SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE
(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)
Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,
K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

List of COs for UG courses under Anna University Regulation 2017

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING		
Semester : I Course Code & Name : C101 & Communicative English Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C101.1	Comprehend the passages through asking and answering questions.	K2
C101.2	Participate effectively in informal conversation, general reading and free writing.	K2
C101.3	Develop vocabulary and Grammatical skills in language	K2
C101.4	Read different genres of texts, analyze them critically and evaluate the ideas as well as the method of presentation	K2
C101.5	Write different types of writing such as narration, description, exposition and Argument effectively.	K2
Semester : I Course Code & Name : C102 & Engineering Mathematics – I Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C102.1	Make use of both the limit definition and rules of differentiation to differentiate functions.	K2
C102.2	Apply differentiation to solve maxima and minima problems.	K3
C102.3	Build the integrals both by using Riemann sums and the Fundamental Theorems of Calculus.	K3
C102.4	Apply integration to compute multiple integrals, area, volume integrals, in polar coordinates, in addition to change of order and change variables. Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.	K3
C102.5	Understand and apply various techniques in solving differential equations.	K3
Semester : I Course Code & Name : C103 & Engineering Physics Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C103.1	Explain the basics of properties of matter and its applications	K2
C103.2	Acquire knowledge on the concepts of waves and optical devices and their applications in fiber optics,	K2
C103.3	Materials and their applications in expansion joints and heat exchangers	K3
C103.4	Understand knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes.	K3
C103.5	Describe the basics of crystals, their structures and different crystal growth techniques	K3

Semester : I Course Code & Name : C104 & Engineering Chemistry Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C104.1	Understand the requirements of boiler feed water, related problems and interpretation of water treatment techniques	K2
C104.2	Study the adsorption of molecules on catalysts and kinetics of surface reactions	K2
C104.3	Understand the basic concepts of phase rule and its applications to various systems and appreciate the purpose and significance of alloys.	K2
C104.4	Gain knowledge on types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels.	K2
C104.5	Understand the principles and generation of energy using different energystorage devices.	K2
Semester : I Course Code & Name : C105 & Problem Solving and Python Programming Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C105.1	Understand the logic and develop algorithmic solutions to simple computational.	K2
C105.2	Describe the programs using simple data types, statements and expressions..	K2
C105.3	Explain control flow and functions concept in Python for solving problems	K2
C105.4	Understand how to represent compound data using lists, tuples and dictionaries..	K2
C105.5	Explain the file concepts, exception handling, modules and packages in Python programming.	K2
Semester : I Course Code & Name : C106 & Engineering Graphics Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C106.1	Familiarize with fundamentals and standards of Engineering graphics	K2
C106.2	Perform freehand sketching of basic geometrical constructions and multiple viewsof objects.	K2
C106.3	Understand the concept of orthographic projections of lines and plane surfaces.	K2
C106.4	Draw projections and solids and development of surfaces.	K2
C106.5	Explain the concept of project isometric and perspective sections of simple solids.	K2
Semester : I Course Code & Name : C107& Physics and Chemistry Laboratory Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C107.1	Understand the principals of options and sound to evaluate engineering properties of material.	K2
C107.2	Determination the young's modulus, thermal conductivity & specific resistance of the materials.	K2
C107.3	Acquire practical skills in the determination of water quality parameters through volumetric and instrumental analysis.	K2
C107.4	Gain practical knowledge in the determination of composition of metal through volumetric and instrumental analysis.	K2
C107.5	Acquire practical skills in the determination of qualitative analysis of acids through volumetric and instrumental analysis.	K2

