PRATHYUSHA ENGINEERING COLLEGE
DEPARTMENT OF EEE
COURSE OUTCOME
REGULATION - 2021

COURSE CODE	COURSE NAME	COURSE OUTCOME
HS3152	PROFESSIONAL ENGLISH I	CO1.Improve the communicative competence of learners
		CO2.Learn to use basic grammatic structures in suitable contexts
		CO3.Acquire lexical competence and use them appropriately in a sentence and understand their meaning in a text
		CO4.Help learners use language effectively in professional contexts
		CO5.Develop learners' ability to read and write complex texts, summaries, articles, blogs, definitions, essays and user manuals.
PH3151	ENGINEERING PHYSICS – I	CO1.Understand the importance of mechanics.
		CO2. :Express their knowledge in electromagnetic waves
		CO3.Demonstrate a strong foundational knowledge in oscillations, optics and lasers
		CO4.Understand the importance of quantum physics.
		CO5.Comprehend and apply quantum mechanical principles towards the formation of energy bands.
MA3151	MATRICES AND CALCULUS	CO1.Use the matrix algebra methods for solving practical problems.
		CO2.Apply differential calculus tools in solving various application problems.
		CO3.Able to use differential calculus ideas on several variable functions.
		CO4.Apply different methods of integration in solving practical problems
		CO5.Apply multiple integral ideas in solving areas, volumes and other practical problems
CY3151	ENGINEERING CHEMISTRY	CO1.To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.
		CO2.To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications
		CO3.To apply the knowledge of phase rule and composites for material selection requirements.
		CO4.To recommend suitable fuels for engineering processes and applications
		CO5.To recognize different forms of energy resources and apply them for suitable applications in energy sectors.

COURSE CODE	COURSE NAME	COURSE OUTCOME
GE3151	PROBLEM SOLVING AND PYTHON PROGRAMMING	CO1.Adapt, analyze and develop standard algorithm to solve problem
		CO2.Identify and use the appropriate data types for variables being critically aware of memory and complexity issues.
		CO3.Design and implement control flow and function concepts in python program for solving problems
		CO4.Implement python data structure list, tuple and dictionary for representing complex data problems
		CO5.Develop and implement python file modules and functions which react robustly to exceptional input for solving real world problems
GE3171	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	CO1.Develop,test, and debug simple Python programs.
		CO2.Implement Python programs with conditionals and loops.
		CO3.Develop Python programs step-wise by defining functions and calling them.
		CO4.Use Python lists, tuples, dictionaries for representing compound data.
		CO5.Read and write data from/to files in Python.
BS3171	PHYSICS AND CHEMISTRY LABORATORY	CO1.To learn the proper use of various kinds of physics laboratory equipment and how data can be collected, presented and interpreted in a clear and concise manner.
		CO2.To learn how data can be collected, presented and interpreted in a clear and concise manner.
		CO3.To learn problem solving skills related to physics principles and interpretation of experimental data.
		CO4.To inculcate experimental skills to test basic understanding of water quality parameters, such as, acidity, alkalinity, hardness, DO, chloride and copper.
		CO5.To induce the students to familiarize with electroanalytical techniques such as, pH metry, potentiometry and conductometry in the determination of impurities in aqueous solutions
HS3251	PROFESSIONAL ENGLISH - II	CO1.To engage learners in meaningful language activities to improve their LSRW skills
		CO2.To enhance learners' awareness of general rules of writing for specific audiences
		CO3.To help learners understand the purpose, audience, contexts of different types of writing
		CO4.To develop analytical thinking skills for problem solving in communicative contexts
		CO5.To demonstrate an understanding of job applications and interviews for internship and placements

