



M.I.E.T. ENGINEERING COLLEGE

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Regulation-2013 UG

COURSE OUTCOME , CO-PO/PSO MAPPING, COURSE-PO/PSO MAPPING

	REGULATION – 2013	
	ELECTRONICS AND COMMUNICATION ENGINEERING	
	SEMESTER - I	
S.No	COURSE OUTCOME	BT LEVEL
C101-HS6151/TECHNICAL ENGLISH-I		
C101.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies.	K2
C101.2	Write coherently and flawlessly using a wide diction.	K1
C101.3	Read different genres of texts adopting various reading strategies.	K1
C101.4	Comprehend different spoken discourses in different accents.	K1
C101.5	Communicate in group and to larger audience appropriately.	K2
C101.6	Enable to understand process descriptions and present it in the relevant field.	K2
C102-MA65151/MATHEMEATICS-I		
C102.1	Find the eigen values and eigen vectors to diagonalise and reduce a matrix to quadratic form.	K2
C102.2	Check the converges, diverges of infinite series	K2
C102.3	To find the solutions of algebraic equations solved by iterative methods gets close to the required solution.	K3
C102.4	Obtain the evaluate and envelopes of a given curves by means of radius and centre of curvature	K3
C102.5	Calculate the maxima and minima value functions of two variables	K2
C102.6	Find the area of plain curves and volume of solid using double and triple integrals	K2
C103-PH6151/ENGINEERING PHYSICS-I		
C103.1	Discuss various crystal structures and different crystal growth techniques	K2
C103.2	Demonstrate the properties of elasticity and heat transfer through objects	K3
C103.3	Explain black body radiation, properties of matter waves and Schrodinger wave equations	K2
C103.4	Illustrate the acoustic requirements, production and application of ultrasonic's.	K1
C103.5	Examine the characteristics of laser and optical fiber	K1
C103.6	Improve the property of the materials for the application of commercial devices	K2
C104-CY6151/ENGINEERING CHEMISTRY-I		
C104.1	Classify polymers and their utility in the industries and describe the techniques of polymerization and properties of polymers	K2
C104.2	Relate various thermodynamic functions such as enthalpy, entropy, free energy and their importance and equilibrium constant and its significance	K2

C104.3	Explain the photophysical processes such as fluorescence and phosphorescence and various components of UV and IR spectrophotometer	K2
C104.4	Illustrate the phase transitions of one component and two component systems and the types of alloys and their applications in industries	K2
C104.5	Outline the synthesis, characteristics and the applications of nano materials	K2
C104.6	Knowing the various applications related to photophysical laws	K2
C105-GE6151/COMPUTER PROGRAMMING		
C105.1	Demonstrate the Organization of a Computer and number systems	K2
C105.2	Explain the attributes of algorithm and programming basics	K2
C105.3	Illustrate simple programs by using arrays and string functions	K1
C105.4	Explain functions and pointers for solving problems	K2
C105.5	Develop simple applications using structure and union	K2
C105.6	Develop a application program using c	K2
C106-GE6152/ENGINEERING GRAPHICS		
C106.1	Construct the conic sections and special curves and outline their practical applications and sketch the orthographic views from pictorial views and models	K3
C106.2	Apply the principles of orthographic projections of points in all quadrants, lines and planes in first quadrant.	K3
C106.3	Draw the projections of simple solids like prisms, pyramids, cylinder and cone and obtain the traces of plane figures	K2
C106.4	Design the sectional views of solids like cube, prisms, pyramids, cylinders & cones and Development of its lateral surfaces	K2
C106.5	Apply the principles of isometric projection and perspective projection of simple solids and truncated prisms, pyramids, cone and cylinders	K3
C106.6	Sketch the solids in perspective and isometric approaches	K2
C107-GE6161/COMPUTER PRACTICES LABORATORY		
C107.1	Prepare data using MS office for Presentation and Visualization	K2
C107.2	Analyze the Problems and design using Flow-chart.	K3
C107.3	Solve Problems using decision making and looping Statements.	K3
C107.4	Use Arrays, Structures & Unions in problem solving.	K2
C107.5	Solve Problems using Recursive Functions.	K3
C107.6	Solve problems using c programs	K3
C108-GE6162/ENGINEERING PRACTICES LABORATORY		
C108.1	Ability to fabricate electrical and electronics circuits	K2
C108.2	Acquiring the knowledge about various types of wiring circuit for wiring system, wiring tools, wiring estimation and cost.	K2
C108.3	Get hands on guidance to understand the knowledge about bread board assembling, need of earthing.	K2

C108.4	Recognize electrical Quantities of V, I& PF in RLC and Energy with Single Phase Energy meter.	K2
C108.5	Gain the knowledge about Logic Gates and Electronic components. Illustrate PCB with Electronic components, devices, circuits for general purposes.	K2
C108.6	Substantiate HWR & FWR with ripple factor & test for generation of clock signal.	K2
C109-GE6163-PHYSICS AND CHEMISTRY LABORATORY-I		
C109.1	The student will be able to analyze the physical principle involved in the various instruments, also relate the principle to new application.	K2
C109.2	The various experiments in the areas of optics, mechanics and thermal physics will nurture the students in all branches of Engineering.	K3
C109.3	The students will be able to think innovatively and also improve the creative skills that are essential for engineering.	K3
C109.4	Evaluate the wavelength of spectral lines using spectrometer, the wavelength of laser, particle size, acceptance angle of an optical fiber using semiconductor diode laser and the thickness of a thin wire through interference fringes using Air wedge apparatus.	K3
C109.5	Appraise the velocity of sound and compressibility of the liquid using ultrasonic interferometer and thermal conductivity for bad conductors using Lee's disc apparatus.	K3
C109.6	Determine the DO content in water sample by winkler's method and molecular weight of polymer by Ostwald viscometer.	K2
SEMESTER - II		
C110-HS6251/TECHNICAL ENGLISH-II		
C110.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies.	K1
C110.2	Write coherently and flawlessly using a wide diction.	K1
C110.3	Read different genres of texts adopting various reading strategies.	K2
C110.4	Comprehend different spoken discourses in different accents.	K2
C110.5	Communicate in group and to larger audience appropriately.	K2
C110.6	Enable to understand process descriptions and present it in the relevant field.	K2
C111-MA6251/MATHEMATICS-II		
C111.1	Apply the vector concepts of vector calculus in engineering disciplines	K3
C111.2	Apply the knowledge of mathematics in solving higher order differential equations with constant coefficients.	K3
C111.3	To have the basic knowledge of differential equation in typical mechanical fields.	K2
C111.4	Understand and apply the knowledge of Laplace transform in solving ordinary differential equation.	K2
C111.5	Understand the standard techniques of complex variable theory and use them to solve core engineering problems.	K2
C111.6	Evaluate real integrals by applying concept of complex integration.	K2

C112-PH6251/ENGINEERING PHYSICS-II		
C112.1	Illustrate Classical and Quantum free electron theory & calculate carrier concentration in metals.	K2
C112.2	Describe the carrier concentration in semiconductors and identify the P-type & N-type semiconductor using Hall effect	K1
C112.3	Classify the different types of magnetic and superconducting materials	K2
C112.4	Explain the dielectrics, types of polarization, losses and breakdowns	K1
C112.5	Discuss the properties, preparation and applications of Metallic Alloys, SMA, Nanomaterials, NLO, Biomaterials	K2
C112.6	New Engineering materials can be prepared for the purpose of development of modern devices	K2
C113-CY6251-ENGINEERING CHEMISTRY-II		
C113.1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost	K2
C113.2	Substitute metals with conducting polymers and also produce cheaper biodegradable polymers to reduce environmental pollution	K2
C113.3	Design economically and new methods to synthesise nano materials	K1
C113.4	Apply their knowledge for protection of different metals from corrosion	K3
C113.5	Have the knowledge of converting solar energy into most needy electrical energy efficiently to reduce the environmental pollution	K2
C114-GE6251- BASIC CIVIL AND MECHANICAL ENGINEERING		
C114.1	Explain the working principles of various power plants and differentiate the pumps and turbines.	K2
C114.2	State the functions of IC engine and classify the various types of boilers.	K1
C114.3	Apply the principles of vapour absorption and compression systems and Explain the Operation of air conditioner.	K3
C114.4	Apply the principles of surveying and use various measurements for surveying and study about various engineering materials and leveling instruments.	K3
C114.5	Classify the types of bridges, foundation, floorings, roofs, plasters and R.C.C Structural members and state the purpose of dam.	K2
C115-EE6201/CIRCUIT THEORY		
C115.1	Able to Illustrate the basic laws and series and parallel circuits, and Analyse the Mesh and nodal method for D.C and A.C. circuits .	K2
C115.2	Ready to do Network reduction & source transformation technique and star delta conversion. Apply Theorems for complex circuits.	K2
C115.3	Able to Analyze Series and parallel circuit parameters also analyze Self and mutual inductance and Coefficient of coupling of inductors.	K2
C115.4	Analyze the Transient response of RL, RC and RLC Circuits using Laplace transform for DC input and A.C. with sinusoidal input	K2
C115.5	Able to solve Three phase balanced / unbalanced voltage sources – analysis of three phase 3-wire and 4-wire circuits with star and delta connected loads,	K2
C115.6	Able to analyze DC and AC circuits and to solve complex circuits and Transient response.	K2

