


## KLS Vishwanathrao Deshpande Institute of Technology

(Accredited by NAAC with "A" Grade)  
 (Approved by AICTE, New Delhi. Affiliated to VTU, Belagavi)  
 (Recognized Under Section 2(f) by UGC, New Delhi)  
 Udyog Vidya Nagar, Haliyal – 581329, Dist.: Uttara Kannada  
 Phone: 08284-220861

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

[www.klsvdit.edu.in](http://www.klsvdit.edu.in) [principal@klsvdit.edu.in](mailto:principal@klsvdit.edu.in)



### CO statement of 2022-26 batch (2022 Scheme)

Serial No	Subject name	Statement
C101.1	Mathematics for EEE Stream-I	To apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve
C101.2		To learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C101.3		To solve first-order linear/nonlinear ordinary differential equations analytically using standard methods.
C101.4		To demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
C101.5		To test the consistency of a system of linear equations and to solve them by direct and iterative methods.
C102.1	Physics for EEE Stream	Learn and understand various types of oscillations and their implications, Recognize the significance of shock waves and its applications in various fields
C102.2		To get acquainted with the elastic properties of materials by understanding the definitions of elasticity, stress, strain, modulus of rigidity, Young's modulus, bulk modulus and elastic limit.
C102.3		To realize the interrelation between time varying electric field and magnetic field, properties of electromagnetic (EM) waves, Maxwell's equations and their role in optical fiber communication.
C102.4		Gain knowledge of the intricacies of matter and energy, which is essential to explore the role of subatomic particles in understanding properties of matter at macro, micro and nano level using the principles of quantum mechanics and to understand the physics of lasers, various types of lasers and to appreciate their role in modern technology.
C102.5		Learn the niceties of technologically important material such as conductor, semiconductor and dielectrics, their potential properties in understanding their use in engineering applications.
C103.1	Elements of Electrical Engineering	To explain the laws used in the analysis of DC and AC circuits.
C103.2		To explain the behavior of circuit elements in single-phase circuits.
C103.3		To explain the generation of three-phase power and operation of three-phase circuits.
C103.4		To explain the construction and operation of transformers, DC generators and motors induction motors, and synchronous generators.
C104.1	Introduction to Civil Engineering	Understand the scope of various fields of civil engineering.
C104.2		Compute the resultant of a force system and resolution of a force.
C104.3		Comprehend the action for forces, moments, and other types of loads on rigid bodies and compute the reactive forces.
C104.4		Locate the centroid and compute the moment of inertia of regular and built-up sections.
C104.5		Analyze the bodies in motion.
C105.1	Introduction to Python Programming	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
C105.2		Apply programming constructs of C language to solve the real world problem
C105.3		Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
C105.4		Explore user-defined data structures like structures, unions and pointers in implementing solutions
C105.5		Design and Develop Solutions to problems using modular programming constructs using functions
C106.1	Communicative English	Understand and apply the Fundamentals of Communication Skills in their communication skills.
C106.2		Identify the nuances of phonetics, intonation and enhance pronunciation skills.
C106.3		To impart basic English grammar and essentials of language skills as per present requirement.
C106.4		Understand and use all types of English vocabulary and language proficiency.