Semester : I Course Code & Name : C108& Problem Solving and Python Programming Laboratory Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C108.1	Write, test, and debug simple Python programs.	K2
C108.2	Solve problems using conditional and looping statements.	K2
C108.3	Develop Python programs by defining functions and calling them.	K3
C108.4	Implement python program for representing compound data,using lists, tuplesand dictionaries.	K3
C108.5	Develop Python programs for reading and writing from/to files.	K3
Semester : II Course Code & Name : C109 & Technical English Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C109.1	Listen, speak, read and write short technical articles, journals and newspapers.	K2
C109.2	Understand longer technical texts to interpret charts and graphs.	K2
C109.3	Understand longer technical texts to interpret charts and graphs.	K2
C109.4	Write job application letter, resume preparation with email etiquette.	K2
C109.5	Participate in Group Discussion,Writing reports and minutes of meeting	K2
Semester : II Course Code & Name : C110 & Engineering Mathematics – II Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C110.1	Understand and apply the Eigen values and Eigen vectors, diagonalization of amatrix, symmetric matrices, positive definite matrices and similar matrices.	K2
C110.2	Understand the problem using Gradient, divergence and Curl of a vector point function and related identities. Evaluation of line, surface and volumeintegrals using Gauss, Stokes and Green's theorems and their verification.	K2
C110.3	Explain the Analytic functions, conformal mapping and complexintegration.	K2
C110.4	Understand the ability to integrate knowledge and ideas of complex integration.	K2
C110.5	Understand and apply the Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.	K2
Semester : II Course Code & Name : C111 & Physics For Electronics Engineering Year of Study : 2017 – 2018, 2018 – 2019,2019-2020, 2020-2021		Level in Bloom's Taxonomy
Cos No.	Course Outcome	
C111.1	Gain knowledge on classical and quantum electron theories and energy band structures.	K2
C111.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices.	K2

C111.3	Get the knowledge on magnetic properties and Establish knowledge on dielectric properties of materials	K2
C111.4	Explain the necessary understanding on The functioning of optical materials for optoelectronics	K2
C111.5	Comprehend the basics of quantum structures and their applications in spintronics and carbon electronics.	K2

Semester	:	II	Level in Bloom's Taxonomy
Course Code & Name	:	C112 & Basic Electrical and Instrumentation Engineering	
Year of Study	:	2017 – 2018, 2018 – 2019,2019-2020, 2020-2021	
Cos No.	Course Outcome		
C112.1	Explain the concept of three phase power circuits And measurement.		K2
C112.2	Comprehend the concepts in electrical generators, Motors and transformers		K2
C112.3	Explain the principles of DC electrical machines and the operation of AC electrical machines.		K2
C112.4	Demonstrate the characteristics of the measuring Instruments and its errors		K2
C112.5	Explain the working of different types of transducers, storage and display devices		K2

Semester	:	II	Level in Bloom's Taxonomy
Course Code & Name	:	C113 & Circuit Analysis	
Year of Study	:	2017 – 2018, 2018 – 2019,2019-2020, 2020-2021	
Cos No.	Course Outcome		
C113.1	Explain the basic circuit elements, fundamental laws applied for circuits.		K2
C113.2	Understand the concept of complex circuits using Mesh and Nodal Method		K2
C113.3	Deduce the complicated circuits into simple circuits using Theorems		K2
C113.4	Explain the concept of resonant theory and coupled circuits		K2
C113.5	Explain the concept of the RLC Transient circuits with DC and AC inputs		K2

Semester	:	II	Level in Bloom's Taxonomy
Course Code & Name	:	C114 & Electronic Devices	
Year of Study	:	2017 – 2018, 2018 – 2019,2019-2020, 2020-2021	
Cos No.	Course Outcome		
C114.1	Describe the principle and characteristics of Semiconductor diode		K2
C114.2	Understand the concept of various transistor configurations		K2
C114.3	Illustrate the large signal modeling and small signal modeling of a transistor		K2
C114.4	Explain the principle of operation and Characteristics of special semiconductor diodes		K2
C114.5	Understand the operation of various semiconductors, Photo devices and power electronic devices		K3

Semester	:	II	Level in Bloom's Taxonomy
Course Code & Name	:	C115 & Circuits and Devices Laboratory	
Year of Study	:	2017 – 2018, 2018 – 2019,2019-2020, 2020-2021	
Cos No.	Course Outcome		
C115.1	Understand the characteristics of basic electronic devices.		K2
C115.2	Explain the concept of RL and RC circuits.		K2
C115.3	Understand the concept of Verify KVL and KCL circuits,		K2

C115.4	Explain the concept of thevinin Norton theorems and the Super Position Theorems	K2
C115.5	Understand the concept of response of RLC circuit with different inputs.	K2