C116-GE6252/ PHYSICS AND CHEMISTRY LABORATORY - II		
C116.1	The student will be able to analyze the Science concept involved in the various instruments related to the impact of new application.	K2
C116.2	The various experiments in the areas of optics, mechanics and thermal physics will nurture the students in all branches of Engineering.	K3
C116.3	The students will be able to think innovatively and also improve the creative skills that are essential for engineering.	K3
C116.4	Appraise the Young's modulus of the beam by uniform and non uniform bending method, the moment of inertia and Rigidity Modulus for thin wire using Torsion Pendulum.	K2
C116.5	Use Poiseuille's method for determining the coefficient of viscosity of the liquid.	K2
C116.6	Evaluate the refractive index of spectral lines for determining the dispersive power of a prism.	K2
C117-CS6212/ COMPUTER PROGRAMMING LABORATORY		
C117.1	Explain UNIX Operating system and usage of file system.	K2
C117.2	Apply Shell Commands for a given task using filter and pipe commands.	K3
C117.3	Develop and implement the Shell scripts in VI editor.	K2
C117.4	Develop C Program on Unix environment.	K2
C117.5	Apply File handling in C to copy, merge and display the given file.	K3
C118-EE6211/ELECTRIC CIRCUITS LABORATORY		
C118.1	Apply KCL, KVL and Network Theorems to Simple and Complex circuits.	K3
C118.2	Demonstrate the working of CRO and Determine the Time Constant of RC circuit.	K2
C118.3	Determine frequency response of RLC circuits and Use MATLAB to simulate series, parallel resonant circuit, low pass, high pass filter.	K2
C118.4	Use MATLAB to simulate three phase balanced, unbalanced circuit and Measure power in three phase circuits by two wattmeter methods.	K3
C118.5	Determine h-parameters of Two port networks	K2
C118.6	Calibrate single phase energy meter	K2

SEMESTER III		
C201 / MA6351/TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS		
C201.1	Analyze Partial Differential Equations in various methods.	K3
C201.2	Ability to have knowledge about the fundamentals of magnetic circuits, energy, force and torque of multi-excited systems.	K2
C201.3	Computing the solutions of the heat equation and wave equation subject to boundary conditions	K2
C201.4	Computing the solutions of Laplace equation subject to boundary conditions	K2
C201.5	Deduce the Gaussian function in Self reciprocal form using Fourier Transforms.	K3
C201.6	Formation of finite difference method in Z-transforms.	K3
C202 / EE6352/ELECTRICAL ENGINEERING AND INSTRUMENTATION		
C202.1	Fundamentals of semiconductor and basic theorems used in Electrical circuits	K1
C202.2	Design amplifier circuits under CB, CE, CC Configurations.	K3
C202.3	Design the Adders – Flip-Flops – Registers and Counters with logic gates.	K3
C202.4	Discuss the Principles of Amplitude and Frequency Modulations and various blocks Communication Systems	K2
C202.5	Demonstrate the working of Television systems, FAX machines and micro wave systems.	K2
C202.6	Fundamentals of semiconductor and basic theorems used in Electrical circuits	K2
C203/ EC6301/OBJECT ORIENTED PROGRAMMING AND DATA STRUCTURES		
C203.1	Do simple programs using basic concepts of C.	K3
C203.2	Design programs with derived data type and files.	K3
C203.3	Solve the problem by applying linear data structures.	K3
C203.4	Finding solutions to various problems using FIFO& LIFO.	K2
C203.5	Sort and search the data by applying various algorithms.	K3
C203.6	Develop applications in C and Solve problems using various linear data structures algorithms.	K3
C204- EC6302/ DIGITAL ELECTRONICS		
C204.1	Apply the laws of Boolean algebra to simplify circuits and Boolean algebra expressions	K2
C204.2	analyze the different methods used for simplifications of Boolean expressions and	K2

	digital logic families	
C204.3	Design and implement Combinational circuits.	K3
C204.4	Design and implement Sequential circuits	K3
C204.5	Study the various types of memory devices and understand the concept PLD's	K2
C204.6	Design and implement synchronous and asynchronous sequential circuits	K3
C205- EC6303/ SIGNALS AND SYSTEMS		
C205.1	Categorize the signals based on their properties.	K2
C205.2	Analyze the Continuous Time & Discrete Time systems.	K2
C205.3	Apply Laplace and Fourier Transform to Analyze Continuous Time signals.	K3
C205.4	Apply Laplace Transform and convolution integral to Analyze Continuous Time LTI systems.	K3
C205.5	Apply Discrete Time Fourier Transform and Z-transform to Analyze Discrete Time LTI signals.	K3
C205.6	Describe the mathematical modelling of DT systems.	K2
C206- EC6304/ ELECTRONIC CIRCUITS- I		
C206.1	Design circuits with transistor biasing	K2
C206.2	To design and analyze single stage and multistage amplifier circuits	K2
C206.3	Analyze the small signal equivalent circuits of transistors	K3
C206.4	Design and analyze large signal amplifiers	K3
C206.5	Construct amplifiers with active loads	K3
C206.6	Apply the knowledge gained in the design of Electronic circuits	K2
C207- EC6311/ ANALOG AND DIGITAL CIRCUITS LABORATORY		
C207.1	Design and test BJT/JFET Amplifiers	K3
C207.2	Differentiate cascode and cascade amplifiers	K3
C207.3	Analyze the limitation in bandwidth of single stage and multistage amplifier	K3
C207.4	Simulate and analyze amplifiers circuits using pspice	K2
C207.5	Design and test the combinational digital logic circuits	K3
C207.6	Design and test the sequential digital logic circuits	K3
C208- EC6312/ OOPS AND DATA STRUCTURES LABORATORY		
C208.1	Do simple programs using basic concepts of C.	K3
C208.2	Design programs with derived data type and files.	K2

C208.3	Solve the problem by applying linear data structures.	K3
C208.4	Finding solutions to various problems using FIFO& LIFO.	K2
C208.5	Sort and search the data by applying various algorithms.	K2
C208.6	Develop applications in C and Solve problems using various linear data structures algorithms.	K2
SEMESTER IV		
C209-MA6451/ PROBABILITY AND RANDOM PROCESSES		
C209.1	Gather fundamental knowledge of the concepts of probability and standard distributions.	K2
C209.2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.	K3
C209.3	Apply the concept random processes in engineering disciplines.	K3
C209.4	Understand and apply the concept of correlation and spectral densities.	K2
C209.5	To analyze the response of random inputs to linear time invariant systems.	K3
C209.6	Apply the concept of auto correlation and cross correlation of inputs.	K2
C210- EC6401/ ELECTRONIC CIRCUITS II		
C210.1	The method of analyzing of feedback amplifiers	K2
C210.2	Design LC and RC oscillators and analyze its performance	K3
C210.3	Analyze performance of tuned amplifiers.	K3
C210.4	The concept and working of wave shaping circuits	K2
C210.5	To design and analyze the functions of multivibrators	K3
C210.6	The fundamentals of blocking oscillators and time base generators	K2
C211-EC6402/COMMUNICATION THEORY		
C211.1	Can be able to design different types of AM system	K3
C211.2	Design angle modulated communication systems.	K3
C211.3	Apply the concepts of Random Process to design a Communication systems	K3
C211.4	Analyze the noise performance of AM and FM systems	K2
C211.5	Able to understand various source coding technique	K2
C211.6	Could analyze the different types of receivers.	K2
C212-EC6403/ELECTROMAGNETIC FIELDS		
C212.1	Analyze field potentials due to static electric fields	K3
C212.2	Explain how materials affect electric fields	K2
C212.3	Analyze field potentials due to static magnetic fields	K3