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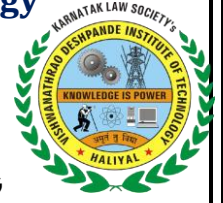
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C106.5		Adopt the Techniques of Information Transfer through presentation
C107.1	Balake Kannada	ಕನ್ನಡ ಭಾಷೆ ಸಾಹಿತ್ಯ ಸಂಸ್ಕೃತಿ ಮತ್ತು ನಾಡು ನುಡಿಯ ಪರಿಚಯವಾಗುತ್ತದೆ.
C107.2		ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳು ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಆಸಕ್ತಿ ಮೂಡುತ್ತದೆ.
C107.3		ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.
C107.4		ಕನ್ನಡ ಭಾಷಾಭ್ಯಾಸ ಸಾಮಾನ್ಯ ಕನ್ನಡ ಹಾಗೂ ಆಡಳಿತ ಕನ್ನಡದ ಪದಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.
C108.1	Innovation And Design Thinking	To explain the concept of design thinking for product and service development
C108.2		To explain the fundamental concept of innovation and design thinking
C108.3		To discuss the methods of implementing design thinking in the real world.
C109.1	Mathematics for EEE Stream-II	To solve first order linear/nonlinear differential equations analytically using standard methods
C109.2		Explain various physical models through higher order differential equations and solve such linear ordinary differential equations
C109.3		Understand a variety of partial differential equations and solution by exact methods/method of separation of variables
C109.4		Describe the applications of infinite series and obtain series solution of ordinary differential equations
C109.5		Apply the knowledge of numerical methods in the models of various physical and engineering phenomena
C110.1	Engineering Chemistry	Knowledge to discuss the electrochemical energy systems such as electrodes and batteries.
C110.2		Knowledge to Explain the fundamental concepts of corrosion, its control and surface modification methods namely electroplating and electroless plating
C110.3		Knowledge to enumerate the importance, synthesis and applications of polymers. Understand properties and application of nanomaterials.
C110.4		Knowledge to describe the principles of green chemistry, understand properties and application alternative fuels.
C110.5		Knowledge to illustrate the fundamental principles of water chemistry, applications of volumetric and analytical instrumentation.
C111.1	Computer Aided Engineering Drawing	Understand and visualize the objects with definite shape and dimensions
C111.2		Analyze the shape and size of objects through different views
C111.3		Analyze the 2D drawing and convert from Orthographic to Isometric or vice versa.
C111.4		Analyze the drawing and represent the components in different angle of projections.
C111.5		Identify the interdisciplinary engineering components or systems through its graphical representation.
C112.1	Introduction to Electronics Engineering	Describe the concepts of electronic circuits encompassing power supplies, amplifiers and oscillators.
C112.2		Present the basics of digital logic engineering including data representation, circuits and the microcontroller system with associated sensors and actuators.
C112.3		Discuss the characteristics and technological advances of embedded systems.
C112.4		Relate to the fundamentals of communication engineering spanning from the frequency spectrum to the various circuits involved including antennas.
C112.5		Explain the different modes of communications from wired to wireless and the computing involved.
C113.1	Introduction to IOT	To explain the concept of design thinking for product and service development
C113.2		To explain the fundamental concept of innovation and design thinking
C113.3		To discuss the methods of implementing design thinking in the real world.
C114.1	Scientific Foundation Of Health	: To Understand Health and wellness (and its Beliefs) and It's balance for positive mind-set.



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C114.2		Develop healthy lifestyles for good health for their better Future
C114.3		Build a Healthy and caring relationships to meet the requirements good/social/Positive life
C114.4		To Learn about avoiding risks and harmful habits in their campus & outside the campus for their bright future
C114.5		prevent and fight against harmful diseases for good health through positive mindset
C115.1	Professional Writing Skills In English	To understand and identify the Common Errors in Writing and Speaking.
C115.2		To Achieve better Technical writing and Presentation skills.
C115.3		To read Technical proposals properly and make them to Write good technical reports.
C115.4		Acquire Employment and Workplace communication skills.
C115.5		To learn about Techniques of Information Transfer through presentation in different level.
C201.1	Engineering Mathematics for EEE	To understand that physical systems can be described by differential equations and solve such equations
C201.2		To use of correlation and regression analysis to fit a suitable mathematical model for statistical data
C201.3		To demonstrate the Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing, and field theory
C201.4		To use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-transform techniques to solve difference equations
C201.5		To apply discrete and continuous probability distributions in analyzing the probability models arising in the engineering field and demonstrate the validity
C202.1	Electric Circuit Analysis	To familiarize the basic laws, source transformations, theorems and the methods of analyzing
C202.2		To explain the use of network theorems and the concept of resonance.
C202.3		To explain the importance of initial conditions, their evaluation and transient analysis of R-L and R-C circuits.
C202.4		To impart basic knowledge on network analysis using Laplace transforms.
C202.5		To familiarize the analysis of three phase circuit, two port networks and networks with non-sinusoidal inputs.
C203.1	Analog Electronic Circuits	To analyze the clipping and clamping circuits and design for different biasing circuits with BJT and conduct lab.
C203.2		To analyze for the characteristics of transistor for different applications as amplifiers and conduct lab
C203.3		To understand Modeling of BJT and FET using hybrid equivalent parameters and Re model for low frequencies and conduct lab.
C203.4		To analyze, design and solve problems on BJT Amplifiers and Oscillators and conduct lab.
C204.1	Transformers and Generators	Explain the construction, working and various tests of single phase transformer.
C204.2		Explain the construction, working and parallel operation of three phase transformer
C204.3		Explain the construction, working and testing of synchronous generator.
C204.4		Explain the analysis and synchronization of an alternator.
C204.5		Explain the construction, working of solar and wind power generation.
C205.1	Transformers and Generators lab	Conduct various test on transformer and synchronous machines and evaluate their performance
C205.2		Perform the parallel operation on two single phase transformers.
C205.3		Verify the performance of synchronous generator.
C205.4		Calculate the voltage regulation of an alternator using different methods for comparison.
C206.1	Digital Logic Circuits	Develop simplified switching equation using Karnaugh Maps and Quine Mc-Clusky techniques.
C206.2		Design Multiplexer, Encoder, Decoder, Adder, Subtractors and Comparator as digital combinational control Circuits.
C206.3		Design Latches, flip flops, counters, registers as sequential control circuits
C206.4		Develop Mealy/Moore Models and state diagrams for the given clocked sequential circuits.