COURSE CODE	COURSE NAME	COURSE OUTCOME
MA3251	STATISTICS AND NUMERICAL METHODS	CO1.Apply the concept of testing of hypothesis for small and large samples in real life problems.
		CO2.Apply the basic concepts of classifications of design of experiments in the field of agriculture.
		CO3.Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.
		CO4.Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.
		CO5.Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications
PH3202	PHYSICS FOR ELECTRICAL ENGINEERING	CO1.Know basics of dielectric materials and insulation
		CO2. Gain knowledge on the electrical and magnetic properties of materials and their applications
		CO3.Understand clearly of semiconductor physics and functioning of semiconductor devices
		CO4.Understand the optical properties of materials and working principles of various optical devices
		CO5.Appreciate the importance of nanotechnology and nanodevices.
BE3255	BASIC CIVIL AND MECHANICAL ENGINEERING	CO1.To provide the students an illustration of the significance of the Civil and Mechanical Engineering Profession in satisfying the societal needs.
		CO2. To help students acquire knowledge in the basics of surveying and the materials used for construction.
		CO3.To provide an insight to the essentials of components of a building and the infrastructure
		CO4.To explain the component of power plant units and detailed explanation to IC engines their working principles.
		CO5.To explain the Refrigeration & Air-conditioning system.
GE3251	ENGINEERING GRAPHICS	CO1.Sketch the conic sections, special curves, and draw orthographic views from pictorial views and models.
		CO2.Apply the principles of orthographic projections of points in all quadrants, lines and planes in first quadrant.
		CO3.Sketch the projections of simple solids like prisms, pyramids, cylinder and cone and obtain the traces of plane figures
		CO4.Practice the sectional views of solids like cube, prisms, pyramids, cylinders & cones and extend its lateral surfaces
		CO5.Sketch the perspective projection of simple solids, truncated prisms, pyramids, cone and cylinders and sketch the isometric projection of simple machine parts.

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3251	ELECTRIC CIRCUIT ANALYSIS	CO1.Understand the Concepts of Electric Circuits and to analyze the electric circuits.
		CO2.Apply the knowledge on electric circuits on solving circuit equations using network theorems
		CO3.Ability to evaluate the transient response of circuits.
		CO4.Analyze resonant and coupled circuits.
		CO5.Ability to explain the concepts of phasor diagrams and analyse the three phase circuits
EE3271	ELECTRIC CIRCUITS LABORATORY	CO1.Ability to analyze and Simulate electric circuits by kirchoff's laws
		CO2.Ability to understand and apply circuit theorems and concepts in engineering applications
		CO3.Ability to analyze the resonance circuits
		CO4.Ability to analyze and simulate the transient response of circuits.
		CO5.Ability to simulate the three phase circuits for star and delta connection networks.
GE3271	ENGINEERING PRACTICES LABORATORY	CO1.Fabricate carpentry components and pipe connections including plumbing works
		CO2.Calculate the different Electrical quantities, measure the energy consumption using single phase energy meter.
		CO3.Demonstrate wiring for a simple residential house, identify the ratings of various appliances like Fluorescent tube, incandescent lamp, etc.
		CO4.Explain the basic electronic components , gates and soldering practices
		CO5.Develop soldering in a PCB, measure ripple factor of Half Wave Rectifier and Full Wave Rectifier..
GE3272	COMMUNICATION LABORATORY	CO1.To identify varied group discussion skills and apply them to take part in effective discussions in a professional context
		CO2.To analyse concepts and problems and make effective presentations explaining them clearly and precisely.
		CO3.To be able to communicate effectively through formal and informal writing
		CO4.To be able to use appropriate language structures to write emails, reports and essays
		CO5.To give instructions and recommendations that are clear and relevant to the context

