



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Course outcomes of all courses

BATCH – 2019-2023

After completion of the course the student will be able to

C101.1	Understanding how to communicate with native speakers of English.
C101.2	Questioning and answering skills are improved
C101.3	Reading and Writing on an idea or text
C101.4	Improving paragraph writing skills
C101.5	Recalling forming sentences with proper grammar and correct word forms
C102.1	Study and apply various types of convergence
C102.2	Solve first order differential equations and applications of first order differential equations.
C102.3	Solve linear differential equations of higher order
C102.4	Find the maximum and minimum values of functions of two variables
C102.5	Apply double and triple integral techniques in evaluating areas and volumes covered by region
C103.1	Analyze the applications of polymers.
C103.2	Apply the different corrosion control methods in day to day life.
C103.3	Illustrate the importance of advanced materials in Engineering.
C103.4	Analyze the applications of supramolecular chemistry.
C103.5	Apply theorem conventional energy sources to produce electric power.
C104.1	Discuss the fundamentals of Algorithms, flow charts and C tokens.
C104.2	Use suitable control structures for developing code in C.
C104.3	Implement C programs using derived data types such as Arrays, Structures.
C104.4	Develop C programs using pointer and it's related concepts.
C104.5	Design well-structured modular programs using File handling functions.
C105.1	To introduce the use and the application of drawing instruments and to make the students construct the polygons, curves and various types of scales. The student will be able to understand the need to enlarge or reduce the size of objects in representing them.
C105.2	To introduce orthographic projections and to project the points and lines parallel to one plane and inclined to other and also the line inclined to both the reference planes
C105.3	To make the students draw the projections of the plane inclined to both the planes
C105.4	To make the students draw the projections of the various types of solids in different

	positions inclined to one of the reference planes
C105.5	To represent the object in 3D view through isometric views. The student will be able to represent and convert the isometric view to orthographic view and vice versa.
C106.1	Making the students to read and produce phonemic transcription
C106.2	Reading sentences that change meaning depending on word-stress
C106.3	Make students to avoid common mistakes in communication
C106.4	Help to build confidence in the aspect of communication
C107.1	Estimate the unknown solutions by using volumetric titration method
C107.2	Estimate vitamin 'c'
C107.3	Analyze the quality of water.
C107.4	Measure the strength of Acids by conductometric and potentiometric titrations
C107.5	Know the preparation of Bakelite.
C108.1	Gains Knowledge on various concepts of a C language.
C108.2	Able to draw flowcharts and write algorithms.
C108.3	Able design and development of C problem solving skills.
C108.4	Able to design and develop modular programming skills.
C108.5	Able to trace and debug a program.
C109.1	The need for protecting the producers and consumers in various ecosystems.
C109.2	Recognize the need to conserve the natural resources.
C109.3	Conservation practices to protect the biodiversity.
C109.4	Control the pollution and waste management.
C109.5	Describe the social issues both rural and urban environment.
C110.1	Determine the rank of a matrix and solve the system of linear algebraic equations
C110.2	Determine the rank Eigenvalues and Eigen vectors of a matrix and discuss the nature of the quadratic forms
C110.3	Evaluate the approximating the roots of algebraic and transcendental equations
C110.4	Apply Newton's forward, backward and Lagrange's interpolation for equal and intervals
C110.5	Evaluate the real definite integrals and solve the first order ordinary differential equations by numerical methods
C111.1	Find the normal to the surface and evaluate divergence and curl of vector functions.
C111.2	Apply Laplace transform to solve ordinary differential equations.
C111.3	Evaluate Fourier series and Fourier transform for functions.
C111.4	Determine the solution of linear and non linear partial differential equations of first order.
C111.5	Calculate the solution of higher order linear partial differential equations.