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C206.5		Explain the functioning of Read only and Read/Write Memories, Programmable ROM, EPROM and Flash Memory
C207.1	Social Connect and Responsibility	Communicate and connect to the surrounding
C207.2		Create a responsible connection with the society
C207.3		Involve in the community in general in which they work.
C207.4		Notice the needs and problems of the community and involve them in problem –solving.
C207.5		Develop among themselves a sense of social & civic responsibility & utilize their knowledge in finding practical solutions to individual and community problems.
C207.6		Develop competence required for group-living and sharing of responsibilities & gain skills in mobilizing community participation to acquire leadership qualities and democratic attitudes.
C208.1		Simulation of electrical circuits to obtain voltage and current waveforms.
C208.2	Circuit lab using P spice	Simulation of different circuits theorems.
C208.1	Electric Circuit Analysis	To understand the short and open circuit, power factor correction and power measurement.
C208.2		To understand the various network theorems.
C208.3		To understand the series and parallel resonant circuit ,time constants of the RC circuit.
C209.1	Analog Electronic Circuits	To analyze the clipping and clamping circuits and design for different biasing circuits with BJT and conduct lab.
C209.2		To analyze for the characteristics of transistor for different applications as amplifiers and conduct lab
C209.3		To understand Modeling of BJT and FET using hybrid equivalent parameters and Re model for low frequencies and conduct lab.
C209.4		To analyze, design and solve problems on BJT Amplifiers and Oscillators and conduct lab.
C210.1	Electric motor	To Understand the construction and operation , characteristics, Testing of DC Motors and determine losses and efficiency
C210.2		To Understand the construction and operation, classification and types of three phase Inductin Motor
C210.3		Describe the performance characteristics and application of three phase Inductin Motor.
C210.4		Demonstrate and explain speed control methods of three phase Inductin Motor and types of single phase Motors.
C210.5		Understand the construction and operation m V and Inverted V curves if synchronous motors
C210.5		Construction and operation of universal motor, AC servomotor , Linear Induction motor, PMSM,SRM and BLDC Motors.
C211.1	Transmission and Distribution	Able to Explain transmission and distribution scheme, identify the importance of different transmission systems and types of insulators.
C211.2		Able to Analyze and compute the parameters of the transmission line for different configurations.
C211.3		Able to Assess the performance of overhead lines.
C211.4		Able to Interpret corona, explain the use of underground cables.
C211.5		Able to Classify different types of distribution systems; examine its quality & reliability.
C212.1	Microcontrollers	Outline the 8051 architecture, registers, internal memory organization, 8051 addressing modes.
C212.2		Discuss instruction set of 8051, accessing data and I/O port programming.
C212.3		Develop 8051C programs for time delay, I/O operations, I/O bit manipulation, logic and arithmetic operations, data conversion and timer/counter programming.
C212.4		Summarize the basics of serial communication and interrupts, also develop 8051 programs for serial data communication and interrupt programming.
C212.5		Program 8051to work with external devices for ADC, DAC, Stepper motor control, DC motor control.
C213.1	Electric Motors lab	Perform tests on DC Machines to determine their characteristics.
C213.2		Control the DC Motors using different methods