COURSE CODE	COURSE NAME	COURSE OUTCOME
MA3303	PROBABILITY AND COMPLEX FUNCTIONS	CO1. Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.
		CO2.Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.
		CO3.To develop an understanding of the standard techniques of complex variable theory in particular analytic function and its mapping property.
		CO4.To familiarize the students with complex integration techniques and contour integration techniques which can be used in real integrals.
		CO5.To acquaint the students with Differential Equations which are significantly used in engineering problems.
EE3301	ELECTROMAGNETIC FIELDS	CO1.Visualize and explain Gradient, Divergence, and Curl operations on electromagnetic vector fields and identify the electromagnetic sources and their effects.
		CO2.Compute and analyse electrostatic fields, electric potential, energy density along with their applications.
		CO3.Compute and analyse magneto static fields, magnetic flux density, vector potential along with their applications.
		CO4. Explain different methods of emf generation and Maxwell's equations
		CO5.Explain the concept of electromagnetic waves and characterizing parameters
EC3301	ELECTRON DEVICES AND CIRCUITS	CO1.To understand the structure of basic electronic devices and Design clipper, clamper, half wave and full wave rectifier, regulator circuits using PN junction diodes
		CO2.Analyze the structure and characteristics BJT, FET, MOSFET, UJT, Thyristor and IGBT
		CO3.Analyze the performance of various configurations of BJT and MOSFET based amplifier
		CO4.Explain the characteristics of MOS based cascade and differential amplifier
		CO5.Explain the operation of various feedback amplifiers and oscillators
EE3303	ELECTRICAL MACHINES - I	CO1.To understand the concept of electromechanical energy conversion system
		CO2.To identify the appropriate machine for a given application based on its characteristics.
		CO3.To identify the appropriate test to determine the performance parameters of a given machine
		CO4.To familiarize with the procedure for parallel operation of generators and transformers
		CO5.To deliberate the working of auto transformer and three phase transformers.

COURSE CODE	COURSE NAME	COURSE OUTCOME
CS3353	C PROGRAMMING AND DATA STRUCTURES	CO1.To introduce the basics of C programming language
		CO2.To learn the concepts of advanced features of C
		CO3.To understand the concepts of ADTs and linear data structures
		CO4.To know the concepts of non-linear data structure and hashing.
		CO5.To familiarize the concepts of sorting and searching techniques
EE3302	DIGITAL LOGIC CIRCUITS	CO1.Understand various number systems and simplify the logical expression using boolean expression
		CO2.Design various combinational digital circuits using logic gates
		CO3.Design and analyze various synchronous sequential circuits
		CO4.Understand and analyze the asynchronous sequential circuits and programmable logic devices
		CO5.Understand and analyze the digital simulation for the development of application oriented logic circuits
EC3311	ELECTRONIC DEVICES AND CIRCUITS LABORATORY	CO1.To enable the students to understand the behavior of semiconductor device based on experimentation.
		CO2.Be exposed to active and passive circuit elements
		CO3.Familiarize the operation and characteristics of transistor like BJT and FET.
		CO4.Explore the characteristics of amplifier gain and frequency response
		CO5.Learn the required functionality of positive and negative feedback systems
EE3311	ELECTRICAL MACHINES LABORATORY - I	CO1.Investigate the voltage drop due to armature reaction effect in DC shunt and DC compound generators and Design Ampere turns for Inter poles and compensating winding. Examine critical resistance and critical speed.
		CO2.Analyze load characteristics DC shunt, series and compound motor. Examine its maximum output and maximum efficiency
		CO3.Investigate the constant losses of the DC shunt motor predict the efficiency in different methods at different load condition
		CO4.Analyze load characteristics of single and three phase transformer. Examine the different losses and efficiency
		CO5.Investigate the the equivalent circuit parameters of single phase transformer to predetermine its voltage regulation and efficiency.

