyse; Evaluate; Create

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	High voltage Engineering	**Class / Sem**	IV/ I
Faculty Name:	Dr.K.V.B.S.R.Subrahmanyam	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2415.2	Out Outline the importance of different insulating media used in the high voltage equipments.	Analyze
C2415.3	Distinguish different methods of breakdown mechanisms in liquid, solid and Gaseous media	Analyze
C2415.4	Discuss about the principle of operation of High Voltage DC, AC and Impulse voltages and currents.	Understand
C2415.5	Apply the knowledge of different methods and techniques for generation and measurement of high DC,AC and impulse voltages and currents.	Apply
C2415.6	Explain the Partial Discharge measurement Techniques	Understand
C2415.2	Explain about various testing techniques of HV Equipments.	Understand

[#] Remember; Understand; Apply; Analyse; Evaluate; Create

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3- Applying, 4-Analyzing, 5-Evaluating, 6- Creating)

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	LDICA LAB	**Class / Sem**	IV/ I
Faculty Name:	K. Satisj kumar	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
C2416.1	Determination of IC 741 op-amp parameters	Evaluate
C2416.2	Design different circuits using IC 741 op-amp for various applications.	Create
C2416.3	Use the IC 555 for constructing various circuits.	Apply
C2416.4	Design circuits with IC 565 – PLL and IC 566 – VCO Applications.	Create
C2416.5	Design basic combinational circuits and verify their functionalities.	Create
C2416.6	Apply the design procedures to basic sequential circuits.	Apply

[#]Remember; Understand; Apply; Analyze; Evaluate; Create

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	PS&S LAB	**Class / Sem**	IV/ I
Faculty Name:	M. R.Balusula Rao	**Regulation**	R19

COURSE OUTCOMES

Course Name: Power Systems & Simulations Lab

CO Number	CO Statement	Taxonomy
C2417.1	Able to find Sequence impedances of 3 phase Transformer and Alternator	Analyze
C2417.2	Evaluate ABCD parameters of Transmission line	Evaluate
C2417.3	Analyze Load flow studies using Gauss-seidel method	Analyze
C2417.4	Estimate the Load frequency control of two area with &without control	Apply
C2417.5	Transient analysis of single machine connected to infinite bus(SMIB).	Analyze
C2417.6	Analysis of three phase circuit representing the generator transmission line and load. Plot three phase currents & neutral current.	Analyze

Faculty in-charge

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	INDUSTRIAL TRAINING	**Class / Sem**	IV/ I
Faculty Name:	T.Venkateswara Rao	**Regulation**	R19

COURSE OUTCOMES

Course Name: INDUSTRIAL TRAINING

CO Number	CO Statement	Taxonomy
C2418.1	Apply theoretical concepts learned in the classroom to real-world industrial scenarios.	Apply
C2418.2	Operate and maintain various electrical and electronic equipment used in the industry.	Apply
C2418.3	Identify and rectify electrical and electronic faults in industrial setups.	Apply
C2418.4	Analyze and adhere to safety protocols, regulations, and standards relevant to electrical and electronic systems.	Analyze
C2418.5	Enhance teamwork and communication skills by actively participating in collaborative projects.	Apply
C2418.6	Participating in the planning, execution, and completion of engineering projects within specified timelines and budgets. This could involve tasks such as resource allocation, scheduling, and progress tracking.	Evaluate

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	**B.Tech - Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	**Project-I**	**Class / Sem**	IV/ I
Faculty Name:	**K. Sivasankar**	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO No	CO Statement	Taxonomy
C424.1	Develop comprehensive project plans, including defining objectives, timelines, and resource allocation.	Create
C424.2	Identify real-world engineering problems or challenges suitable for electrical and electronics projects.	Analyze
C424.3	Conduct in-depth research and analysis to gather relevant data and information necessary for project design and implementation.	Analyze
C424.4	Design electrical and electronics systems or prototypes that address identified problems or challenges.	Create
C424.5	Apply advanced technical skills and knowledge in areas such as circuit design, programming, and hardware integration.	Apply
C424.5	Demonstrate innovation and creativity in solving engineering problems and designing novel electrical and electronics solutions.	Analyze
C424.6	Identify potential risks associated with project implementation and develop strategies for risk mitigation.	Analyze
C424.7	Design and conduct experiments or tests to evaluate the performance and functionality of their projects	Create
C424.8	Create detailed project documentation, including technical reports, design specifications, and user manuals	Create
C424.9	Create detailed project documentation, including technical reports, design specifications, and user manuals.	Analyze
C424.10	Address ethical considerations in engineering projects, including safety, environmental impact, and social responsibility.	Apply
C424.11	Communicate their project findings and outcomes through presentations and reports to technical and non-technical audiences.	Analyze
C424.12	Work collaboratively in project teams, demonstrating the ability to contribute effectively to group projects and manage interpersonal dynamics.	Apply