C112.1	Analyze the differences between Interference and diffraction with applications.
C112.2	Apply Schrodinger's wave equations for energy values of a free particle.
C112.3	Analyze the physical significance of wave function.
C112.4	Outline the properties of N-type and P-type semiconductor.
C112.5	Explain the applications of Dielectrics and Magnetic materials.
C113.1	Solve Network Problem Using Mesh and Nodal Analysis
C113.2	Solve Ac Circuits with series/parallel Combination
C113.3	Design resonant circuits for given Bandwidth
C113.4	Analyze Different Network Theorems and Two port Network parameters
C113.5	Compute the response of First order and second Order Network using Time Domain Analysis and laplace Transform Method
C114.1	Understand the principle of operation, construction and details of DC Generator.
C114.2	Understand the principle of operation, construction and details of DC Motor.
C114.3	Learn the principle of operation, construction and performance of transformers.
C114.4	Study the principle of operation, construction and details of Synchronous machine.
C114.5	Learn the principle of operation, construction and performance of 3-phase Induction motor.
C115.1	Prepare the learners to make a speech or a talk themselves on a topic
C115.2	Learning etiquettes to receive and send messages in different methods of employee training
C115.3	Demonstrate, understanding and use of listening behaviour for communication
C115.4	Helps to improve inter and intra personal skills of communication
C115.5	Enable students asking questions and understand different approaches of interviews
C116.1	Discuss the magnetizing characteristics of DC Shunt Generator
C116.2	Observe the speed Control of DC Motor
C116.3	Predict the efficiency, regulation of Transformer.
C116.4	Observe the performance of 3-phase Induction Motor.
C116.5	Predict the significance of an regulation of an Alternator.
C117.1	Understand the quality of instrument on the procedure level.
C117.2	Analyze the types of Semi conductors using Hall Effect.
C117.3	Determine the spacer by using the films and parallel interference.
C117.4	Determine the wave length of the laser by using Diffraction grating
C117.5	Explain the Newtons Rings setup and determine the Radius of convex lens.
C118.1	Prepare the learners to make a speech or a talk themselves on a topic
C118.2	Learning etiquettes to receive and send messages in different methods of employee training
C118.3	Demonstrate, understanding and use of listening behaviour for communication

C118.4	Helps to improve inter and intra personal skills of communication
C118.5	Enable students asking questions and understand different approaches of interviews

C201.1	Interpret the concepts of Semiconductor physics to understand various electronic devices.
C201.2	Demonstrate the construction, working principle and V-I characteristics of various Non linear devices.
C201.3	Compare different types of rectifiers with and without filters with relevant expressions.
C201.4	Understand different Biasing and Stabilization methods for BJT and FET.
C201.5	Analyze amplifier circuits using small signal low frequency transistor model.
C202.1	Illustrate the importance of various number systems and to perform different arithmetic operations on them.
C202.2	Apply Boolean algebra postulates-map and tabulation methods to minimize Boolean functions
C202.3	Illustrate various combinational and sequential circuits used in digital systems.
C202.4	Design various PLDs such as ROMs,PALs,PLAs and PROMs
C202.5	Analyze different finite state machines using Meelay More machines.
C203.1	Classify various types of signals and systems to illustrate their responses
C203.2	Apply transformation methods to solve signals and differential equations.
C203.3	Analyze the sampling theorem to calculate Nyquist rate
C203.4	Analyze the linear systems in time and frequency domains.
C204.1	Interpret the concepts of random variables and stochastic processes in real time applications
C204.2	Use the principle definitions, fundamental theorem and important relations in statistics
C204.3	Describe about significance of Joint Distribution function, Joint Density function and Characteristic function
C204.4	Explain the concept of stationary and wide sense stationary process and their significance and evaluate its condition
C204.5	Explain the concept of power density spectrum and cross power density spectrum of a random process
C204.6	Analyze linear systems with theory of stochastic processes
C205.1	Demonstrate Various Concepts of Object Oriented Programming language.
C205.2	Design java programs by using constructor, garbage, static, this, and nested classes
C205.3	Design java programming using packages, exception handling, and assertions.
C205.4	Design the concepts of multi-threaded programming, synchronization and files in java
C205.5	Design Applet and AWT (abstract window tool kit) programming in java
C206.1	Describe the concepts related to demand in economics