COURSE CODE	COURSE NAME	COURSE OUTCOME
CS3362	C PROGRAMMING AND DATA STRUCTURES LABORATORY	CO1.Use different constructs of C and develop applications
		CO2.Write functions to implement linear and non-linear data structure operations
		CO3.Suggest and use the appropriate linear / non-linear data structure operations for a given problem
		CO4.Apply appropriate hash functions that result in a collision free scenario for data storage and Retrieval
		CO5.Implement Sorting and searching algorithms for a given application
GE3451	ENVIRONMENTAL SCIENCES AND SUSTAINABILITY	CO1.To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation.
		CO2.To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society
		CO3.To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.
		CO4.To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development
		CO5.To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.
EE3405	ELECTRICAL MACHINES – II	CO1.Ability to understand the construction and working principle of Synchronous generator
		CO2.Ability to understand the construction and working principle of Synchronous Motor
		CO3.Ability to understand the construction and working principle of Three Phase Induction Motor
		CO4.Acquire knowledge about the starting and speed control of induction motors
		CO5.To gain knowledge about the basic principles and working of Single phase induction motors and Special Electrical Machines.

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3401	TRANSMISSION AND DISTRIBUTION	CO1.Understand the structure of power system, computation of transmission line parameters for different configurations.
		CO2.Model the transmission lines to determine the line performance and to understand the impact of Ferranti effect and corona on line performance.
		CO3.Do Mechanical design of transmission lines, grounding and to understand about the insulators in transmission system.
		CO4.Design the underground cables and understand the performance analysis of underground cable.
		CO5.Understand the modelling, performance analysis and modern trends in distribution system.
EE3403	MEASUREMENTS AND INSTRUMENTATION	CO1.Ability to understand the fundamental art of measurement in engineering.
		CO2.Ability to understand the structural elements of various instruments
		CO3.Ability to understand the importance of bridge circuits
		CO4.Ability to understand about various transducers and their characteristics by experiments
		CO5.Ability to understand the concept of digital instrumentation and virtual instrumentation by experiments.
EE3402	LINEAR INTEGRATED CIRCUITS	CO1.Acquire knowledge in IC fabrication
		CO2.Analyze the characteristics and basic applications of Operational amplifier
		CO3.To understand and acquire knowledge in applications of Operational amplifier
		CO4.Analyze the functional blocks and applications of Special Ics
		CO5.To design circuits using various Applications ICs
EE3404	MICROPROCESSOR AND MICROCONTROLLER	CO1.Basic understanding of architecture and its functionalities
		CO2.To study the addressing modes & instruction set of 8085 and Ability to write assembly language program for microprocessor
		CO3.Ability to design and implement interfacing of peripheral with microprocessor
		CO4.To study the addressing modes & instruction set of 8051 and Ability to write assembly language program for microcontroller and understand the typical applications of micro-controllers
		CO5.Ability to understand and appreciate advanced architecture evolving microprocessor field

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3501	LINEAR AND DIGITAL CIRCUITS LABORATORY	CO1.Design and implement Boolean Functions.
		CO2.Design and implementation of code conversion
		CO3.Design and implement the 4-bit shift registers
		CO4.Acquire knowledge on Application of Op-Amp and IC 555 timer.
		CO5.Design and implement counters using specific counter IC.
EE3411	ELECTRICAL MACHINES LABORATORY - II	CO1.Draw the constructional details and explain the performance of salient and non –salient type synchronous generators
		CO2.Draw and explain the Principle of operation and performance of synchronous motor
		CO3.Draw and describe the construction, principle of operation and performance of induction machines.
		CO4.Describe the starting and speed control of three-phase induction motors.
		CO5.Explain the construction, principle of operation and performance of single phase induction motors and special machine
EE3413	MICROPROCESSOR AND MICROCONTROLLER LABORATORY	CO1.Ability to write assembly language program for microprocessor.
		CO2.Ability to write assembly language program for microcontroller
		CO3.Ability to design and implement interfacing of peripheral with microprocessor and microcontroller
		CO4.Ability to analyze, comprehend, design and simulate microprocessor based systems used for control and monitoring.
		CO5.Ability to analyze, comprehend, design and simulate microcontroller based systems used for control and monitoring