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C213.3		Pre-determination the performance characteristics of DC Machines
C213.4		Conduct load test on single-phase and three-phase Induction Motor and draw performance Characteristics.
C213.5		Conduct test on Induction Motor to determine performance characteristics
C213.6		Conduct test on synchronous motor to draw performance curves.
C214.1	Engineering materials	Explain the free electron theory of conduction in metals.
C214.2		Explain the polarization under static fields, behaviour of dielectrics in alternating fields, Inorganic materials, organic materials, resins and varnishes, liquid insulators.
C214.3		Explain the mechanism of conduction in semiconductors.
C214.4		Explain the magnetic materials, their classification and magneto materials.
C215.1	Biology For Engineers	Control the DC Motors using different methods
C215.2		Pre-determination the performance characteristics of DC Machines
C215.3		Conduct load test on single-phase and three-phase Induction Motor and draw performance Characteristics.
C215.4		Conduct test on Induction Motor to determine performance characteristics
C215.1	Universal human values course	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind
C215.2		They would have better critical ability.
C215.3		They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).
C215.4		It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.
C217.1	Sci Lab / MATLAB for Electrical and Electronic Measurements	Student will be able to design & analyze measurement of resistance, inductance & capacitance using various bridge arrangements
C217.2		Student will be able to design & analyze measurement of flux, flux density, frequency, power & energy of single phase & three phase circuits
C217.3		Student will be able to test & analyze current transformer & potential transformer
C217.4		Student will be able to design & analyze true rms reading voltmeter, digital voltmeter & Q meter
C218.1	Microcontrollers -LAB	Outline the 8051 architecture, registers, internal memory organization, 8051 addressing modes.
C218.2		Discuss instruction set of 8051, accessing data and I/O port programming.
C218.3		Develop 8051C programs for time delay, I/O operations, I/O bit manipulation, logic and arithmetic operations, data conversion and timer/counter programming.
C218.4		Summarize the basics of serial communication and interrupts, also develop 8051 programs for serial data communication and interrupt programming.
C218.5		Program 8051 to work with external devices for ADC, DAC, Stepper motor control, DC motor control.
C301.1	Engineering Management and Entrepreneurship	Understand the fundamental concept of management its function
C301.2		Understand the different functions to be performed by manager /Entrepreneur
C301.3		Understand the social responsibilities of a business
C301.4		Understand the concept of entrepreneurship and to identify business opportunities
C301.5		Understand the concept in developing a business plan and awareness about various sources of funding and institutions supporting entrepreneur.
C302.1	Signals & DSP	Discuss classification and basic operations that can be performed on both continuous and discrete time signals and to understand sampling theorem.
C302.2		Evaluate Discrete Fourier Transform of a sequence, to understand the various properties of DFT and signal segmentation using overlap and overlap add method.



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C302.3		Evaluate Discrete Fourier Transform of a sequence using decimation in time and decimation in frequency methods.
C302.4		To design Butterworth and Chebyshev IIR digital filters and to represent the filters using different methods and to represent IIR filter using different methods.
C302.5		To design FIR filters using windows method and frequency sampling method and to represent FIR filters using direct method and lattice method.
C303.1	Power Electronics	To explain the overview of applications of power electronics, different types of power semiconductor devices, their switching characteristics, power diode characteristics, types, their operation and effects of power diodes on RL Circuits.
C303.2		To explain the techniques for design and analysis of single phase diode rectifier circuits.
C303.3		To explain different power transistors, their steady state and switching characteristics and limitations.
C303.4		To explain different types of thyristors, their gate characteristics and gate control requirements.
C303.5		To explain the design, analysis techniques, performance parameters and characteristics of controlled rectifiers, DC-DC, DC-AC converters and AC voltage controllers.
C304.1	Power Electronics Lab	Obtain static characteristics of semiconductor devices to discuss their performance.
C304.2		Trigger the SCR by different methods.
C304.3		Verify the performance of single phase controlled full wave rectifier and AC voltage controller with R and RL loads.
C304.4		Control the speed of a DC motor, universal motor and stepper motors.
C304.5		Verify the performance of single phase full bridge inverter connected to resistive load.
C305.1	High Voltage Engineering	Have detailed knowledge of conduction and breakdown phenomenon in gases, liquids and solid dielectrics.
C305.2		Ability to design and simulate the generation of high voltages and currents
C305.3		Ability to design and analyze the measurement techniques for high voltages and currents.
C305.4		Summarize overvoltage phenomenon and protection of electric power systems.
C305.5		Explain non-destructive testing of materials and high-voltage testing of electric apparatus
C306.1	Research Methodology and IPR	To know the meaning of engineering search
C306.2		To know the procedure of literature review and technical reading
C306.3		To understand the fundamentals of patent laws and drafting procedure
C306.4		Understand the copyright laws and subject matters of copyright and design
C306.5		Understanding the basic principles of design rights.
C307.1	Mini Project	Students are going to enhance their knowledge in research and development activities.
C307.2		Students will improve their communication skills and presentation skills.
C307.3		Students will learn to work in team
C308.1	Environmental Studies	Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale.
C308.2		Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment as legislation.
C308.3		Apply their ecological knowledge to illustrate and grasp the problem and describe the realities that managers face when dealing with complex issues.
ADDON		To explain PLC architecture, PLC ladder diagram programming
		To draw and write PLC ladder diagram and programming for application using timers and counters
		To draw and write PLC ladder diagram and programming for math instructions, sequencers and shift registers instruction.
C309.1	National Service Scheme (NSS)	Understand the importance of his / her responsibilities towards society.
C309.2		Analyse the environmental and societal problems/issues and will be able to design solutions for the same.