C212.4	Explain how materials affect magnetic fields.	K2
C212.5	Perform the relation between the fields under time varying Situations	K3
C212.6	Discuss the principles of propagation of uniform plane waves	K2
C213-EC6404/LINEAR INTEGRATED CIRCUITS		
C213.1	Know the op-amp's basic construction, characteristics, parameter limitations, various configurations	K2
C213.2	Describe the Internal layout of an Op-amp	K2
C213.3	Design linear and nonlinear Countless applications of op-amp	K3
C213.4	Design applications using analog multiplier and PLL	K3
C213.5	Design ADC & DAC using op-amps.	K3
C213.6	Generate waveforms using op-amp circuits	K2
C214-EC6405/CONTROL SYSTEM ENGINEERING		
C214.1	Compute the transfer function of different physical systems	K1
C214.2	Analyze the time domain specification and calculate the steady state error.	K2
C214.3	Illustrate the frequency response characteristics of open loop and closed loop system response.	K3
C214.4	Analyze the stability using Routh and root locus techniques	K3
C214.5	Illustrate the state space model of a physical system and discuss the concepts of sampled data control system.	K2
C214.6	To design the digital control design using state feedback.	K3
C215-EC6411/ CIRCUIT AND SIMULATION INTEGRATED LABORATORY		
C215.1	Analyze various types of feedback amplifiers.	K2
C215.2	Design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators.	K3
C215.3	Demonstrate the feedback amplifiers using SPICE Tool.	K3
C215.4	Demonstrate the oscillators and tuned amplifiers using SPICE Tool.	K3
C215.5	Demonstrate the wave-shaping circuits and multivibrators using SPICE Tool.	K3
C215.6	Demonstrate the voltage and current time base circuits using SPICE Tool.	K3
C216-EC6412/LINEAR INTEGRATED CIRCUIT LABORATORY		
C216.1	Design of amplifiers and oscillators using IC 741	K3
C216.2	Construct and design integrater and differentiator circuit using IC 741	K3
C216.3	Design filters using Opamp and perform experiment on frequency response	K3
C216.4	Analyse the working of PLL and use PLL as frequency multiplier	K2

C216.5	Design DC power supply using ICs	K1
C216.6	Analyse the performance of oscillators and multivibrators using SPICE	K2
C217-EE6461/ ELECTRICAL ENGINEERING AND CONTROL SYSTEM LABORATORY		
C217.1	Study the load characteristics of DC motors	K2
C217.2	Study the load characteristics of DC generators	K2
C217.3	Analyse the working of single phase and three phase induction motor	K3
C217.4	Use bridge networks to measure passive elements and perform transducer characterization	K3
C217.5	Analyse the stability of linear system through simulation software.	K3
C217.6	Obtain transfer function of DC generators.	K2
SEMESTER V		
C301-EC6501/DIGITAL COMMUNICATION		
C301.1	To Understand the basic steps involved in Digital Communication	K2
C301.2	To compare and learn various waveform coding style in digital communication system	K2
C301.3	To know about all types of pass band and pass band transmission scheme	K2
C301.4	To analyze the various techniques to involved in facilitating the transmission schemes	K3
C301.5	To understand the various error occurring and to calculate the requirements needed for a real time design	K2
C301.6	To apply various error controlling algorithm to ensure the reliability of the transmission.	K3
C302-EC6502/PRINCIPLES OF DIGITAL SIGNAL PROCESSING		
C302.1	Apply DFT and FFT for the analysis of digital signals & systems.	K3
C302.2	Design an analog to digital IIR filters and its realization.	K3
C302.3	Design of digital FIR filters using the windowing techniques and frequency sampling method and to realize their structures.	K3
C302.4	Characterize finite Word length effect on filters.	K2
C302.5	Implement the Multirate Filters and Apply Adaptive Filters to equalization	K3
C302.6	An understanding of sampling conversion technique in signal processing and its applications.	K2

C303-EC6503/TRANSMISSION LINES AND WAVE GUIDES		
C303.1	Students can able to understand the characteristics of transmission line and its losses	K2
C303.2	Students can understand about standing wave ration and input impedance in high frequency transmission line	K2
C303.3	Analyze impedance matching by stubs using smith chart	K3
C303.4	Design filters and equalizers for given applications	K2
C303.5	To analyze the characteristics of TE and TM waves.	K3
C303.6	Evaluate the characteristics of Circular wave guides and rectangular wave guides	K1
C304-GE6351/ENVIRONMENTAL SCIENCE AND ENGINEERING		
C304.1	Understand the functions of environment, ecosystems and biodiversity and their conservation	K2
C304.2	Identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.	K2
C304.3	Apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.	K3
C304.4	Recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development	K3
C304.5	Demonstrate the knowledge of sustainability practices	K2
C304.6	Identify green materials, energy cycles and the role of sustainable urbanization	K2
C305- EC6504/ MICROPROCESSOR AND MICROCONTROLLER		
C305.1	Understand and execute programs based on 8086 microprocessor.	K2
C305.2	Design Memory Interfacing circuits.	K3
C305.3	Design and interface I/O circuits.	K2
C305.4	Design and implement 8051 microcontroller based systems.	K2
C305.5	Demonstrate the interfacing circuit in real system.	K2
C305.6	Construct any system operation based on the knowledge using system design using microcontroller	K3
C306-EC6511/ DIGITAL SIGNAL PROCESSING LABORATORY		
C306.1	Demonstrate the simulation of DSP systems.	K2
C306.2	Demonstrate the abilities of digital signal processor based DSP systems implementation.	K2
C306.3	Analyze the finite word length effect on DSP systems.	K3
C306.4	Demonstrate the applications of FFT to DSP systems.	K3
C306.5	Analyze the MAC operation using various addressing modes on DSP systems.	K2
C306.6	Apply the adaptive filters for various applications of DSP systems.	K3

C307-EC6512/ COMMUNICATION SYSTEM LABORATORY		
C307.1	Simulate end-to-end Communication Link	K3
C307.2	Demonstrate their knowledge in base band signaling schemes through implementation of FSK, PSK and DPSK	K2
C307.3	Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system	K3
C307.4	Simulate the various functional modules of a communication system	K3
C307.5	Validate the the functional modules of a communication system	K3
C307.6	Implement adaptive filters for various applications of DSP	K3
C308-EC6513/ MICROPROCESSOR AND MICROCONTROLLER LABORATORY		
C308.1	Demonstrate and apply working of programs in 8086 microprocessor and 8051 Microcontroller.	K2
C308.2	Develop the basic knowledge of microprocessor and microcontroller interfacing and their application.	K2
C308.3	Interface different I/Os with processor and Generate waveforms using Microprocessors.	K3
C308.4	Execute Programs in 8051	K3
C308.5	Summarize the concepts of Assembly level language programming and its applications.	K2
C308.6	Develop the assembly level programming using 8086 and 8051 instruction set	K2
SEMESTER VI		
C309-MG 6851/PRINCIPLES OF MANAGEMENT		
C309.1	Evaluate the global context for taking managerial actions of planning, organizing and controlling.	K2
C309.2	Describe the uses of human resource management	K2
C309.3	Assess global situation, including opportunities and threats that will impact management of an organization.	K2
C309.4	Integrate management principles into management practices.	K2
C309.5	Assess managerial practices and choices relative to ethical principles and standards.	K3
C309.6	Specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances.	K2