C206.2	Estimate the production function techniques with Cost Concepts
C206.3	Explain the concept of price output relationship in different market structures
C206.4	Outline the different types of business organizations and provide a framework for analyzing money in its functions as a medium of exchange
C206.5	Prepare Financial Statements by using several accounting tools...
C206.6	Evaluate various investment project proposals by using capital budgeting techniques
C207.1	Identify and test the behavior of electronic components and study the operation of Function generator ,RPS and CRO etc.
C207.2	Analyze the V-I characteristics of different electronic devices such as diodes, transistors.
C207.3	Implement the Rectifier circuits using diodes and capacitor.
C207.4	Examine the amplification characteristics of a Transistor in CE, CC,CS configurations.
C208.1	Test the operation of different logic gates using relevant IC's
C208.2	Examine the operation of different combinational logic circuits.
C208.3	Apply the concept of Boolean algebra or k-maps to reduce and Construct logic circuit for given function.
C208.4	Analyse the Truth tables of different Flip-Flops.
C208.5	Design of registers using sequential logic circuits and Design of Synchronous & Asynchronous counters using Flip-Flops.
C209.1	Understand historical background of the constitution making and its importance for building a democratic India
C209.2	Understand the functioning of three wings of the government ie., executive, legislative and judiciary
C209.3	Understand the value of the fundamental rights and duties for becoming good citizen of India.
C209.4	Analyze the decentralization of power between central, state and local self-government.
C209.5	Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy
C210.1	Analyze amplifier circuits using small signal high frequency transistor models.
C210.2	Understand different types of multistage amplifiers and differential amplifier with its characteristics.
C210.3	Analyze the effect of feedback on the performance of feedback amplifiers and oscillators.
C210.4	Compare various power amplifiers in terms of efficiency.
C210.5	Distinguish single, double and staggered tuned amplifiers in terms of bandwidth.
C211.1	Clarify various control systems and analyze the effects of feedback on physical systems
C211.2	Analyze the Transfer function and state models of physical systems and electrical systems

C211.3	Analyze Time response of First and Second order, Steady state and error constants for different standard test signals
C211.4	Examine the Time Response and Frequency response Stability using R-H criterion, Root Locus, Polar plots, Bode Plots and Nyquist Stability Criterion
C211.5	Design a Lag, Lead, Lead-Lag Compensators and PID controllers for given Specifications and Analyze and solve linear equations, controllability and observability
C212.1	Explain basic mathematical concepts related to electromagnetic vector fields and apply basic laws to determine E & H fields.
C212.2	Apply Maxwell's equations to solve problems in Electromagnetic field theory.
C212.3	Analyze the propagation characteristics of EM waves in different media and types of polarization.
C212.4	Evaluate reflection and refraction of EM waves propagated in normal & oblique incidences.
C212.5	Demonstrate the transmission line equivalent circuit, characteristics with various lengths. Measurement of length, distance and design of stubs using Smith Charts
C213.1	Demonstrate the need for modulation and also the basic blocks and circuits present in a communication system, square law and switching modulator and demodulators
C213.2	Distinguish various analog modulation techniques like DSB, SSB and VSB with their generation, detection methods and also system performance in presence of Noise
C213.3	Analyze Frequency modulators and Demodulators with their spectrum, average power, band width, and also with AM
C213.4	Sketch the AM, FM radio transmitter and receiver circuits with the role of AGC /AFC
C213.5	Discriminate different types of pulse analog modulation Techniques such as PAM,PWM and PPM with their modulation and Demodulation methods
C214.1	Illustrate basic architecture of modern computers and calculate its performance using performance equation
C214.2	Interpret machine instruction types and determine the effective address of operand using addressing modes
C214.3	Categorize various instructions to perform arithmetic, logical and branch operations;
C214.4	Illustrate various bus structures and interfacing technique for I/O organization
C214.5	Demonstrate memory management and executing process of various operations of modern computer
C216.1	Analyze the frequency response of single, multistage amplifiers and feedback amplifiers
C216.2	Design and simulate RC and LC Oscillators for the given specifications
C216.3	Compare the Efficiency of Class A and Class B Amplifiers and calculate the resonant frequency of Tuned amplifiers.

C216.4	Design multistage amplifiers, feedback amplifiers, power amplifiers, tuned amplifiers using MULTISIM Simulation tool.
C217.1	Compare different amplitude modulated (DSB-FC, DSB-SC, SSB) signals and observe the operation of peak detector in demodulation process
C217.2	Perform frequency modulation & demodulation and recognize need for pre-emphasis and de-emphasis
C217.3	Perform signal sampling and observe the PAM, PWM and PPM signals and their demodulation
C217.4	Identify the importance AGC circuits and PLL in communication systems
C217.5	Simulate various analog and pulse modulation & demodulation schemes using Simulink-
C301.1	Analyze the IC 741 operational amplifier. Compare performance metrics for different configurations
C301.2	Illustrate and design the linear, non-linear applications of Op-Amp and active filters
C301.3	Design and analyze the working of multivibrators using IC 555
C301.4	Illustrate the functional characteristics of VCO, PLL and its applications in communication.
C301.5	Demonstrate and Compare working principle of various data converters using Op-Amp
C302.1	Apply the concepts of buses to discriminate the architectural view of Microprocessors and Microcontrollers
C302.2	Illustrate various addressing modes and instruction sets of Microprocessors and Microcontrollers to develop Assembly language programs
C302.3	Analyze different programmable interfacing modules to interface with microprocessors and controllers for real time applications.
302.4	Analyze and Compare the features and functional concepts of advanced ARM processors and Microcontrollers.
C302.5	Develop a report to generate a code for applications using microprocessors and microcontrollers to meet the societal requirements.
C303.1	Analyze the wave form coding techniques in PCM, DPCM, DM, ADM and effect of noise
C303.2	Analyze ASK, FSK, PSK, DPSK, QPSK, M-ary PSK, ASK, FSK and coherent and non-coherent matched filters
C303.3	Apply knowledge of information, entropy, information rate mutual information to evaluate channel capacity.
C303.4	Analyze Shannon- Fano , Huffman source encoder with efficiency and also linear block codes
C303.5	Apply Time, transform domain, graphical approach to code convolution codes & decode using viterbi algorithm.
C304.1	Apply the acquired knowledge of measuring instrumentations to measure in a complex design
C304.2	Analyze the available oscilloscopes to measure of various signal
C304.3	identify the appropriate transducers among available transducer to design project