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3501	POWER SYSTEM ANALYSIS	CO1: Ability to model the power system under steady state operating condition.
		CO2: Ability to carry out power flow analysis using.
		CO3: Ability to infer the significance of short circuit studies in designing circuit breakers.
		CO4: Ability to analyze the state of the power system for various unsymmetrical faults.
		CO5: Ability to analyze the stability of power system using different methods.
EE3591	POWER ELECTRONICS	CO1: Represent simple systems in transfer function and state variable forms.
		CO2: Analyze simple systems in time domain.
		CO3: Analyze simple systems in frequency domain.
		CO4: Infer the stability of systems in time and frequency domain.
		CO5: Interpret characteristics of the system and find out solution for simple control problems.
EE3503	CONTROL SYSTEMS	CO1.Acquire knowledge in IC fabrication
		CO2.Analyze the characteristics and basic applications of Operational amplifier
		CO3.To understand and acquire knowledge in applications of Operational amplifier
		CO4.Analyze the functional blocks and applications of Special Ics
		CO5.To design circuits using various Applications ICs
EE3006	POWER QUALITY	CO1 Use various definitions of power quality for power quality issues
		CO2 Describe the concepts related with single phase / three phase, linear / nonlinear loads and single phase / three phase sinusoidal, non-sinusoidal source
		CO3 Solve problems related with mitigation of Power System Harmonics
		CO4 Use DSTATCOM for load compensation
		CO5 Demonstrate the role of DVR, SAFs UPQC in power distribution systems

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3007	SMART GRID	CO1: To be able to understand the importance and objectives of Power System Grid
		CO2: To be able to know and understand the concept of a smart grid;
		CO3: To identify and discuss smart metering devices and associated technologies.
		CO4: To be able to get an overview of Microgrid and Electric Vehicle Technology.
		CO5:To be able to have an up to date knowledge on the various computing technologies; to understand the role of Big Data and IoT for effective and efficient operation of Smart Grid.
EE3028	DESIGN OF ELECTRIC VEHICLE CHARGING SYSTEM	CO1: To illustrate various charging techniques and to know charging standards and regulations.
		CO2: To demonstrate the working o DC-DC converters used for charging systems and principles
		CO3: To illustrate the advantages of renewable system based charging systems
		CO4: To demonstrate the principles of wireless power transfer.
		CO5: To analyze the standards for wireless charging
		CO6: To design and simulate boost converter based power factor correction
MX3084	DISASTER RISK REDUCTION AND MANAGEMENT	CO1.Acquire knowledge in IC fabrication
		CO2.Analyze the characteristics and basic applications of Operational amplifier
		CO3.To understand and acquire knowledge in applications of Operational amplifier
		CO4.Analyze the functional blocks and applications of Special Ics
		CO5.To design circuits using various Applications ICs
EE3511	POWER ELECTRONICS LABORATORY	CO1: Determine the characteristics of SCR, IGBT, TRIAC, MOSFET and IGBT
		CO2: Find the transfer characteristics of full converter, semi converter, step up and step down choppers by simulation experimentation.
		CO3: Analyze the voltage waveforms for PWM inverter using various modulation techniques.
		CO4: Design and experimentally verify the performance of basic DC/DC converter topologies used for SMPS.
		CO5: Understand the performance of AC voltage controllers by simulation and experimentation