Semester	:	II	Level in Bloom's Taxonomy
Course Code & Name	:	C116 & Engineering Practices Laboratory	
Year of Study	:	2017 – 2018, 2018 – 2019,2019-2020, 2020-2021	
Cos No.	Course Outcome		
C116.1	Demonstrate the fabrication of carpentry components and pipe connections including plumbing works.		K2
C116.2	Understand how to make use of welding equipments to join the structures and models using sheet metal works		K2
C116.3	Illustrate on centrifugal pump,Airconditioner, Operations of smithy,foundary and fittings		K2
C116.4	Explain the basic home electrical works and applications		K2
C116.5	Explain the basic electronic components, gates and soldering practices.		K2

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C201 & Linear Algebra and Partial Differential Equation	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	
Cos No.	Course Outcome		
C201.1	Get basic knowledge and idea about any entity involving both magnitude, direction and to solve linear algebra problems involving subspaces, linear dependence, span, basis or dimension.		K2
C201.2	Write proofs of basic linear algebra results and use the variety of methods to solve differential equations.		K3
C201.3	Describe the linear structure existence and uniqueness of solutions to differential equations and in modern treatments of geometry an analysis		K4
C201.4	Understand the procedure to solve partial differential equations.		K2
C201.5	Solve engineering problems using Fourier series		K3

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C202 & Fundamentals of Data Structures In C	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	
Cos No.	Course Outcome		
C202.1	Understand the basic features of C Programming and their applications.		K2
C202.2	Write code for simple problems using basic constructs of C		K2
C202.3	Write programs for sorting and searching using hashing concepts.		K3
C202.4	Demonstrate dynamic memory management, structures and unions, Storage classes, Pre-processor Directives, Recursive functions		K3
C202.5	Implement the data structure operations for stack, queue, tree and graphs using C		K3

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C203 & Digital Electronics	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	
Cos No.	Course Outcome		
C203.1	Know digital electronics in the present contemporary world.		K2
C203.2	Design various combinational digital circuits using logic gates.		K3
C203.3	Do the analysis and design procedures for synchronous and asynchronous sequential circuits amplifiers.		K3
C203.4	Understand the semiconductor memories and related technology.		K3

C203.5	Describe electronics circuits involved in the design of logic gates.	K3

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C204 & Signals and Systems	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C204.1	Determine the characteristics of signals and systems	K3
C204.2	Apply various transforms for continuous time and discrete time signals	K3
C204.3	Determine the response of an LTI System for both continuous time and discrete time input signals.	K3
C204.4	Apply laplace transform and fourier transform to examine continuous time LTI systems.	K3
C204.5	Apply DTFT and Z transforms to examine discrete time LTI systems.	K3

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C205 & Electronic Circuits I	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C205.1	Design various biasing circuits for discrete BJTs and FETs	K3
C205.2	Develop small-signal equivalent circuit to analyze the characteristics of Bf T amplifiers	K3
C205.3	Develop small-signal equivalent circuit to analyze the performance of FET	K3
C205.4	Compute the frequency response of BJT and FET amplifiers using expanded h-n model	K3
C205.5	Describe the different types of rectifiers, voltage power supply circuits, electronic testing circuits performance characteristics	K2

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C206 & Control Systems Engineering	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C206.1	Identify the various control system components and their representations.	K2
C206.2	Analyze the various time domain parameters	K4
C206.3	Analysis the various frequency response plots and its system	K4
C206.4	Apply the concepts of various system stability criterions	K4
C206.5	Design various transfer functions of digital control system using state variable models.	K6

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C207 & Analog and Digital Circuits Laboratory	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C207.1	Design and Test rectifiers, filters and regulated power supplies	K3
C207.2	Design and Test BJT/JFET amplifiers	K3
C207.3	Differentiate cascade and cascade amplifiers	K2
C207.4	Analyze the limitation in bandwidth of single stage and multi stage amplifier,	K4
C207.5	Simulate and analyze amplifier circuits using PSpice	K4