C304.4	analyze various bridge circuits for the measurement of physical quantities to minimize errors in measurements
C304.5	inspect data acquisition systems and to apply for instrumentation in industrial
C305.1	Describe the role of hardware description language (HDL) in design flows for FPGA and ASIC with a historical development of the Verilog HDL and Discuss the various constructs and conventions of Verilog
C305.2	Describe, design, simulate, test and synthesize various combinational circuits and Flip-Flops with Gate Level and Data Flow Modelling in Verilog. Discuss types of delays and strengths used in design. (TL3, TL4 & TL5)
C305.3	Design, Develop, Simulate and Test program codes for behavioral modelling of combinational and sequential logic using Verilog HDL (TL4 & TL 5)
C305.4	Discuss about the various Transistor switches, system tasks and illustrate the functionality by simulation by implementing with Primitives, tasks and functions.
C305.5	Discuss the various modeling techniques for state machines and design and evaluate their functionality. Discuss the various test bench techniques for combinational and sequential testing with examples.
C306.1	Evaluate and design performance of linear and non-linear applications of Operational amplifier using IC741
C306.2	Design and analyze the performance of active filters
C306.3	Design and analyze the performance of different Multivibrators using IC 555
C306.4	Analyze the response of IC 566 & 565
C306.5	Test different voltage regulations (Ex:5V,9V & 12V)
C307.1	Verify the pulse digital communication techniques using EDA tools.
C307.2	Analysis of Frequency Shift Keying ,Phase Shift Keying, Differential Phase Shift Keying techniques and Companding technique.
C307.3	Verification of Binary Cyclic Code – Encoder and Decoder.
C307.4	Demonstrate the use of Matlab software and implement the basic applications.
C308.1	Discriminate the fundamental of assembly level programming of microprocessors and microcontrollers.
C308.2	Develop and execute different assembly language programs by applying the 8086 microprocessor and 8051 microcontroller instruction sets.
C308.3	To interface different I/O devices to processor & controller, and will explore several techniques of interfacing
C308.4	Compare different implementations and Design simple microcontroller based system for real time applications.
C310.1	Understand the traditional knowledge
C310.2	Contrast and compare characteristics importance kinds of traditional knowledge
C310.3	Analyze physical and social contexts of traditional knowledge.
C310.4	Evaluate social change on traditional knowledge
C311.1	Define antenna parameters & Illustrate the concept of radiation by applying

	mathematical formulation
C311.2	Design & Analyze the performance characteristics of wire, loop, Reflector, lens, horn, & Micro Strip antennas
C311.3	Calculate the gain and draw the radiation pattern of different antennas
C311.4	Analyze characteristics of different non resonant radiators and draw the waveforms.
C311.5	Identify the characteristics of radio wave propagation
C312.1	Analyze the electrical properties of transistors and make use of fabrication to build CMOS circuits.
C312.2	Analyze the characteristics of CMOS circuits to examine electrical behavior of digital circuits.
C312.3	Construct the layout of any logic circuit by apply the concept of stick diagram and design rules.
C312.4	Distinguish between the concept of SRAM and EPROM programming technologies based FPGA architectures.
C312.5	Analyze the power dissipation using various approaches in low power circuit design by considering the EDA tools Mentor Graphics/Cadence/Microwind.
C313.1	Analyze the Discrete time systems to solve differential equations
C313.2	Use FFT algorithms to calculate the DFT
C313.3	Design a Digital filter (FIR&IIR) from the given specifications
C313.4	Analyze the Multirate Processing concepts in various applications
C313.5	Apply the signal processing concepts on DSP Processor
C314.1	Analyze the cellular mobile system and concepts like frequency reuse, cellular structures and shapes.
C314.2	Apply the concept of interference and analyze different types of antennas its parameters and effects in cellular systems.
C314.3	Distinguish the frequency management, Channel assignment and signal coverage of a cell.
C314.4	Analyze the handoff strategies and vehicle locating methods in a cell.
C314.5	Detect various architectures and access schemes in cellular networks.
C315.1	Understand the basic overview of MEMS and Microsystems with broad category of MEMS & Micro system applications.
C315.2	Describe the working principles of micro sensors and actuators
C315.3	Explain the application of scaling laws in the design of micro systems
C315.4	Identify the typical materials used for fabrication of micro systems
C315.5	Analyze the different Micro manufacturing process and Applications.
C315.6	Analyze the different types of RF switches, Various Switching Mechanism and their applications
C316.1	Understand internet of Things and its hardware and software components
C316.2	Illustrate diverse methods of deploying smart objects and connect them to network