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3512	CONTROL AND INSTRUMENTATION LABORATORY	CO1: To model and analyze simple physical systems and simulate the performance in analog and digital platform.
		CO2: To design and implement simple controllers in standard forms.
		CO3: To design compensators based on time and frequency domain specifications.
		CO4: To design a complete closed control loop and evaluate its performance for simple physical systems.
		CO5: To analyze the stability of a physical system in both continuous and discrete domains.
EE3601	PROTECTION AND SWITCHGEAR	CO1: Understand and select proper protective scheme and type of earthing.
		CO2: Explain the operating principles of various relays.
		CO3: Suggest suitable protective scheme for the protection of various power system apparatus.
		CO4: Analyze the importance of static relays and numerical relays in power system protection.
		CO5: Summarize the merits and demerits and application areas of various circuit breakers.
EE3602	POWER SYSTEM OPERATION AND CONTROL	CO1: Understand the day – to – day operation of power system.
		CO2: Model and analyse the control actions that are implemented to meet the minute-tominute variation of system real power demand
		CO3: Model and analyze the compensators for reactive power control and various devices used for voltage control.
		CO4: Prepare day ahead and real time economic generation scheduling.
		CO5: Understand the necessity of computer control of power systems.
EE3009	SPECIAL ELECTRICAL MACHINES	CO1 Ability to model and analyze power electronic systems and equipment using computational software.
		CO2 Ability to optimally design magnetics required in special machines based drive systems using FEM based software tools.
		CO3 Ability to analyse the dynamic performance of special electrical machines
		CO4 Ability to understand the operation and characteristics of other special electrical machines.
		CO5 Ability to design and conduct experiments towards research.

COURSE CODE	COURSE NAME	COURSE OUTCOME
EE3012	ELECTRICAL DRIVES	CO1: Understand the basic requirements of motor selection for different load profiles.
		CO2: Analyse the steady state behavior and stability aspects of drive systems.
		CO3: Analyse the dynamic performance of the DC drive using converter and chopper control.
		CO4: Simulate the AC drive.
		CO5: Design the controller for electrical drives
EE3014	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	CO1: Examine the available renewable energy sources.
		CO2: Demonstrate the working principles of electrical machines and power converters used for wind energy conversion system
		CO3: Demonstrate the principles of power converters used for solar PV systems
		CO4: Examine the available hybrid renewable energy systems.
		CO5: Simulate AC-DC converters, buck/boost converters, AC-AC converters and PWM inverters
EE3611	POWER SYSTEM LABORATORY	CO1: Model and analyze the performance of the transmission lines.
		CO2: Perform power flow, short circuit, and stability analysis for any power system network.
		CO3: Understand, design, and analyze the load frequency control mechanism.
		CO4: Perform optimal scheduling of generators and compute the state of the power system.
		CO5: Understand, analyze, and apply the relays for power system protection.
MX3089	INDUSTRIAL SAFETY	CO1: Understand the basic concept of safety.
		CO2: Obtain knowledge of Statutory Regulations and standards.
		CO3: Know about the safety Activities of the Working Place.
		CO4: Analyze on the impact of Occupational Exposures and their Remedies
		CO5: Obtain knowledge of Risk Assessment Techniques.

HoD-EEE

PRATHYUSHA ENGINEERING COLLEGE
DEPARTMENT OF EEE
COURSE OUTCOME
REGULATION - 2023

COURSE CODE	COURSE NAME	COURSE OUTCOME
PH23101	ENGINEERING PHYSICS	CO1: Understand the importance of mechanics.
		CO2:Express their knowledge in electromagnetic waves.
		CO3: Demonstrate a strong foundational knowledge in oscillations, optics and lasers.
		CO4: Understand the importance of quantum physics.
		CO5: Comprehend and apply quantum mechanical principles towards the formation of energy bands.
CH23101	ENGINEERING CHEMISTRY	CO1: Interpret the water quality parameters and explain the various water treatment methods.
		CO2: Classify different types of smart materials, their properties and applications in Engineering and Technology.
		CO3: Construct the electrochemical cells and sensors.
		CO4: Interpret the concepts of nano chemistry and enumerate its applications in various fields.
		CO5: Compare different energy storage devices and predict their relevance in electric vehicles.
MA23101	MATRICES AND CALCULUS	CO1.Use the matrix algebra methods for solving practical problems.
		CO2.Apply differential calculus tools in solving various application problems.
		CO3.Able to use differential calculus ideas on several variable functions.
		CO4.Apply different methods of integration in solving practical problems
		CO5.Apply multiple integral ideas in solving areas, volumes and other practical problems
GE23101	ENGINEERING GRAPHICS	CO1: Use BIS conventions and specifications for engineering drawing.
		CO2: Construct the conic curves and cycloid.
		CO3: Solve practical problems involving projection of lines.
		CO4: Draw the orthographic, isometric and perspective projections of simple solids.
		CO5: Draw the development of simple solids.