Semester	:	III	Level in Bloom's Taxonomy
Course Code & Name	:	C208 & Fundamentals of Data Structures in C Laboratory	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C208.1	Write basic and advanced programs in C	K2
C208.2	Implement functions and recursive functions in C	K2
C208.3	Implement data structures using C	K4
C208.4	Choose appropriate sorting algorithm for an application	K4
C208.5	Implement it in a modularized way	K4

			Level in Bloom's Taxonomy
Semester	:	III	
Course Code & Name	:	C209 & Interpersonal Skills/Listening & Speaking	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C209.1	Listen and respond appropriately	K1
C209.2	Participate in group discussions	K3
C209.3	Make effective presentations	K3
C209.4	Participate confidently and appropriately in conversations	K3
C209.5	Participate formal and informal conversion	K3

			Level in Bloom's Taxonomy
Semester	:	IV	
Course Code & Name	:	C210 & Probability and Random Processes	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C210.1	Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon	K2
C210.2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications	K2
C210.3	Apply the concept random processes in engineering disciplines.	K3
C210.4	Understand and apply the concept of correlation and spectral densities.	K2
C210.5	The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable.	K4

			Level in Bloom's Taxonomy
Semester	:	IV	
Course Code & Name	:	C211 & Electromagnetic Fields	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C211.1	Display an understanding of fundamental electromagnetic laws and concepts	K1
C211.2	Write Maxwell's equations in integral, differential and phasor forms and explain their physical meaning.	K2
C211.3	Explain electromagnetic wave propagation in lossy and in lossless media.	K2
C211.4	Solve simple problems requiring estimation of electric and magnetic field quantities based on these concepts and laws'	K3
C211.5	Analyze the propagation of Electromagnetic waves in lossy and lossless medium.	K4

			Level in Bloom's Taxonomy
Semester	:	IV	
Course Code & Name	:	C212 & Electronic Circuits II	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C212.1	Analyze different types of amplifier, oscillator and multivibrator circuits.	K4
C212.2	Design BJT amplifier and oscillator circuits.	K4

C212.3	Analyze transistorized amplifier and oscillator circuits.	K4
C212.4	Design and analyze feedback amplifiers.	K3
C212.5	Design LC and RC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, power amplifier and DC converters.	K3

Semester	:	IV	Level in Bloom's Taxonomy
Course Code & Name	:	C213& Communication Theory	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C213.1	Design AM communication systems.	K3
C213.2	Design Angle modulated communication systems.	K3
C213.3	Apply the concepts of Random Process to the design of Communication systems.	K3
C213.4	Analyze the noise performance of AM and FM systems.	K4
C213.5	Gain knowledge in sampling and quantization.	K2

Semester	:	IV	Level in Bloom's Taxonomy
Course Code & Name	:	C214 & Linear Integrated circuits	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C214.1	Design linear and nonlinear applications of OP - AMPS	K3
C214.2	Design applications using analog multiplier and PLL	K3
C214.3	Design ADC and DAC using OP - AMPS	K3
C214.4	Generate waveforms using OP - AMP Circuits	K3
C214.5	Analyze special function ICs	K4

Semester	:	IV	Level in Bloom's Taxonomy
Course Code & Name	:	C215 & Environmental Science and Engineering	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C215.1	Explain the concept, structure and function of different ecosystems and the significance of biodiversity	K2
C215.2	Illustrate the causes, effects and control measures for air, water, soil, marine and noise Pollutions	K2
C215.3	Demonstrate the need of renewable energy resources and role of individual in conservation of natural resources	K3
C215.4	Discuss the various rainwater harvesting methods and environmental protection acts to the society	K2
C215.5	Estimate population growth patterns around the globe and list the importance of role of IT in environment and human health	K2

Semester	:	IV	Level in Bloom's Taxonomy
Course Code & Name	:	C216 & Circuits Design and Simulation Laboratory	
Year of Study	:	2018 – 2019,2019-2020, 2020-2021,2021-2022	

Cos No.	Course Outcome	
C216.1	Analyze various types of feedback amplifiers	K2
C216.2	Design oscillators, tuned amplifiers, wave-shaping circuits and multivibrators	K4

C216.3	Design and simulate feedback amplifiers, oscillators, tuned amplifiers	K4
C216.4	Construct first order filter circuits, Clipping and clamping circuits	K4
C216.5	Design and simulate wave-shaping circuits and multivibrators using SPICE Tool	K4