C316.3	Construct simple applications using Arduino
C316.4	Interpret different protocols and select which protocol can be used for a specific applications
C316.6	Identify and develop a solution for a given application using APIs
C317.1	Able to gain a knowledge of the designing the circuit, generating the symbol, layout of the circuits for real-time applications using the Mentor Graphics tool.
C317.2	Analyze the characteristics of CMOS based Analog and digital circuits.
C317.3	Construct the layouts for complex CMOS logic circuits by following the design rules.
C317.4	Evaluate the performance of analog/digital circuits in terms of power, speed and area.
C318.1	Write code to different operations on signals and verify them using MATLAB software.
C318.2	Design Digital filters (IIR & FIR) to detect frequency response using MATLAB software.
C318.3	Simulate the programs and execute them on the DSP Starter Kit using Code Composer Studio Software tool.
C318.4	Apply enhancement algorithms, restoration and transformation techniques to improve the quality of an image using MATLAB software.
C319.1	Explain different types of intellectual property rights.
C319.2	Describe laws related to copyrights
C319.3	Explain Patent Laws national and international contexts.
C319.4	Describe Trademark Registration process with needed maintenance measures
C319.5	Explain different trade secret protection mechanisms
C319.6	Identify cyber laws to protect against cyber crimes.
C401.1	Discuss different modes in waveguide structures
C401.2	Analyze connectors, splices in optical waveguides and also Calculate fiber alignment joint loss in fiber joints ³
C401.3	Compare optical sources, and detectors used in optical communication systems
C401.4	Calculate S-matrix for various waveguide components and Develop the splitting of the microwave energy in a desired direction
C401.5	Distinguish between Microwave tubes and Solid State Devices
C401.6	Calculate various microwave parameters
C402.1	Illustrate various data communication networks and their functions.
C402.2	Design and analyze various error detection techniques.
C402.3	Demonstrate the mechanism of routing the data in network layer
C402.4	Analyze the significance of various Flow control and Congestion control Mechanisms
C402.5	Analyze the Functioning of various Application layer Protocols.

C403.1	Analyze image formation model and fundamental concepts involved in digital image processing to process gray and color image data.
C403.2	Analyze the images by applying various transformation techniques
C403.3	Apply the concepts of fundamental image enhancement algorithms in spatial and frequency domains and also restoration techniques to improve the quality of image.
C403.4	Illustrate various coding techniques for image compression and detect Region of interest by applying segmentation techniques on gray and color images.
C403.5	Design and develop various applications that incorporate different techniques of Image and Video processing
C403.6	Apply and explore new techniques in the areas of Image and Video Processing.
C404.1	<i>Contrast</i> the concept of Signals, OSI & TCP/IP reference models and <i>discuss</i> the functionalities of each layer in these models.
C404.2	Discuss and Analyse flow control and error control mechanisms and apply them using standard Communication protocols
C404.3	communicate data through Wired Wireless Communication Protocols
C403.4	communicate data through Wireless Communication Protocols
C404.5	Analyze the features and operations of various network security protocols NAT, PAT, DNS and apply various routing algorithms to find shortest paths for packet delivery.
C406.1	Understand the concept of Internet of Things, ARDIUNO, RASPBERRY PI, NODE MCU
C406.2	Implement interfacing of various sensors with Arduino/Raspberry Pi.
C406.3	Demonstrate the ability to transmit data wirelessly between different devices.
C406.4	Design and develop Mobile Application which can interact with Sensors and Actuators
C407.1	Study of Gunn Diode Characteristics using Gunn power supply.
C407.2	Measurement of attenuation, Impedance, Frequency, and radiation patterns of Horn, Parabolic antennas using X-band Microwave bench.
C407.3	Measurement of Scattering parameters of Circulator ,Magic Tee using X-band microwave bench
C407.4	Analysis of Directional coupler and Reflex Klystron Characteristics
C407.5	Synthesis of micro-strip antennas using HFSS
C407.6	Characterization of LED , Laser diodes , Measurement of NA, losses for Analog Optical link , and Data rate for Digital Optical link.
C409.1	Know about the Wireless systems and Standards (1G/2G/3Gsystems).
C409.2	Concept and analysis of CDMA-based wirelessnetworks
C409.3	Design the MIMO system with transmit and receive diversity
C409.4	Understand the modern wireless systems usingOFDM.
C409.5	Analysis of Satellite-Based Wirelesssystem
C410.1	Demonstrate the foundation of the Block chain technology and understand the processes in payment and funding.