C310-CS6303/COMPUTER ARCHITECTURE		
C310.1	Use various metrics to calculate the performance of a computer system.	K2
C310.2	Identify the addressing mode of instructions and to Determine which hardware blocks and control lines are used for specific instructions.	K2
C310.3	Demonstrate how to add and multiply integers and floating -point numbers using two's complement and IEEE floating point representation.	K3
C310.4	Analyze clock periods, performance, and instruction throughput of single-cycle, multi-cycle, and pipelined implementations of a simple instruction set.	K3
C310.5	Detect pipeline hazards and identify possible solutions to those hazards	K2
C310.6	Show how cache design parameters affect cache hit rate and to Map a virtual address into a physical address	K3
C311-CS6551/COMPUTER NETWORKS		
C311.1	Explain the components requirement of networks and link layer service	K2
C311.2	Classify the Media Access Control Protocols and different Internetworking	K2
C311.3	Demonstrate various types of routing techniques	K2
C311.4	Outline the mechanisms involved in transport layer	K2
C311.5	Experiment with different application layer protocols	K3
C311.6	Analyze various routing algorithms	K3
C312-EC6601/VLSI DESIGN		
C312.1	Students will be able to recollect all concepts of device characteristics of MOS and basic of Digital Electronics.	K1
C312.2	Student can construct various types of digital circuits in different logic styles.	K3
C312.3	Students can also enumerate the various issues which has to be taken care off while designing a combinational or sequential circuits	K2
C312.4	They can easily link simple logic circuit to complex block of a processor	K3
C312.5	They are introduced to various implementing strategies and basic architecture of leading FPGA and design steps.	K3
C312.6	They will be familiarized with the steps of fabrication and verification of layout of the circuit.	K1
C313-EC6602/ANTENNA AND WAVE PROPAGATION		
C313.1	Explain the radiation mechanism through an antenna.	K2
C313.2	Measure the parameters of an antenna under test	K2

C313.3	Design and analyze wire antennas	K3
C313.4	Design and analyze an array of antenna	K3
C313.5	Analyze the radiation mechanism of a wireless communication systems	K3
C313.6	Design and analyze aperture antennas	K3
C314-EC6001/MEDICAL ELECTRONICS		
C314.1	Analyze and evaluate the effect of different diagnostic and therapeutic methods,their risk potential,physical principles,opportunities and possibilities for different medical procedures.	K2
C314.2	Measure the various electrical signals from human system.	K3
C314.3	Examine biochemical and various physiological information.	K3
C314.4	Describe the working of units which will help to restore normal functioning.	K2
C314.5	Understand the position of biomedical instrumentation in modern Hospital care	K2
C314.6	Construct a system for telemedicine and electrical safety.	K3
C315-EC6611/ COMPUTER NETWORKS LABORATORY		
C315.1	Explain the components requirement of networks and link layer service	K2
C315.2	Classify the Media Access Control Protocols and different Internetworking	K2
C315.3	Demonstrate various types of routing techniques	K3
C315.4	Outline the mechanisms involved in transport layer	K2
C315.5	Experiment with different application layer protocols	K3
C315.6	Analyze various routing algorithms	K2
C316-EC6612/ VLSI DESIGN LABORATORY		
C316.1	Students will be able to recollect all concepts of device characteristics of MOS and basic of Digital Electronics.	K3
C316.2	Student can construct various types of digital circuits in different logic styles.	K3
C316.3	Students can also enumerate the various issues which has to be taken care off while designing a combinational or sequential circuits	K3
C316.4	They can easily link simple logic circuit to compler block of a processor	K3
C316.5	They are introduced to various implementing strategies and basic architecture of leading FPGA and design steps.	K3
C316.6	They will be familiarised with the steps of fabrication and verification of layout of the circuit.	K1

C317-GE6674/ COMMUNICATION AND SOFT SKILLS - LABORATORY		
C317.1	Explain the components requirement of networks and link layer service	K2
C317.2	Classify the Media Access Control Protocols and different Internetworking	K2
C317.3	Demonstrate various types of routing techniques	K3
C317.4	Outline the mechanisms involved in transport layer	K2
C317.5	Experiment with different application layer protocols	K3
C317.6	Analyze various routing algorithms	K2
SEMESTER VII		
C401-EC6701/ RF AND MICROWAVE ENGINEERING		
C401.1	Analyze the different low frequency parameters and S parameters and describe the RF component basics.	K3
C401.2	Explain the active & passive microwave devices & components used in Microwave communication systems.	K2
C401.3	Analyze the multi- port RF networks and RF transistor amplifiers.	K3
C401.4	Generate Microwave signals and design microwave amplifiers.	K2
C401.5	Explain about the working principle of various microwave tubes and the limitations of conventional tubes.	K2
C401.6	Measure and analyze Microwave signal and parameters.	K3
C402-EC6702/OPTICAL COMMUNICATION AND NETWORKS		
C402.1	To recollect the basic concept of lighth propagation and to know how to make use of light as a communication signal	K1
C402.2	To know about all the issues related to fiber regarding splicing techniques, coupling and lensing schemes and fiber related losses and degradation and to measure the parameters of the fiber.	K3
C402.3	To understand the construction of optical sources and detector.	K2
C402.4	To analyze the performance of sources and detector and the link as a whole.	K3
C402.5	To analyze the receiver configuration, types of preamplifier and fiber amplifier.	K3
C402.6	To understand the concepts optical networks	K2
C403-EC6703/EMBEDDED AND REAL TIME SYSTEMS		
C403.1	Describe the architecture and programming of ARM processor	K2
C403.2	Outline the concepts of embedded systems	K2
C403.3	Explain the basic concepts of real time operating system design	K2

C403.4	Differentiate between the general purpose operating system and the real time operating system	K2
C403.5	Explain the concept of design methodologies techniques for embedded system.	K3
C403.6	Model real-time applications using embedded-system concepts	K3
C404-IT6005/DIGITAL IMAGE PROCESSING		
C404.1	Able to know the fundamentals of digital image processing techniques.	K2
C404.2	Understand the concept of visual system, various types of sensing and acquisition systems.	K2
C404.3	Determine the various image enhancement techniques in spatial and frequency domain	K2
C404.4	Analyze the various filtering methods for image restoration and segmentation.	K3
C404.5	Use various coding techniques for image compression.	K3
C404.6	Analyze various image descriptors and features of image representation techniques.	K3
C405-EC6009/ADVANCED COMPUTER ARCHITECTURE		
C405.1	Explain the components requirement of networks and link layer service	K2
C405.2	Classify the Media Access Control Protocols and different Internetworking	K2
C405.3	Demonstrate various types of routing techniques	K3
C405.4	Outline the mechanisms involved in transport layer	K2
C405.5	Experiment with different application layer protocols	K3
C405.6	Analyze various routing algorithms	K2
C406-EC6016/OPTO ELECTRONIC DEVICES		
C406.1	Review Solid state semiconductor physics.	K1
C406.2	Explain concepts of lasers.	K2
C406.3	Classify different optical detection devices	K3
C406.4	Distinguish among different light modulation techniques	K2
C406.5	Describe optoelectronic integrated circuits	K2
C406.6	Summarize applications of opto electronic circuits	K1
C407-EC6711/EMBEDDED LABORATORY		
C407.1	Write programs in ARM for a specific Application	K2
C407.2	Interface memory and Write programs related to memory operations	K2
C407.3	Interface A/D and D/A convertors with ARM system	K3

C407.4	Analyze the performance of interrupt	K3
C407.5	Write programs for interfacing keyboard, display and motor	K3
C407.6	Formulate a mini project using embedded system	K3
C408-EC6712/OPTICAL AND MICROWAVE LABORATORY		
C408.1	Analyze the performance of simple optical link by measurement of losses	K3
C408.2	Analyzing the mode characteristics of fiber.	K3
C408.3	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER.	K3
C408.4	Estimate the Wireless Channel Characteristics	K1
C408.5	Analyze the performance of Wireless Communication System.	K3
C408.6	Understand the intricacies in Microwave System design.	K2
SEMESTER VIII		
C409 / EC6801/WIRELESS COMMUNICATION		
C409.1	Explain the Characteristics of fading in wireless channels	K2
C409.2	Describe the fundamentals of Cellular Architecture	K2
C409.3	Use various signaling schemes for wireless communication channels	K2
C409.4	Compare the performance of channel using various propagation models	K3
C409.5	Analyze the various mitigation techniques to address fading and interference in multipath propagation.	K3
C409.6	Design MIMO Systems in fading and non fading channels	K3
C410 / EC6802/WIRELESS NETWORKS		
C410.1	Conversant with the latest 3G/4G networks and its architecture	K2
C410.2	Design and implement wireless network environment for any application using latest wireless protocols and standards	K3
C410.3	Ability to select the suitable network depending on the availability and requirement	K2
C410.4	Implement different type of applications for smart phones and mobile devices with latest network strategies	K3
C410.5	Analyze the latest wireless protocols for the problems associated with Wireless Networks.	K3
C410.6	Interpret the latest 4G networks and its architecture.	K3