Semester		:	IV	Level in Bloom's Taxonomy
Course Code & Name		:	C217 & Linear Integrated circuits Laboratory	
Year of Study		:	2018 – 2019,2019-2020, 2020-2021,2021-2022	
Cos No.	Course Outcome			
C217.1	Design amplifiers, oscillators, D-A converters using operational amplifiers.			K4
C217.2	Design filters using op-amp and performs an experiment on frequency response			K4
C217.3	Analyze the working of PLL and describe its application as a frequency multiplier.			K4
C217.4	Design DC power supply using ICs'			K4
C217.5	Analyze the performance of filters, multivibrators, A/ D converter and analog multiplier using SPICE			K3

Semester		:	V	Level in Bloom's Taxonomy
Course Code & Name		:	C301 & Digital Communication	
Year of Study		:	2019-20,2020-21,2021-22,2022-23	
C301.1	Design PCM systems			K2
C301.2	Design and implement base band transmission schemes			K2
C301.3	Design and implement band pass signaling schemes			K2
C301.4	Analyze the spectral characteristics of band pass signaling schemes and their noise performance			K3
C301.5	Design error control coding schemes			K2

Semester		:	V	Level in Bloom's Taxonomy
Course Code & Name		:	C302 & Discrete Time Signal Processing	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C302.1	Apply DFT for the Analysis of Digital Signals & Systems			K3
C302.2	Design IIR and FIR Filters			K2
C302.3	Characterize the effects of finite precision representation on digital filters			K4
C302.4	Design Multirate Filters			K2
C302.5	Apply Adaptive Filters Appropriately in Communication Systems			K4

Semester		:	V	Level in Bloom's Taxonomy
Course Code & Name		:	C303 & Computer Architecture and Organization	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C303.1	Describe Data Representation, Instruction Formats and the Operation of a Digital Computer.			K3
C303.2	Illustrate the Fixed Point and Floating-Point Arithmetic for ALU Operation			K2
C303.3	Discuss about Implementation Schemes of Control Unit and Pipeline Performance			K3
C303.4	Explain the Concept of Various Memories, Interfacing and Organization of Multiple Processors			K3
C303.5	Discuss Parallel Processing Technique and Unconventional Architectures			K2

Semester		:	V	Level in Bloom's

Course Code & Name	:	C304 & Communication Networks	Taxonomy
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C304.1	Identify the Components Required to Build Different Types of Networks		K2
C304.2	Choose the Required Functionality at each layer for Given Application		K1
C304.3	Identify Solution for each Functionality at Each Layer		K2
C304.4	Trace the Flow of Information From one Node to another Node in the Network		K3
C304.5	Explain with Different Application Layer Protocols		K2

Semester	:	V	Level in Bloom's Taxonomy
Course Code & Name	:	C305 & Air Pollution and Control Engineering	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C305.1	An understanding of the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management		K2
C305.2	Ability to identify, formulate and solve air and noise pollution problems		K2
C305.3	Ability to design stacks and particulate air pollution control devices to meet applicable standards		K3
C305.4	Ability to select control equipments.		K2
C305.5	Ability to ensure quality, control and preventive measures.		K2

Semester	:	V	Level in Bloom's Taxonomy
Course Code & Name	:	C306 & Total Quality Management	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C306.1	Explain Various Dimensions of Product and Service Quality		K2
C306.2	Discuss the TQM Principles for Quality Improvement in Organization		K2
C306.3	Describe the Various TQM Tools and Techniques Used in Manufacturing and Service Sectors		K2
C306.4	Design and Develop a new Product as per Customer Requirements		K3
C306.5	Explain Various ISO Standards and Quality Systems Practiced in Various Sector		K2

Semester	:	V	Level in Bloom's Taxonomy
Course Code & Name	:	C307 & Communication Systems Laboratory	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C307.1	Simulate & validate the various functional modules of a communication system		K5
C307.2	Demonstrate their knowledge in base band signaling schemes through implementation of digital modulation schemes		K4
C307.3	Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system		K3
C307.4	Design Various Channel Coding Schemes & Demonstrate their Capabilities towards the Improvement of the Noise Performance of Communication System		K3
C307.5	Design a DSP system for various applications of DSP		K3