C410.2	design and analyze the applications based on Blockchain Technology
C410.3	Design, build, and deploy smart contracts and distributed applications
C410.4	Identify the functional/operational aspects of crypto currency ecosystem
C410.5	Examine how to profit from trading cryptocurrencies.

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101.1										2.00		
C101.2										1.00		
C101.3										2.00		
C101.4										3.00		
C101.5										1.00		
AVG										1.80		

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
POs												
C102.1	3.00	2.00										
C102.2	2.00	3.00										
C102.3	1.00	2.00										
C102.4	2.00	2.00										
C102.5	1.00	1.00										
AVG	1.80	2.00										

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
POs												
C103.1	3.00	2.00	2.00									
C103.2	2.00	3.00	3.00									
C103.3	3.00	2.00	3.00									
C103.4	2.00	2.00	3.00									
C103.5	2.00	3.00	3.00									
AVG	2.40	2.40	2.80									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
POs												
C104.1	3.00	2.00	2.00									
C104.2	2.00	2.00	3.00									
C104.3	2.00	3.00	3.00									
C104.4	2.00	2.00										
C104.5	2.00	2.00										
AVG	2.20	2.20	2.67									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
POs												
C105.1	2.00		3.00									
C105.2	3.00	1.00										
C105.3			3.00		2.00							
C105.4		3.00	2.00									
C105.5			3.00		2.00							

C111.2	3.00	2.00										
C111.3	2.00	1.00										
C111.4	1.00	1.00										
C111.5	2.00	2.00										
AVG	2.00	1.60										

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C112.1	2.00	3.00	1.00									
C112.2	2.00	3.00										
C112.3	3.00	2.00	1.00									
C112.4	2.00	3.00	1.00									
C112.5	3.00	2.00	1.00									
AVG	2.40	2.60	1.00									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C113.1	3.00	2.00	1.00									
C113.2	3.00	2.00	1.00									
C113.3	2.00	3.00	2.00									
C113.4	3.00	3.00	2.00									
C113.5	2.00	3.00										
AVG	2.60	2.60	1.50									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C114.1	2.00											
C114.2	2.00											
C114.3	2.00											
C114.4	2.00											
C114.5	2.00											
AVG	2.00											

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C115.1										1.00		
C115.2										2.00		
C115.3										1.00		
C115.4										1.00		
C118.5										1.00		
AVG										1.20		

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C116.1				1.00	1.00	1.00						
C116.2				1.00	2.00	1.00						
C116.3				2.00	1.00	1.00						
C116.4				2.00	1.00	1.00						
C116.5				2.00	1.00	1.00						
AVG				1.60	1.20	1.00						

C204.4	2.00	2.00	2.00	2.00								
C204.5	2.00	1.00	1.00	1.00								
C204.6	3.00	2.00	2.00	2.00								
AVG	2.67	2.17	1.83	1.83								

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C205.1	2.00	2.00	3.00									
C205.2	1.00	2.00	3.00									
C205.3	1.00	2.00	3.00									
C205.4	2.00	2.00	3.00									
C205.5	2.00	2.00	3.00									
AVG	1.60	2.00	3.00									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C206.1	2.00	1.00							2.00		3.00	2.00
C206.2	2.00	1.00							2.00		3.00	2.00
C206.3	2.00	1.00							2.00		3.00	2.00
C206.4	2.00	1.00							2.00		3.00	2.00
C206.5	2.00	1.00							2.00	2.00	3.00	2.00
C206.6	2.00	1.00							2.00	2.00	3.00	2.00
AVG	2.00	1.00							2.00	2.00	3.00	2.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C207.1								2.00	3.00			
C207.2	3.00	3.00	3.00					2.00	3.00			
C207.3	3.00	3.00	3.00					2.00	3.00			
C207.4	3.00	3.00	3.00					2.00	3.00			
avg	3.00	3.00	3.00					2.00	3.00			