C411 / CS6303/AD HOC AND WIRELESS SENSOR NETWORKS		
C411.1	Know the basics of Ad hoc networks and Wireless Sensor Networks	K2
C411.2	Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement	K3
C411.3	Apply the knowledge to identify appropriate physical and MAC layer protocols	K3
C411.4	Understand Mediation Device Protocol, Contention based protocols	K2
C411.5	Understand the transport layer and security issues possible in Ad hoc and sensor networks.	K2
C411.6	Be familiar with the OS used in Wireless Sensor Networks and build basic modules	K2
C412 / GE8077/TOTAL QUALITY MANAGEMENT		
C412.1	Describe the dimensional barrier regarding Quality.	K2
C412.2	Summarize the Total quality principles.	K2
C412.3	Demonstrate the tools utilization for quality improvement.	K3
C412.4	Discover the new decision of principle in real time projects.	K3
C412.5	Analyze the various types of techniques are used to measure quality.	K3
C412.6	Apply the various quality systems in implementation of Total quality management.	K3
C413 /EC6811/PROJECT WORK		
C413.1	Demonstrate profound technical knowledge of the project.	K3
C413.2	Identify a real world problem, review literature and suggest its solution.	K3
C413.3	Demonstrate solutions to complex engineering problems utilizing a systems approach	K3
C413.4	Provide solutions to meet the specified needs of the society.	K3
C413.5	Create a system and validate its conformance	K3
C413.6	Perform data analysis, interpret and provide valid conclusions.	K3

S.No	CO-PO/PSOMAPPING													
	C101-HS6151/TECHNICAL ENGLISH-I													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C101.1	2	-	-	-	-	2	2	-	2	3	-	2	-	2
C101.2	-	-	-	-	-	2	2	-	2	3	-	2	-	2
C101.3	-	2	-	2	2	2	2	-	2	3	-	2	-	2
C101.4	2	-	-	-	-	2	2	-	2	3	-	2	-	2
C101.5	2	-	-	-	-	2	2	-	2	3	-	2	-	2
C101.6	2	-	-	-	3	2	2	-	2	3	-	2	-	2
	C102-MA6151/MATHEMATICS-I													
C102.1	3	2	2	-	-	2	-	-	-	3	-	2	-	2
C102.2	2	3	2	-	-	-	-	-	-	-	-	-	-	2
C102.3	3	2	2	-	-	-	-	-	-	2	-	-	-	2
C102.4	3	2	3	2	2	-	-	2	-	2	-	-	-	-
C102.5	3	3	2	2	-	2	-	-	-	-	-	2	-	2
C102.6	3	2	2	2	2	2	-	2	-	-	2	2	-	2
	C103-PH6151/ENGINEERING PHYSICS-I													
C103.1	3	2	2	3	2	2	-	-	-	-	-	3	-	-
C103.2	3	3	3	2	-	2	-	-	-	-	-	3	-	-
C103.3	3	2	-	-	-	-	-	-	-	-	-	3	3	3
C103.4	3	3	3	3	2	2	-	-	-	-	-	2	-	-
C103.5	3	2	3	3	2	3	2	-	-	-	-	2	-	-
C103.6	3	2	3	3	2	3	2	-	-	-	-	2	-	-
	C104-CY6151/ENGINEERING CHEMISTRY-I													
C104.1	2	2	2	2	2	-	3	-	2	-	2	3	-	2
C104.2	2	2	2	2	2	-	-	-	2	-	2	2	-	2
C104.3	2	2	2	2	2	-	2	-	2	-	2	2	-	2
C104.4	2	2	2	2	2	-	2	-	2	-	2	2	-	2
C104.5	2	2	2	2	2	-	2	2	2	-	2	2	-	2
C104.6	2	2	2	2	2	-	2	2	2	-	2	2	-	2

C105-GE6151/COMPUTER PROGRAMMING

C105.1	3	2	-	-	-	-	-	-	-	-	-	-	-	-
C105.2	3	2	2	-	-	-	-	-	-	-	-	-	-	-
C105.3	3	2	2	-	-	-	-	-	-	-	-	-	-	-
C105.4	3	2	2	2	2	-	-	-	-	-	-	-	-	-
C105.5	3	2	2	2	2	2	-	2	-	-	-	-	-	-
C105.6	3	2	2	2	2	2	-	2	-	-	-	-	-	-

C106-GE6152/ENGINEERING GRAPHICS

C106.1	3	3	3	2	2	-	-	-	-	2	3	2	3	3
C106.2	3	3	3	2	2	-	-	-	-	3	2	2	3	3
C106.3	3	3	3	2	2	-	-	-	-	2	2	2	3	3
C106.4	3	3	3	2	3	-	-	-	-	2	2	2	3	3
C106.5	3	3	3	2	2	-	-	-	-	3	2	2	3	3
C106.6	3	3	3	2	3	-	-	-	-	2	2	2	-	-

C107-GE6161/COMPUTER PRACTICES LABORATORY

C107.1	3	-	-	-	-	-	-	-	-	-	-	-	2	2
C107.2	3	3	3	2	-	-	-	-	-	-	-	-	2	2
C107.3	3	3	3	2	-	-	-	-	-	-	-	-	2	2
C107.4	3	2	3	2	-	-	-	-	-	-	-	-	2	2
C107.5	3	2	3	2	-	-	-	-	-	-	-	-	2	2
C107.6	3	2	3	2	-	-	-	-	-	-	-	-	2	2

C108-GE6162/ENGINEERING PRACTICES LABORATORY

C108.1	3	2	3	-	-	-	-	-	3	2	2	2	2	2
C108.2	3	2	2	-	-	-	-	-	3	2	2	3	2	2
C108.3	3	3	2	-	-	-	-	-	3	2	2	3	2	2
C108.4	3	2	2	-	-	-	-	-	3	2	2	2	2	2
C108.5	3	3	2	-	-	-	-	-	3	2	2	3	2	2
C108.6	3	2	2	-	-	-	-	-	3	2	2	2	2	2

C109-GE6163-PHYSICS AND CHEMISTRY LABORATORY-I														
C109.1	2	-	2	2	3	-	2	2	3	2	3	2	2	-
C109.2	2	-	2	3	3	-	2	2	2	2	3	2	-	-
C109.3	2	-	2	2	2	-	2	2	2	2	3	2	-	-
C109.4	2	-	2	2	3	-	2	2	3	2	3	2	-	-
C109.5	2	-	2	3	3	-	2	2	2	2	3	2	-	-
C109.6	2	-	2	2	2	-	2	2	2	2	3	2	-	-
C110-HS6251/TECHNICAL ENGLISH-II														
C110.1	2	2	-	-	-	2	2	-	2	3	-	2	-	2
C110.2	2	3	-	-	-	2	2	-	2	3	-	2	-	2
C110.3	2	2	-	-	-	2	2	-	2	3	-	2	-	2
C110.4	2	2	-	-	-	2	2	-	2	3	-	2	-	2
C110.5	2	3	-	-	-	2	2	-	2	3	-	2	-	2
C110.6	2	3	-	-	-	2	2	-	2	3	-	2	-	2
C111-MA6251/MATHEMATICS-II														
C111.1	3	3	3	3	2	2	-	-	-	2	-	-	-	2
C111.2	3	2	2	-	-	2	-	-	-	-	-	-	-	2
C111.3	3	3	3	-	-	2	-	2	-	2	-	2	-	2
C111.4	3	2	2	-	2	-	-	-	-	-	-	-	-	-
C111.5	3	3	3	2	2	-	-	-	-	2	2	-	-	-
C111.6	2	2	3	2	2	2	-	-	-	2	-	2	-	2
C112-PH6251/ENGINEERING PHYSICS-II														
C112.1	2	2	-	-	-	-	-	-	-	-	-	-	2	-
C112.2	3	2	3	-	-	2	2	-	-	3	-	2	2	-
C112.3	3	3	3	3	-	2	2	-	-	3	-	2	2	-
C112.4	3	3	3	3	-	2	2	-	-	3	-	2	2	-
C112.5	3	2	2	-	2	2	2	-	2	3	-	3	2	-
C112.6	3	2	2	-	2	3	2	-	2	3	-	3	2	-