Semester	:	V	Level in Bloom's Taxonomy
Course Code & Name	:	C308 & Digital Signal Processing Laboratory	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C308.1	Carryout basic signal processing operations		K3
C308.2	Demonstrate their abilities towards MATLAB based implementation of various DSP systems		K4
C308.3	Analyze the architecture of a DSP Processor		K4
C308.4	Design and Implement the FIR and IIR Filters in DSP Processor for performing filtering operation over real-time signals.		K3
C308.5	Design a DSP system for various applications of DSP		K3
Semester	:	V	Level in Bloom's Taxonomy
Course Code & Name	:	C309 & Communication Networks Laboratory	

Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C309.1	Communicate between two Desktop Computers			K2
C309.2	Implement the Different Protocols			K2
C309.3	Program using Sockets.			K3
C309.4	Implement and Compare the Various Routing Algorithms			K2
C309.5	Use the Simulation Tool.			K5
Semester		:	VI	Level in Bloom's Taxonomy
Course Code & Name		:	C310 & Wireless Communication	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C310.1	Characterize a Wireless Channel and Evolve the System Design Specifications			K2
C310.2	Model a Cellular System Based on Resource Availability and Traffic Demands			K2
C310.3	Identify Suitable Signaling and Multipath Mitigation Techniques for the Wireless Channel and System Under Consideration			K2
C310.4	Construct Multipath Mitigation Techniques and Analyze their Performance			K3
C310.5	Design and Implement Systems with Transmit/Receive Diversity and MIMO Systems and Analyze their Performance			K4
Semester		:	VI	Level in Bloom's Taxonomy
Course Code & Name		:	C311 & Transmission Lines And RF Systems	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C311.1	Explain the Characteristics of Transmission Lines and its Losses			K2
C311.2	Contrast the Standing Wave Ratio and Input Impedance in High Frequency Transmission Lines			K2
C311.3	Apply Impedance Matching by Stubs using Smith Charts .			K3
C311.4	Analyze the Characteristics of TE and TM Waves			K4
C311.5	Design a RF Transceiver System for Wireless Communication			K4
Semester		:	VI	Level in Bloom's Taxonomy
Course Code & Name		:	C312 & Microprocessors And Microcontrollers	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C312.1	Illustrate the Detailed Schematics about Microprocessor Architecture			K2
C312.2	Apply the Program in Microprocessor using Assembly Language Program.			K3
C312.3	Develop the Interfacing Circuit in Real System.			K3
C312.4	Analyze the Hardware Architecture of 8051 Microcontroller			K4
C312.5	Construct any System Operation Based on the Knowledge using System Design using Microcontroller.			K4
Semester		:	VI	Level in Bloom's Taxonomy
Course Code & Name		:	C313 & & Principles of Management	
Year of Study		:	2019-20,2020-21,2021-22, 2022-23	
C313.1	Understand the concepts related to business and demonstrate the roles, skills and function of Management			K2
C313.2	Understanding the Managerial Function of Planning and have Same Basic Knowledge on Management.			K2
C313.3	Analyze Effectively and Solve Organizational Problems and Develop Optimal Managerial Decisions.			K4
C313.4	Categorize the Staffing Activity			K4

C313.5	Analyze the Complexities Associated with Management of Human Resources in the Organizations and Integrate the Learning in Handling these Complexities.	K4

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C314 & Wireless Networks	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C314.1	Illustrate the Latest 3g/4g Networks and its Architecture		K2
C314.2	Design and Develop Wireless Network Environment for any Application using Latest Wireless Protocols and Standards		K3
C314.3	Ability to Select the Suitable Network Depending on the Availability and Requirement		K3
C314.4	Analyze internetworking of WLAN and WWAN		K4
C314.5	Implement the Applications for Smart Phones and Mobile Devices with Latest Network Strategies.		K4