Faculty signature

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

ProgramName:	**B, TECH in Electrical And Electronics Engineering**	**AY**	**2022-2023**
CourseName:	**PSOC**	**Class/Sem**	IV/II
FacultyName:	N.Hymavathi	**Regulation**	**R19**

CourseOutcomes

Aftercompletingthiscourse,thestudentwillbeableto:

CO Number	COStatement	Taxonomy
C423.1	Evaluate thermal power generation for economic operation with & without transmission losses	Evaluate
C423.2	Evaluate hydro- thermal power generation mix for economic operation with & without transmission losses	Evaluate
C423.3	Solve the unit commitment problems using iterative technique satisfying equality and inequality constraints for optimal solution.	Apply
C423.4	Explain load frequency control & estimate the frequency deviation through modeling.	Evaluate
C423.5	Compute steady state error for changes in load demand & design controller to minimize the error for single area and two area systems	Create
C423.6	Choose and model controllers for reactive power compensation in a system to improve system voltage.	Apply

#Remember;Understand;Apply;Analyse;Evaluate;Create

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech In Electrical & Electronics Engineering	**AY**	2022-23
Course Name:	Green Energy Systems	**Class / Sem**	IV-II
Faculty Name:	K. Sivashankar	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Bloom Taxonomy
C422.1	Explain the importance of solar energy collection and storage.	Remember
C422.2	ıg the principles of wind energy and biomass energy.	Understanding
C422.3	Apply knowledge on geothermal and ocean energy.	Applying
C422.4	Analyze about energy efficient systems	Analyzing
C422.5	Evaluate the concepts of green manufacturing systems.	Evaluating
C422.6	Estimate Energy Consumption Levels At Various Modes Of Operation.	Creating

[#] Remember; Understand; Apply; Analzse; Evaluate; Create

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3- Applying, 4-Analyzing, 5-Evaluating, 6- Creating)

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	**EDS**	**Class / Sem**	IV/ II
Faculty Name:	**Dr.KVBSR.Subrahmanyam**	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Bloom Taxonomy
C423.1	Explain the relation between load factor and loss factor.	Understanding
C423.2	Compare radial and loop type distribution feeders.	Analyse
C423.3	Calculate the voltage drop and power loss in a distribution system.	Apply
C423.4	Analyze the coordination between various protective devices.	Analyse
C423.5	Discuss the need of PF correction	Understand
C423.6	Explain the importance of Voltage Control	Understand

[#] Remember; Understand; Apply; Analyse; Evaluate; Create

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3- Applying, 4-Analyzing, 5-Evaluating, 6- Creating)

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Electrical and Electronics Engineering Department

Course Outcomes (COs)

Program Name:	B.Tech - **Electrical and Electronics Engineering**	**AY**	2022-2023
Course Name:	**Project-II**	**Class / Sem**	IV/ II
Faculty Name:	**K. Sivasankar**	**Regulation**	R19

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Bloom Taxonomy
C424.1	Develop comprehensive project plans, including defining objectives, timelines, and resource allocation.	Create
C424.2	Identify real-world engineering problems or challenges suitable for electrical and electronics projects.	Analyze
C424.3	Conduct in-depth research and analysis to gather relevant data and information necessary for project design and implementation.	Analyze
C424.4	Design electrical and electronics systems or prototypes that address identified problems or challenges.	Create
C424.5	Apply advanced technical skills and knowledge in areas such as circuit design, programming, and hardware integration.	Apply
C424.5	Demonstrate innovation and creativity in solving engineering problems and designing novel electrical and electronics solutions.	Analyze
C424.6	Identify potential risks associated with project implementation and develop strategies for risk mitigation.	Analyze
C424.7	Design and conduct experiments or tests to evaluate the performance and functionality of their projects	Create
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C424.9	Create detailed project documentation, including technical reports, design specifications, and user manuals.	Analyze
C424.10	Address ethical considerations in engineering projects, including safety, environmental impact, and social responsibility.	Apply
C424.11	Communicate their project findings and outcomes through presentations and reports to technical and non-technical audiences.	Analyze
C424.12	Work collaboratively in project teams, demonstrating the ability to contribute effectively to group projects and manage interpersonal dynamics.	Apply