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C117.3	3	3	3	2	-	-	-	-	-	-	-	-	-	-
C117.4	3	2	3	2	-	-	-	-	-	-	-	-	-	-
C117.5	3	2	3	2	-	-	-	-	-	-	-	-	-	-
C117.6	3	2	3	2	-	-	-	-	-	-	-	-	-	-
C118-EE6211/ELECTRIC CIRCUITS LABORATORY														
C118.1	3	2	3	2	-	2	-	2	2	2	-	2	2	2
C118.2	2	3	3	2	-	-	-	-	-	3	-	2	2	2
C118.3	3	3	3	2	2	-	-	-	-	2	-	2	2	2
C118.4	2	3	3	2	-	-	2	-	-	2	2	2	2	2
C118.5	3	2	3	2	-	-	-	-	-	3	-	2	2	2
C118.6	3	3	3	2	-	-	-	2	-	2	-	2	2	2

C201-MA6351/ TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS														
C201.1	3	2	2	-	-	2	-	-	-	3	-	2	3	2
C201.2	2	3	2	-	-	-	-	-	-	-	-	-	2	3
C201.3	3	2	2	-	-	-	-	-	-	2	-	-	3	2
C201.4	3	2	3	2	2	-	-	2	-	2	-	-	3	2
C201.5	3	3	2	2	-	2	-	-	-	-	-	2	3	3
C201.6	3	2	2	2	2	2	-	2	-	-	2	2	3	2
C202-EE6352/ELECTRICAL ENGINEERING AND INSTRUMENTATION														
C202.1	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C202.2	3	2	2	2	2	-	-	-	-	2	2	2	2	3
C202.3	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C202.4	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C202.5	3	2	2	2	2	-	-	-	-	2	2	2	3	3
C202.6	3	2	2	2	3	-	-	-	-	2	2	2	3	2
C203-EC6301/OBJECT ORIENTED PROGRAMMING AND DATA STRUCTURES														
C203.1	3	3	3	2	2	2	-	2	2	2	3	2	3	2
C203.2	3	2	3	2	2	-	-	-	-	3	2	2	2	2

C203.3	3	2	2	2	2	-	-	-	-	2	2	2	2	2
C203.4	3	3	2	2	3	-	2	-	-	2	2	2	2	2
C203.5	3	3	3	2	2	-	-	-	-	3	2	2	2	2
C203.6	2	2	3	2	3	-	-	2	-	2	2	2	2	2
C204-EC6302/DIGITAL ELECTRONICS														
C204.1	2	2	2	2	-	2	2	2	3	3	3	3	3	3
C204.2	2	-	2	2	2	2	-	2	3	3	2	2	2	2
C204.3	2	2	2	2	2	2	-	2	2	3	2	2	2	2
C204.4	2	-	2	-	2	2	-	2	2	2	2	2	2	2
C204.5	2	2	2	2	2	2	-	2	3	3	2	2	2	2
C204.6	2	2	2	2	2	2	-	2	3	3	2	2	2	2
C205- EC6303/SIGNALS AND SYSTEMS														
C205.1	3	3	3	2	2	-	-	-	-	-	-	2	3	2
C205.2	3	3	3	3	3	-	-	-	-	-	-	2	3	2
C205.3	3	3	2	3	2	-	-	-	-	-	-	2	3	2
C205.4	3	2	2	2	2	-	-	-	-	-	-	2	3	2
C205.5	3	2	2	2	3	-	-	-	-	-	-	2	3	2
C205.6	3	3	3	3	3	-	-	-	-	-	-	2	2	3
C206-EC6304/ELECTRONIC CIRCUITS-I														
C206.1	3	-	2	-	-	-	-	-		-	2	2	2	2
C206.2	3	-	2	-	-	-	-	-	2	-	2	2	3	3
C206.3	3	2	2	2	-	-	2	-	2	-	2	2	3	2
C206.4	3	2	2	2	-	-	2	-	2	-	2	2	2	2
C206.5	3	-	2	2	-	-	2	-	2	-	2	2	2	3
C206.6	3	-	2	2	-	2	2	-	2	-	2	2	3	3
C207-EC6311/ANALOG AND DIGITAL CIRCUITS LABORATORY														
C207.1	3	2	2	3	2	-	-	-	-	-	2	2	2	2
C207.2	3	2	2	3	2	-	-	-	-	-	2	2	3	3
C207.3	3	2	2	2	2	-	-	-	-	-	2	2	3	2

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C212-EC6403/ELECTROMAGNETIC FIELDS														
C212.1	2	2	2	2	2	-	-	3	-	-	3	-	2	2
C212.2	3	2	3	2	2	-	-	-	-	-	2	-	3	3
C212.3	3	2	2	2	2	-	-	-	-	-	2	2	3	2
C212.4	3	3	2	2	3	2	-	-	2	-	2	-	2	2
C212.5	3	3	3	2	2	-	-	3	-	-	2	3	2	3
C212.6	2	2	2	2	3	-	-	-	-	2	2	-	3	3
C213-EC6404/LINEAR INTEGRATED CIRCUITS														
C213.1	3	2	2	-	2	-	-	-	-	-	-	2	2	2
C213.2	3	2	2	-	2	-	-	-	-	-	-	2	3	3
C213.3	3	2	2	-	2	-	-	-	-	-	-	2	3	2
C213.4	3	2	2	-	2	-	-	-	-	-	-	2	2	2
C213.5	3	2	2	-	2	-	-	-	-	-	-	2	2	3
C213.6	3	2	2	-	2	-	-	-	-	-	-	2	3	3
C214EC6405/CONTROL SYSTEM ENGINEERING														
C214.1	3	3	2	2	2	-	-	-	-	-	-	3	2	2
C214.2	3	3	3	3	3	-	-	-	-	-	-	3	3	3
C214.3	3	2	3	2	3	-	-	-	-	-	-	2	3	2
C214.4	3	3	2	2	2	-	-	-	-	-	-	2	2	2
C214.5	3	3	2	2	3	-	-	-	-	-	-	3	2	3
C214.6	3	2	2	2	3	-	-	-	-	-	-	3	3	3
C215-EC6411/CIRCUIT AND SIMULATION INTEGRATED LABORATORY														
C215.1	3	2	2	-	-	-	-	-	-	-	-	2	2	2
C215.2	2	2	2	-	-	-	-	-	-	-	-	2	3	3
C215.3	2	2	2	-	-	-	-	-	-	-	-	2	3	2
C215.4	3	3	3	-	-	-	-	-	-	-	-	3	2	2
C215.5	2	3	3	-	-	-	-	-	-	-	-	3	2	3
C215.6	2	2	2	-	-	-	-	-	-	-	-	2	3	3
C216-EC6412/LINEARINTEGRATEDCIRCUITLABORATORY														
C216.1	3	3	3	-	2	2	-	2	2	-	-	2	2	2
C216.2	3	2	3	-	2	-	-	-	-	-	-	3	3	3
C216.3	3	2	2	-	2	-	-	-	-	2	-	2	3	2

C216.4	3	3	2	-	3	-	2	-	-	-	-	3	2	2
C216.5	3	3	3	2	2	-	-	-	-	-	2	2	2	3
C216.6	2	2	3	-	3	-	-	2	-	-	-	2	3	3
C217EE6461/ELECTRICAL ENGINEERING AND CONTROL SYSTEM LABORATORY														
C217.1	3	2	2	2	-	2	-	-	-	2	-	2	2	2
C217.2	3	3	2	2	-	2	-	-	-	2	-	2	3	2
C217.3	3	2	3	2	-	2	-	-	-	2	-	2	2	3
C217.4	3	2	2	2	-	2	-	-	-	2	-	2	2	2
C217.5	3	2	3	2	-	2	-	-	-	2	-	2	2	3
C217.6	3	2	2	2	-	2	-	-	-	2	-	2	2	2
C301-EC6501/DIGITAL COMMUNICATION														
C301.1	3	3	2	2	2	-	-	-	-	-	-	3	2	2
C301.2	3	3	3	3	3	-	-	-	-	-	-	3	3	2
C301.3	3	2	3	2	3	-	-	-	-	-	-	2	2	3
C301.4	3	3	2	2	2	-	-	-	-	-	-	2	2	2
C301.5	3	3	2	2	3	-	-	-	-	-	-	3	2	3
C301.6	3	2	2	2	3	-	-	-	-	-	-	3	2	2
C302-EC6502/PRINCIPLES OF DIGITAL SIGNAL PROCESSING														
C302.1	3	2	3	2	2	3	2	3	2	2	2	2	2	2
C302.2	3	2	3	2	3	3		3	2			2	3	2
C302.3	3	2	3	2	2	2	2	2	2	2	2		2	3
C302.4	3	2	2	2	2	2	2	2		2	2	2	2	2
C302.5	3	2	2	2	2	2	2	2	2	2		2	2	3
C302.6	3	2	2	2	2	2	2		2	2	2	2	2	2
C303-EC6503/TRANSMISSION LINES AND WAVEGUIDES														
C303.1	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C303.2	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C303.3	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C303.4	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C303.5	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C303.6	3	2	2	2	-	-	-	-	-	2	2	2	2	2