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C315 & & VLSI Design	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C315.1	Explain the Basic Characteristics of MOSFET and Different CMOS process technologies		K2
C315.2	Identify the various Combinational Logic Circuits.		K2
C315.3	Model the Sequential Digital System using Hardware Description Language		K3
C315.4	Analyze Arithmetic Building Blocks.		K4
C315.5	Apply the Techniques of Chip Design using FPGA Programmable Devices.		K4

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C316 & Microprocessors And Microcontrollers Laboratory	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C316.1	Demonstrate the ALP Programmes for Fixed and Floating Point and Arithmetic Operations		K2
C316.2	Show the concepts of Interface Different I/Os with Processor		K2
C316.3	Analyze & Generate waveforms using Microprocessors.		K4
C316.4	Analyze the concepts of interfacing by connecting external devices with 8051 microcontrollers		K4
C316.5	Analyze the Difference between Simulator and Emulator.		K4

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C317 & VLSI Design Laboratory	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C317.1	Understand the physical design process of Advanced Digital Integrated Circuits		K2
C317.2	Describe procedure for designing of Synthesize, Place and Route the Digital Circuits.		K2
C317.3	Demonstrate the ability to use Logic Modules in to FPGA		K2
C317.4	Design and Simulate the Digital Circuits using EDA Platforms		K4
C317.5	Design and Simulate the CMOS Transistor Differential Amplifiers using EDA Tools		K4

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C318 & Technical Seminar	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C318.1	understand & Selecting a Subject, Narrowing the Subject into a topic And Stating an Objective		K2

C318.2	Demonstrate Collecting the Relevant bibliography and Preparing a working outline.	K2
C318.3	Construct the Studying the Papers and understanding the authors Contributions and Critically analyzing each paper	K3
C318.4	Make use of Linking the papers and Preparing a draft of the paper; Preparing Conclusions based on the Reading of all the Papers	K3
C318.5	To Develop the final paper and Giving final Presentation	K3

Semester	:	VI	Level in Bloom's Taxonomy
Course Code & Name	:	C319 & Professional Communication	
Year of Study	:	2019-20,2020-21,2021-22, 2022-23	
C319.1	Make Effective Presentations		K1
C319.2	Orient the Students towards Grooming as a Professional		K1
C319.3	Participate Confidently in Group Discussions.		K2
C319.4	Attend job interviews and be Successful in them.		K2
C319.5	Develop Adequate Soft Skills Required for the Workplace		K2

Semester	:	VII	Level in Bloom's Taxonomy
Course Code & Name	:	C401& Optical Communication	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C401.1	Realize basic elements in optical fibers, different modes and configurations.		K2
C401.2	Analyze the transmission characteristics associated with dispersion and polarization techniques.		K4
C401.3	Apply the knowledge to identify appropriate physical and MAC layer protocols		K4
C401.4	Construct fiber optic receiver systems, measurements and coupling techniques.		K3
C401.5	Design optical communication systems and its networks		K4

Semester	:	VII	Level in Bloom's Taxonomy
Course Code & Name	:	C402 &Energy Technology	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C402.1	Understand the basic of energy sources		K2
C402.2	Students will excel as professionals in the various fields of energy engineering		K2
C402.3	Compare different renewable energy technologies and choose the most appropriate based on local conditions.		K2
C402.4	Gain an understanding of biomass resources, estimation methods and various conversion technologies		K2
C402.5	Analyze the foundational concepts and significance of energy conservation.		K4

Semester	:	VII	Level in Bloom's Taxonomy
Course Code & Name	:	C403 & Antennas and Microwave Engineering	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C403.1	Apply the basic principles of antennas.		K3
C403.2	Analyze the transmission characteristics associated with dispersion and polarization techniques.		K3
C403.3	Analyze various antenna arrays and smart antennas		K3
C403.4	Apply the principle of Microwave Active and Passive device		K3
C403.5	Design of microwave amplifier, filter and mixers		K6

Semester	:	VII	Level in Bloom's Taxonomy
Course Code & Name	:	C404 & Embedded and Real Time Systems	