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C309.3		Evaluate the existing system and to propose practical solutions for the same for sustainable development.
C309.4		Implement government or self-driven projects effectively in the field.
C309.5		Develop capacity to meet emergencies and natural disasters & practice national integration and social harmony in general.
C310.1	Physical Education (PE) (Sports and Athletics)	Understand the fundamental concepts and skills of Physical Education, Health, Nutrition and Fitness
C310.2		Familiarization of health-related Exercises, Sports for overall growth and development
C310.3		Create a foundation for the professionals in Physical Education and Sports
C310.4		Participate in the competition at regional/state / national / international levels.
C310.5		Create consciousness among the students on Health, Fitness and Wellness in developing and maintaining a healthy lifestyle.
C310.6		Understand and practice of Traditional Games
C311.1	PSA I	Model the power system components & construct per unit impedance diagram of power system.
C311.2		Analyze three phase symmetrical faults on power system. Compute unbalanced phasors in terms of sequence components and vice versa, also develop sequence networks.
C311.3		Analyze various unsymmetrical faults on power system
C311.4		Examine dynamics of synchronous machine and determine the power system stability.
C312.1	Control Systems	Students will able to analyse the model electrical and mechanical system using analogous.
C312.2		Students will able to formulate transfer function using block diagram and signal flow graph.
C312.3		Students will able to analyse the stability of control system, ability to determine transient and steady state time response.
C312.4		Students will able to illustrate performance of a given system in time and frequency domain, stability analysis using root locus and bode plots.
C312.5		Students will able to discuss the controllers and various compensator.
C313.1	Embedded system design	Understand the basic concept of embedded system
C313.2		Acquire knowledge about basic concept of circuit emulators debugging and RTOS
C313.3		Analyse embedded system software and hardware requirement
C313.4		Develop programming skills in embedded system for various applications
C313.5		Design basic embedded system for real time application
C314.1	Introduction to AI	Verify the performance of single phase full bridge inverter connected to resistive load.
C314.2		Have detailed knowledge of conduction and breakdown phenomenon in gases, liquids and solid dielectrics.
C314.3		Ability to design and simulate the generation of high voltages and currents
C314.4		Ability to design and analyze the measurement techniques for high voltages and currents.
C315.1	Integrated waste management for a smart city	Summarize overvoltage phenomenon and protection of electric power systems.
C315.2		Explain non-destructive testing of materials and high-voltage testing of electric apparatus
C315.3		Verify the performance of single phase full bridge inverter connected to resistive load.
C316.1	Consumer electronics	Understand the functioning and classification of various types of microphones and loudspeakers
C316.2		Demonstrate knowledge of the optical recording and playback processes in audio compact disc systems
C316.3		Analyze the principles of colour television and modern display technologies
C316.4		Evaluate the working of cable television systems and miscellaneous consumer devices
C316.5		Explore advancements in consumer electronics, such as mobile phones, computing devices, and home appliances
C317.1	Renewable energy power plants	Understand the need of renewable energy resources, historical and latest developments.