C304-GE6351/ENVIRONMENTAL SCIENCE AND ENGINEERING														
C304.1	2	3	3	2	2	-	2	-	-	-	3	-	2	2
C304.2	2	2	3	2	2	3	-	2	-	3	2	2	3	2
C304.3	2	2	2	2	2	-	-	-	2	-	2	-	2	3
C304.4	3	3	2	2	3	-	3	-	-	-	2	2	2	2
C304.5	3	3	3	2	2	-	-	-	3	-	2	-	2	3
C304.6	2	2	3	2	3	-	-	-	-	2	2	2	2	2
C305-EC6504/MICROPROCESSOR AND MICROCONTROLLER														
C305.1	3	3	2	2	-	-	-	-	-	-	-	2	2	2
C305.2	3	3	3	2	-	-	-	-	-	-	-	2	3	2
C305.3	3	3	3	2	-	-	-	-	-	-	-	2	2	3
C305.4	3	3	2	2	-	-	-	-	-	-	-	2	2	2
C305.5	3	3	3	2	-	-	-	-	-	-	-	2	2	3
C305.6	3	3	3	2	-	-	-	-	-	-	-	2	2	2
C306-EC6511/DIGITAL SIGNAL PROCESSING LABORATORY														
C306.1	3	3	3	-	2	2	-	2	2	-	-	2	2	2
C306.2	3	2	3	-	2	-	-	-	-	-	-	3	3	2
C306.3	3	2	2	-	2	-	-	-	-	2	-	2	2	3
C306.4	3	3	2	-	3	-	2	-	-	-	-	3	2	2
C306.5	3	3	3	2	2	-	-	-	-	-	2	2	2	3
C306.6	2	2	3	-	3	-	-	2	-	-	-	2	2	2
C307-EC6512/COMMUNICATION SYSTEM LABORATORY														
C307.1	3	2	3	-	-	-	-	-	3	2	2	2	2	2
C307.2	3	2	2	-	-	-	-	-	3	2	2	3	3	2
C307.3	3	3	2	-	-	-	-	-	3	2	2	3	2	3
C307.4	3	2	2	-	-	-	-	-	3	2	2	2	2	2
C307.5	3	3	2	-	-	-	-	-	3	2	2	3	2	3
C307.6	3	2	2	-	-	-	-	-	3	2	2	2	2	2

C308- EC6513/MICROPROCESSOR AND MICROCONTROLLER LABORATORY														
C308.1	3	3	3	2	2	-	-	-	-	-	3	-	2	2
C308.2	3	2	3	2	2	-	-	-	-	-	2	-	3	2
C308.3	3	2	2	2	2	-	-	-	-	-	2	-	2	3
C308.4	3	3	2	2	3	-	-	-	-	-	2	-	2	2
C308.5	3	3	3	2	2	-	-	-	-	-	2	-	2	3
C308.6	2	2	3	2	3	-	-	-	-	-	2	-	2	2
C309-MG 6851/PRINCIPLES OF MANAGEMENT														
C309.1	2	-	-	-	-	2	2	-	2	3	-	2	2	2
C309.2	2	-	-	-	-	2	2	-	2	3	-	2	3	2
C309.3	3	-	-	-	-	3	2	-	2	3	-	2	2	3
C309.4	3	-	-	-	-	3	2	-	2	3	-	2	2	2
C309.5	2	-	-	-	-	2	3	-	2	3	-	2	2	3
C309.6	2	-	-	-	-	2	3	-	2	3	-	2	2	2
C310-CS6303/COMPUTER ARCHITECTURE														
C310.1	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C310.2	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C310.3	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C310.4	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C310.5	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C310.6	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C311- CS6551/COMPUTER NETWORKS														
C311.1	3	2	2	2	-	-	-	-	-	2	2	2	3	3
C311.2	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C311.3	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C311.4	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C311.5	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C311.6	3	2	2	2	-	-	-	-	-	2	2	2	2	2

C312- EC6601/VLSI DESIGN														
C312.1	3	3	3	2	2	-	-	-	-	-	3	-	3	3
C312.2	3	2	3	2	2	-	-	-	-	-	2	-	2	3
C312.3	3	2	2	2	2	-	-	-	-	-	2	-	3	2
C312.4	3	3	2	2	3	-	-	-	-	-	2	-	2	2
C312.5	3	3	3	2	2	-	-	-	-	-	2	-	3	2
C312.6	2	2	3	2	3	-	-	-	-	-	2	-	2	2
C313- EC6602/ANTENNA AND WAVE PROPAGATION														
C313.1	3	3	3	2	2	2	-	2	2	2	3	-	3	3
C313.2	3	2	3	2	2	-	-	-	-	3	2	2	2	3
C313.3	3	2	2	2	2	-	-	-	-	2	2	-	3	2
C313.4	3	3	2	2	3	-	2	-	-	2	2	-	2	2
C313.5	3	3	3	2	2	-	-	-	-	3	2	-	3	2
C313.6	2	2	3	2	3	-	-	2	-	2	2	-	2	2
C314-EC6001/MEDICAL ELECTRONICS														
C314.1	3	2	2	2	-	-	-	-	-	2	2	2	3	3
C314.2	3	2	2	2	-	-	-	-	-	2	2	2	2	3
C314.3	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C314.4	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C314.5	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C314.6	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C315- EC6611/COMPUTER NETWORKS LABORATORY														
C315.1	3	3	3	2	-	-	-	2	-	-	3	2	3	3
C315.2	3	2	3	2	-	-	-	2	-	-	2	2	2	3
C315.3	3	2	2	2	-	-	-	2	-	-	2	2	3	2
C315.4	3	3	2	2	-	-	-	2	-	-	2	2	2	2
C315.5	3	3	3	2	-	-	-	2	-	-	2	2	3	2
C315.6	3	3	3	2	-	-	-	2	-	-	2	2	2	2

C316- EC6612/ VLSI DESIGN LABORATORY														
C316.1	3	3	2	2	2	-	-	-	-	-	-	3	3	3
C316.2	3	3	3	3	3	-	-	-	-	-	-	3	2	3
C316.3	3	2	3	2	3	-	-	-	-	-	-	2	3	2
C316.4	3	3	2	2	2	-	-	-	-	-	-	2	2	2
C316.5	3	3	2	2	3	-	-	-	-	-	-	3	3	2
C316.6	3	2	2	2	3	-	-	-	-	-	-	3	2	2
C317- GE6674/COMMUNICATION AND SOFTSKILLS LABORATORY														
C317.1	3	2	3	-	-	-	-	-	3	2	2	2	3	3
C317.2	3	2	2	-	-	-	-	-	3	2	2	3	2	3
C317.3	3	3	2	-	-	-	-	-	3	2	2	3	3	2
C317.4	3	2	2	-	-	-	-	-	3	2	2	2	2	2
C317.5	3	3	2	-	-	-	-	-	3	2	2	3	3	2
C317.6	3	2	2	-	-	-	-	-	3	2	2	2	2	2
C401-EC6701/ RFANDMICROWAVEENGINEERING														
C401.1	3	3	3	2	2	2	-	-	-	-	3	-	3	3
C401.2	3	2	3	2	2	-	3	-	2	-	2	-	2	3
C401.3	3	2	2	2	2	3	-	-	-	3	2	-	3	2
C401.4	3	3	2	2	3	-	2	-	-	-	2	-	2	2
C401.5	3	3	3	2	2	-	-	3	-	2	2	-	3	2
C401.6	2	2	3	2	3	-	-	-	-	-	2	-	2	2
C402-EC6702/OPTICAL COMMUNICATION AND NETWORKS														
C402.1	3	2	2	2	-	2	-	-	-	2	-	2	3	3
C402.2	3	3	2	2	-	2	-	-	-	2	-	2	2	3
C402.3	3	2	3	2	-	2	-	-	-	2	-	2	3	2
C402.4	3	2	2	2	-	2	-	-	-	2	-	2	2	2
C402.5	3	2	3	2	-	2	-	-	-	2	-	2	3	2
C402.6	3	2	2	2	-	2	-	-	-	2	-	2	2	2