COURSE CODE	COURSE NAME	COURSE OUTCOME
LHS23101	COMMUNICATION SKILLS LABORATORY	CO1.To identify varied group discussion skills and apply them to take part in effective discussions in a professional context
		CO2.To analyse concepts and problems and make effective presentations explaining them clearly and precisely.
		CO3.To be able to communicate effectively through formal and informal writing
		CO4.To be able to use appropriate language structures to write emails, reports and essays
		CO5.To give instructions and recommendations that are clear and relevant to the context
LBS23101	PHYSICS AND CHEMISTRY LABORATORY	CO1: Apply the principle of elastic it yvsYoung‘smodulus &rigidity modulus of Engineering materials.
		CO2: Apply the principle elasticity in determining compressibility of liquid susing ultrasonic waves.
		CO3: Apply the principle of optics in fiber optical communication.
		CO4: Apply thermal properties of various insulating material sin engineering applications.
		CO5: Use the basic instruments like Vernier caliper, micrometer and microscope for various basic measurements.
MA23202	DIFFERENTIAL EQUATIONS AND TRANSFORM TECHNIQUES	CO1: Solve higher order ordinary differential equations which arise in engineering applications.
		CO2:Solve the partial differential equations in solving engineering problems.
		CO3: Apply Fourier series techniques in engineering applications.
		CO4: Understand the Fourier transform techniques in solving engineering problems.
		CO5: Understand the Z-transforms techniques in solving difference equations.
BE23201	BASIC CIVIL AND MECHANICAL ENGINEERING	CO1: Understanding profession of Civil and Mechanical engineering.
		CO2: Summarise the planning of building, infrastructure and working of Machineries.
		CO3: Apply the knowledge gained in respective discipline
		CO4: Illustrate the ideas of Civil and Mechanical Engineering applications.
		CO5: Appraise the material, Structures, machines and energy.

COURSE CODE	COURSE NAME	COURSE OUTCOME
CS23201	PROBLEM SOLVING USING C	CO1: Demonstrate knowledge on C Programming constructs
		CO2: Develop simple applications in C using basic constructs
		CO3: Design and implement applications using arrays and strings
		CO4: Develop and implement modular applications in C using functions.
		CO5: Develop applications in C using structures and pointers.
LBS23101	PHYSICS AND CHEMISTRY LABORATORY	CO1: Apply the principle of elastic it yvsYoung‘smodulus &rigidity modulus of Engineering materials.
		CO2: Apply the principle elasticity in determining compressibility of liquid susing ultrasonic waves.
		CO3: Apply the principle of optics in fiber optical communication.
		CO4: Apply thermal properties of various insulating material sin engineering applications.
		CO5: Use the basic instruments like Vernier caliper, micrometer and microscope for various basic measurements.
LES23201	ENGINEERING PRACTICES LABORATORY	CO1: Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.
		CO2: Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work.
		CO3: Wire various electrical joints in common household electrical wire work. Solder and test simple electronic circuits
		CO4: Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.
LCS23201	PROBLEM SOLVING USING C LABORATORY	**CO1**: Demonstrate knowledge on C programming constructs. **CO2**: Develop programs in C using basic constructs.
		CO2: Develop programs in C using arrays.
		CO3: Develop applications in C using strings, pointers, functions.
		CO4: Develop applications in C using structures.
		CO5: Develop applications in C using file processing.

COURSE CODE	COURSE NAME	COURSE OUTCOME
MC23201	DESIGN THINKING	CO1: Grasp the principles of design thinking methodologies
		CO2: Formulate design thinking teams and facilitate design thinking sessions
		CO3: Utilize critical thinking alongside design thinking to address challenges
		CO4: Implement selected design thinking concepts into daily work routines

HoD-EEE