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C317.2		Describe the use of solar energy and the various components used in the energy production
C317.3		Appreciate the need of Wind Energy and the various components used in energy generation and the classifications.
C317.4		Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
C317.5		Understand the concept of Biomass energy resources and their classification, types of biogas Plants applications
C318.1	Project phase I	Students are going to enhance their knowledge in research and development activities.
C318.2		Students will improve their communication skills and presentation skills.
C318.3		Students will learn to work in team
C319.1	CS lab	Utilize software package and discrete components in assessing the time and frequency domain response of a given second order system
C319.2		Design, analyse and simulate lead, lag and lag-lead compensator for given specification
C319.3		Determine the performance characteristics of a dc servo motor and synchro transmitter receiver pair used in control systems
C319.4		Simulate the dc position and feedback control system to study the effect of P,PI,PD and PID controller and lead compensator on the system.
C319.5		Develop a script files to plot root locus, bode plot and Nyquist plot to study the stability of system
C320.1	IKS	Provide an overview of the concept of the Indian Knowledge System and its importance.
C320.2		Appreciate the need and importance of protecting traditional knowledge.
C320.3		Recognize the relevance of Traditional knowledge in different domains.
C320.4		Establish the significance of Indian Knowledge systems in the contemporary world.
C401.1	Switch gear protection	Discuss the general concept of power system protection, construction and operation of relays and perform lab
C401.2		Explain the construction and operation of different types of overcurrent relays and protection schemes and perform lab
C401.3		Discuss pilot protection, construction, operating principles and performance of differential relays and discuss protection of generator, motor and transformer, bus zone protection and perform lab
C401.4		Explain the construction and operation of different types of circuit breakers.
C401.5		Out lines features of fuse, causes of overvoltage's and protection, also modern trends in power system protection and perform lab
C402.1	Industrial drives application	Explain the advantage, choice, and control of electric drives
C402.2		Explain the dynamics, generating, and motoring modes of operation of electric drives
C402.3		Analyse the performance and control of DC motor drives using controlled rectifiers, inverters and cycloconverters.
C402.4		Analyse solar powered drives and energy conservation in electrical drives.
C402.5		Explain the application of drives in industry and in rural areas
C403.1	PSA 2	To formulate network matrices.
C403.2		To perform steady state power flow analysis of power systems using numerical iterative techniques.
C403.3		To show knowledge of optimal operation of generators on a bus bar.
C403.4		To perform numerical solution of swing equation for multi-machine stability
C404.1	PSOC	To understand and explain the basics of power system operation, Architecture & configuration of SCADA
C404.2		To develop & analyze mathematical models of Automatic Load Frequency Control & Automatic Generation Control in Interconnected Power System
C404.3		To discuss Control of Voltage, Reactive Power & Voltage Collapse
C404.4		To explain security, contingency analysis, state estimation of power system
C405.1	E waste management	Understand the environmental impacts of e-waste
C405.2		Distinguish the role of various national and internal act and laws applicable for e-waste management and handling



# KLS Vishwanathrao Deshpande Institute of Technology

(Accredited by NAAC with "A" Grade)

(Approved by AICTE, New Delhi. Affiliated to VTU, Belagavi)

(Recognized Under Section 2(f) by UGC, New Delhi)

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## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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C405.3		Analyse the e-waste handling methods & restrictions
C405.4		Analyse the e-waste recycling techniques
C406.1	Introduction to non-traditional milling	Describe non-traditional machining process and compare it with Traditional machining process. Recognize the need for Non-traditional machining process.
C406.2		Describe the constructional features, performance parameters, process characteristics, applications, advantages, and limitations of USM, AJM and WJM.
C406.3		Characterize the need of Chemical and electro-chemical machining process along with the constructional features, process parameters, process characteristics, applications, advantages, and limitations
C406.4		Illustrate the constructional feature of the equipment, process parameters, process characteristics, applications, advantages and limitations EDM & PAM
C406.5		Understanding LBM equipment, LBM parameters, and characteristics. EBM equipment and mechanics of metal removal, applications, advantages and limitations LBM & EBM.
C407.1	CV road safety engineering	Analyse road safety data, identify hazardous locations, and assess safety risks on roadways.
C407.2		Evaluate the effectiveness of road safety interventions and conduct post-implementation analysis.
C407.3		Utilize modelling and simulation techniques to predict and assess the impact of road safety measures.
C407.4		Demonstrate knowledge of traffic control devices, traffic management strategies, and their role in enhancing road safety and Comprehend the legal and policy framework related to road safety engineering and contribute to policy development
C408.1	Major project 2	Students are going to enhance their knowledge in research and development activities.
C408.2		Students will improve their communication skills and presentation skills.
C408.3		Students will learn to work in team