C403- EC6703/EMBEDDED AND REAL TIME SYSTEM														
C403.1	2	2	2	3	-	-	-	-	-	2	2	3	3	3
C403.2	3	2	2	3	-	-	-	-	-	2	2	3	2	3
C403.3	2	2	2	3	-	-	-	-	-	2	2	3	3	2
C403.4	2	2	2	3	-	-	-	-	-	2	2	3	2	2
C403.5	3	2	2	3	-	-	-	-	-	2	2	3	3	2
C403.6	2	2	2	3	-	-	-	-	-	2	2	3	2	2
C404- IT6005/DIGITAL IMAGE PROCESSING														
C404.1	2	-	2	-	-	3	-	3	-	2	-	2	3	3
C404.2	2	-	2	-	-	3	-	3	-	2	-	2	2	3
C404.3	2	-	2	-	-	3	-	3	-	2	-	2	3	2
C404.4	2	-	2	-	-	3	-	3	-	2	-	2	2	2
C404.5	2	-	2	-	-	3	-	3	-	2	-	2	3	2
C404.6	2	-	2	-	-	3	-	3	-	2	-	2	2	2
C405-EC6009/ADVANCED COMPUTER ARCHITECTURE														
C405.1	3	3	3	2	3	3	2	2	2	2	2	2	3	3
C405.2	3	2	3	2	3	2	2		2		2	2	2	3
C405.3	2	3	2	2	3	2	2	2	2	2	-	-	3	2
C405.4	2	2	2	2	2	2	-	-	-	-	-	2	2	2
C405.5	3	3	2	2	2	2	2	-	2	-	2	2	3	2
C405.6	2	2	2	2	2	2	2	2	2	2	-	2	2	2
C406- EC6016/OPTOELECTRONIC DEVICES														
C406.1	3	3	3	2	2	2	-	2	2	2	3	-	3	3
C406.2	3	2	3	2	2	-	-	-	-	3	2	2	2	3
C406.3	3	2	2	2	2	-	-	-	-	2	2	-	3	2
C406.4	3	3	2	2	3	-	2	-	-	2	2	-	2	2
C406.5	3	3	3	2	2	-	-	-	-	3	2	-	3	2
C407- EC6711/EMBEDDED LABORATORY														
C407.1	3	3	3	2	2	-	-	-	-	-	3	3	3	3
C407.2	3	2	3	2	2	-	-	-	-	-	2	3	2	3

C407.3	3	2	2	2	2	-	-	-	-	-	2	2	3	2
C407.4	3	3	2	2	3	-	-	-	-	-	2	2	2	2
C407.5	3	3	3	2	2	-	-	-	-	-	2	3	3	2
C407.6	2	2	3	2	3	-	-	-	-	-	2	3	2	2
C408-EC6712/OPTICAL AND MICROWAVE LABORATORY														
C408.1	2	-	-	-	-	2	2	-	2	3	-	2	3	3
C408.2	2	-	-	-	-	2	2	-	2	3	-	2	2	3
C408.3	3	-	-	-	-	3	2	-	2	3	-	2	3	2
C408.4	3	-	-	-	-	3	2	-	2	3	-	2	2	2
C408.5	2	-	-	-	-	2	3	-	2	3	-	2	3	2
C408.6	2	-	-	-	-	2	3	-	2	3	-	2	2	2
C409-EC6801/WIRELESS COMMUNICATION														
C409.1	3	3	2	-	2	2	2	2	-	2	2	2	3	3
C409.2	3	2	3	-	2	2	2	2	-	2	2	2	2	3
C409.3	2	2	2	-	2	2	2	2	-	2	2	2	3	2
C409.4	2	2	2	2	2	2	2	2	-	2	2	2	2	2
C409.5	2	2	2	2	2	2	2	2	-	2	2	2	3	2
C409.6	2	2	2	2	2	2	2	3	-	2	2	2	2	2
C410-EC6802/WIRELESS NETWORKS														
C410.1	-	-	2	2	-	3	3	3	3	3	2	2	3	3
C410.2	-	-	2	2	-	2	3	3	3	3	2	2	2	3
C410.3	-	-	3	2	-	3	3	3	3	2	2	2	3	2
C410.4	-	-	2	2	-	2	3	3	3	-	2	2	2	2
C410.5	-	-	3	2	-	3	3	3	3	-	2	2	3	2
C410.6	-	-	2	2	-	2	3	3	3	2	2	2	2	2
C411-CS6303/ADHOC AND WIRELESS SENSOR NETWORKS														
C411.1	2	2	-	-	-	2	2	-	-	-	-	2	3	3
C411.2	2	3	-	-	-	2	2	2	-	-	-	2	2	3
C411.3	2	3	-	-	-	2	2	2	-	-	2	2	3	2
C411.4	2	3	2	-	-	2	2	2	-	-	2	2	2	2

C411.5	2	3	2	-	-	2	2	3	-	-	2	2	3	2
C411.6	2	3	-	-	-	2	2	2	-	-	2	2	2	2
C412-GE/6757TOTAL QUALITY MANAGEMENT														
C412.1	3	3	3	2	3	3	2	-	2	2	2	2	3	3
C412.2	3	2	3	2	3	2	2	-	2	-	2	2	2	3
C412.3	2	3	2	2	3	2	2	2	2	2	-	2	3	2
C412.4	2	2	2	2	2	2	-	-	-	-	-	2	2	2
C412.5	3	3	2	2	2	2	2	-	2	-	-	2	3	2
C412.6	2	2	2	2	2	2	2	2	2	2	-	2	2	2
C413-EE6811/PROJECT WORK														
C413.1	3	3	3	2	3	3	2	-	2	2	2	2	3	3
C413.2	3	2	3	2	3	2	2	-	2	-	2	2	2	3
C413.3	2	3	2	2	3	2	2	2	2	2	-	2	3	2
C413.4	2	2	2	2	2	2	-	-	-	-	-	2	2	2
C413.5	3	3	2	2	2	2	2	-	2	-	-	2	3	2
C413.6	2	2	2	2	2	2	2	2	2	2	-	2	2	2

C206	3	2	2	2	-	2	2	-	2	-	2	2	3	3
C207	3	2	2	3	2	-	-	-	-	-	2	2	3	3
C208	3	2	-	-	-	2	-	-	-	-	2	2	3	3
C209	3	3	3	2	-	-	-	-	-	-	-	2	2	2
C210	3	3	3	2	-	-	-	-	-	-	-	2	3	3
C211	2	2	2	-	-	-	-	-	-	-	-	2	3	3
C212	3	2	2	2	2	2	-	3	2	2	2	3	3	3
C213	3	2	2	-	2	-	-	-	-	-	-	2	3	3
C214	3	3	2	2	3	-	-	-	-	-	-	3	3	3
C215	2	2	2	-	-	-	-	-	-	-	-	2	3	3
C216	3	3	3	2	2	2	2	2	2	2	2	2	3	3
C217	3	2	2	2	-	2	-	-	-	2	-	2	2	2
C301	3	3	2	2	3	-	-	-	-	-	-	3	2	2
C302	3	2	3	2	2	2	2	2	2	2	2	2	2	2
C303	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C304	2	3	3	2	2	3	3	2	3	3	2	2	2	2
C305	3	3	3	2	-	-	-	-	-	-	-	2	2	2
C306	3	3	3	2	2	2	2	2	2	2	2	2	2	2
C307	3	2	2	-	-	-	-	-	3	2	2	3	2	2
C308	3	3	3	2	2	-	-	-	-	-	2	-	2	2
C309	2	-	-	-	-	2	2	-	2	3	-	2	2	2
C310	3	2	2	2	-	-	-	-	-	2	2	2	2	2
C311	3	2	2	2	-	-	-	-	-	2	2	2	3	2
C312	3	3	3	2	2	-	-	-	-	-	2	-	3	2