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C208.1	2.00	1.00	2.00						1.00			
C208.2	3.00	2.00	2.00	2.00					1.00			
C208.3	3.00	3.00	3.00						2.00			
C208.4	3.00	3.00	2.00	2.00					1.00			
C208.5	3.00	3.00	2.00	2.00					2.00			
avg	2.80	2.40	2.20	2.00					1.40			

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C209.1							2.00		3.00			1.00
C209.2							2.00		3.00			1.00
C209.3							2.00		3.00			1.00
C209.4							2.00		3.00			1.00
C209.5							2.00		3.00			1.00
AVG							2.00		3.00			1.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C210.1	3.00	2.00	2.00									
C210.2												
C210.3	2.00	2.00	2.00									
C210.4	3.00	3.00	2.00									
C210.5	3.00	2.00	2.00									
AVG	2.75	2.25	2.00									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C211.1	2.00	2.00										
C211.2	2.00	3.00	3.00									
C211.3	2.00	3.00	3.00									
C211.4	2.00	3.00	2.00	2.00								
C211.5	2.00	3.00	3.00	3.00								
AVG	2.00	2.80	2.75	2.50								

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C212.1	2.00	3.00	2.00	2.00								
C212.2	3.00	3.00	2.00	2.00								
C212.3	3.00	3.00	2.00	3.00								
C212.4	2.00	3.00	3.00	3.00								
C212.5	3.00	2.00	2.00	2.00								
AVG	2.60	2.80	2.20	2.40								

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C213.1	1.00	2.00	3.00	2.00	1.00	2.00						
C213.2	1.00	2.00	3.00	3.00	2.00	1.00						
C213.3	1.00	3.00	3.00	2.00	1.00	1.00						
C213.4	2.00	2.00	3.00	2.00	2.00	2.00						
C213.5	2.00	3.00	3.00	3.00	2.00	2.00						
AVG	1.40	2.40	3.00	2.40	1.60	1.60						

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C214.1	2.00	3.00	3.00									
C214.2	2.00	3.00	2.00									
C214.3	3.00	3.00	3.00									
C214.4	3.00	3.00	2.00									
C214.5	3.00	3.00										
AVG	2.60	3.00	2.50									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C215.1	2.00	1.00							2.00		3.00	2.00
C215.2	2.00	1.00							2.00		3.00	2.00
C215.3	2.00	1.00							2.00		3.00	2.00

C215.4	2.00	1.00							2.00		3.00	2.00
C215.5	2.00	1.00							2.00	2.00	3.00	2.00
AVG	2.00	1.00							2.00	2.00	3.00	2.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C216.1	3.00	3.00	3.00	3.00	3.00			3.00				
C216.2	3.00	3.00	3.00	3.00	3.00			2.00				
C216.3	3.00	3.00	3.00	3.00	3.00			3.00				
C216.4	3.00	3.00	2.00	2.00	3.00							
AVG	3.00	3.00	2.75	2.75	3.00			2.67				

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
POs												
C217.1	3.00	3.00	2.00	2.00								
C217.2	2.00	-	2.00	-	-							
C217.3	3.00	2.00	-	-	-							
C217.4	3.00	3.00	3.00	3.00	-							
C217.5	3.00	2.00	2.00	2.00	2.00							
AVG	2.80	2.50	2.25	2.33	2.00							

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301.1	2.00	3.00	2.00	2.00								
C301.2	3.00	3.00	3.00	3.00	3.00							
C301.3	3.00	2.00	2.00	2.00	2.00							
C301.4	3.00		2.00	2.00	2.00							
C301.5	2.00	2.00	3.00	3.00	2.00							2.00
AVG	2.60	2.50	2.40	2.40	2.25							2.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C302.1	3.00	3.00										
C302.2	2.00	2.00	3.00									
C302.3	2.00	2.00	3.00									
C302.4		2.00	3.00									
C302.5			3.00									
AVG	2.33	2.25	3.00									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C303.1	1.00	3.00	3.00	2.00	2.00	1.00						1.00
C303.2	2.00	3.00	3.00	3.00	2.00							
C303.3	3.00	3.00	3.00	3.00	3.00							3.00
C303.4	2.00	3.00	3.00	3.00	2.00							
C303.5	2.00	3.00	3.00	3.00	3.00							
AVG	2.00	3.00	3.00	2.80	2.40	1.00						2.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	2.00	3.00	3.00									
C304.2	3.00	2.00	3.00	3.00								
C304.3	3.00	3.00	3.00	3.00								
C304.4	3.00	3.00	3.00	3.00								
C304.5	2.00	2.00	3.00									
AVG	2.60	2.60	3.00	3.00								