Year of Study		:	2020-21,2021-22,2022-23,2023-2024	
C404.1	Understand the embedded system design process and design methodologies			K2
C404.2	Analyze the ARM architecture and Instruction set to understand ARM based MCU with peripherals.			K4
C404.3	Describe the programming of ARM processor.			K4
C404.4	Explain the basic concepts of real time operating system design			K4
C404.5	Model real-time applications using embedded-system concepts			K3
Semester		:	VII	Level in Bloom's Taxonomy
Course Code & Name		:	C405& AD HOC Wireless Sensor Networks	
Year of Study		:	2020-21,2021-22,2022-23,2023-2024	
C405.1	Know the basics of Ad hoc networks and Wireless Sensor Networks.			K2
C405.2	Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement.			K2
C405.3	Apply the knowledge to identify appropriate physical and MAC layer protocols.			K3
C405.4	Understand the transport layer and security issues possible in Ad hoc and sensor networks.			K2
C405.5	Be familiar with the OS used in Wireless Sensor Networks and build basic modules.			K3
Semester		:	VII	Level in Bloom's Taxonomy
Course Code & Name		:	C406 &Disaster Management	
Year of Study		:	2020-21,2021-22,2022-23,2023-2024	
C406.1	Differentiate the types of disasters.			K2
C406.2	Differentiate the causes of disasters and their impact on environment and society.			K3
C406.3	Assess vulnerability and various methods of risk reduction measures as well as mitigation.			K3
C406.4	Draw the hazard and vulnerability profile of India.			K3
C406.5	Understand about disaster damage assessment and management.			K2
Semester		:	VII	Level in Bloom's Taxonomy
Course Code & Name		:	C407 & Embedded Laboratory	
Year of Study		:	2020-21,2021-22,2022-23,2023-2024	
C407.1	Write programs in ARM for a specific Application.			K3
C407.2	Interface memory, A/D and D/A convertors with ARM system.			K4
C407.3	Analyze the performance of interrupt.			K4
C407.4	Write program for interfacing keyboard, display, motor and sensor.			K4
C407.5	Formulate a mini project using embedded system.			K5
Semester		:	VII	Level in Bloom's Taxonomy
Course Code & Name		:	C408 & Advanced Communication Laboratory	
Year of Study		:	2020-21,2021-22,2022-23,2023-2024	
C408.1	Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber			K4
C408.2	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER.			K4
C408.3	Estimate the Wireless Channel Characteristics.			K5

C408.4	Analyze the performance of Wireless Communication System.	K4
C408.5	Understand the intricacies in Microwave System design.	K5

Semester	:	VIII	Level in Bloom's Taxonomy
Course Code & Name	:	C409 & Professional Ethics in Engineering	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C409.1	Understand the basic knowledge of human values, morals, ethics, industrial standards, code of ethics and role of professional ethics in the engineering field.		K2
C409.2	Formulate the various ethical theories developed and apply them for a professional and societal advancement.		K2
C409.3	Understand the basic knowledge of human values, morals, ethics, industrial standards, code of ethics and role of professional ethics in the engineering field.		K3
C409.4	Formulate the awareness of professional rights and responsibilities of an engineer, and to have an understanding for safety and risk benefit analysis.		K4
C409.5	Implement the adequate knowledge about the culture & the value system adopted by MNC's, local business houses and to create an ethical based work environment.		K3

Semester	:	VIII	Level in Bloom's Taxonomy
Course Code & Name	:	C410 & Satellite Communication	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C410.1	Recite the basic concepts of satellite orbits and its parameters.		K2
C410.2	Explain various earth segment and space segment modules in the satellite system		K2
C410.3	Calculate Orbital parameters, Satellite link budget and its system performance.		K2
C410.4	Analyze various access techniques and coding schemes in satellite systems.		K4
C410.5	Apply various communication techniques for satellite applications.		K3

Semester	:	VIII	Level in Bloom's Taxonomy
Course Code & Name	:	C411 & Project Work	
Year of Study	:	2020-21,2021-22,2022-23,2023-2024	
C411.1	Understand the concepts and design process of various electronics circuits and Communication engineering.		K3
C411.2	Develop and implement innovative ideas		K5
C411.3	Identify and solving the real time problems		K4
C411.4	Publish the Research Finding through conference and journals and able to get the Patent		K5
C411.5	Create a platform to enable the students to become an entrepreneur.		K6