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	2.00	3.00	3.00									
C305.2	3.00	2.00	3.00	3.00								
C305.3	3.00	3.00	3.00	3.00								
C305.4	3.00	3.00	3.00	3.00								
C305.5	2.00	2.00	3.00	3.00	3.00							1.00
AVG	2.60	2.60	3.00	3.00	3.00							1.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C306.1	2.00	2.00	2.00	3.00	2.00							
C306.2	2.00	2.00	2.00	3.00	2.00							
C306.3	2.00	2.00	2.00	3.00	2.00							
C306.4				3.00								
C306.5				3.00								
AVG	2.00	2.00	2.00	3.00	2.00							

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C307.1	2.00	3.00	2.00	2.00	2.00							
C307.2	3.00	2.00	2.00	2.00								
C307.3	1.00	2.00	3.00	3.00	3.00							
C307.4	2.00	3.00		3.00	3.00							
AVG	2.00	2.50	2.33	2.50	2.67							

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308.1	3.00	3.00										
C308.2		2.00	3.00	2.00	2.00							
C308.3			3.00	3.00	3.00							
C308.4				3.00	3.00							3.00
AVG	3.00	2.50	3.00	2.67	2.67							3.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C310.1						2.00		3.00			2.00	1.00
C310.2						2.00		3.00			2.00	1.00
C310.3						2.00		3.00			2.00	1.00
C310.4						2.00		3.00			2.00	1.00
AVG						2.00		3.00			2.00	1.00

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C403.1	3.00	3.00	3.00									
C403.2	3.00	3.00	3.00									
C403.3	3.00	3.00	3.00									
C403.4	3.00	3.00	3.00									
C403.5	3.00	3.00	3.00									
C403.6	3.00	3.00	3.00									
AVG	3.00	3.00	3.00									

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C404.1	2.00	2.00	1.00									
C404.2	2.00	2.00										
C404.3	2.00	2.00										
C404.4	2.00	2.00										
C404.5	2.00	2.00		2.00								
AVG	2.00	2.00	1.00	2.00								

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C405.1	2.00				2.00					2.00		
C405.2	2.00	2.00	2.00							2.00		
C405.3	2.00		2.00		2.00					2.00		
C405.4		3.00			3.00					2.00		
C405.5		3.00			3.00					2.00		
AVG	2.00	2.67	2.00		2.50					2.00		

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C406.1	3.00	3.00	3.00	3.00	3.00							
C406.2	3.00	3.00	3.00	3.00	3.00							
C406.3	3.00	3.00	3.00	3.00	3.00							
C406.4	3.00	3.00	3.00	3.00	3.00							
AVG	3.00	3.00	3.00	3.00	3.00							

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C407.1	3.00	3.00	3.00	3.00								
C407.2	3.00	3.00	3.00	3.00								
C407.3	3.00	3.00	3.00	3.00								
C407.4	3.00	3.00	3.00	3.00								
C407.5	3.00	3.00	3.00	3.00	3.00							
C407.6	3.00	3.00	3.00	3.00								
AVG	3.00	3.00	3.00	3.00	3.00							

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C409.1	2.00	1.00	1.00							2.00		
C409.2	2.00	1.00	1.00							2.00		

C409.3	3.00	2.00	1.00	2.00						2.00		
C409.4	2.00	2.00	1.00	2.00						2.00		
C409.5	2.00	2.00	2.00	2.00						2.00		
AVG	2.20	1.60	1.20	2.00						2.00		

CO#/PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C410.1	2.00	1.00	1.00							2.00		
C410.2	2.00	1.00	1.00							2.00		
C410.3	3.00	2.00	1.00							2.00		
C410.4	3.00	2.00	1.00							2.00		
C410.5	3.00	2.00	2.00							2.00		
AVG	2.60	1.60	1.20							2.00		



Principal

PRINCIPAL
MALINENI LAKSHMAIAH
WOMEN'S ENGINEERING COLLEGE
PULLADIGUNTA, GUNTUR-17,