



R.T.E. SOCIETY'S  
**RURAL ENGINEERING COLLEGE,**  
**HULKOTI-582 205.**

(Approved by A.I.C.T.E.(New Delhi) Affiliated to V. T. U. Belagavi)

Ph No. 08372-289097  
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E-mail: [principalrechkt@rediffmail.com](mailto:principalrechkt@rediffmail.com)  
(ESTD-1980)

Dist. Gadag

State: Karnataka

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG**

**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: Additional Mathematics-2(18MATDIP31) Year: 2019-20

CO1	Student will be able to apply concepts of complex numbers and vector algebra to analyze the problems arising in related area.
CO2	Student will be able to use derivatives and partial derivatives to calculate rate of change of multivariate functions.
CO3	Student will be able to analyze position, velocity and acceleration in two and three dimensions of vector valued functions.
CO4	Student will be able to learn techniques of integration including the evaluation of double and triple integrals.
CO5	Student will be able to identify and solve first order ordinary differential equations.

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: NETWORK THEORY(18EC32) Year: 2019-20

CO1	Student will be able to determine currents and voltages using source transformation/ source shifting/ mesh/ nodal analysis and reduce given network using star-delta transformation/source transformation/ source shifting
CO2	norton's/ maximum power transfer/ millman's network theorems and electrical laws to reduce circuit complexities and to arrive at feasible solutions.
CO3	Student will be able to calculate current and voltages for the given circuit under transient conditions
CO4	Student will be able to students are able apply laplace transform to solve the given network
CO5	Student will be able to solve the given network using specified two port network parameter like z or y or t or h and understand the concept of resonance

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: Electronic Devices(18EC33) Year: 2019-20

CO1	Student will be able to understand the principles of semiconductor physics.
CO2	Student will be able to understand different types of diode bias and breakdown mechanism.
CO3	Student will be able to understand the principles and characteristics of different types of semiconductor devices.
CO4	Student will be able to understand the fabrication of semiconductor devices
CO5	Student will be able to understand the mathematical models of semiconductor junctions and mos transistor for circuits and systems



  
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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018  
Course: Digital system design(18EC34) Year: 2019-20

CO1	Student will be able to explain and analyse the concept of combinational logic circuits.
CO2	Student will be able to design the combinational circuits.
CO3	Student will be able to explain and analyse the concept of sequential logic circuits.
CO4	Student will be able to design the sequential logic circuits using sr,jk,d,t flip flop and mealy moore machines.
CO5	Student will be able to design application of combinational and sequential circuits.

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018  
Course: COMPUTER ORGANIZATION AND ARCHITECTURE(18EC35) Year: 2019-20

CO1	Student will be able to understand the basic organization of a computer system.
CO2	Student will be able to identify and apply different ways of accessing an input / output device including interrupts.
CO3	Student will be able to study and interpret the organization of different types of semiconductor and other secondary storage memories.
CO4	Student will be able to apply and demonstrate simple processor organization based on hardwired control and micro programmed control

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018  
Course: POWER ELECTRONICS AND INSTRUMENTATION(18EC36) Year: 2019-20

CO1	Student will be able to build and test circuits using power electronic devices.
CO2	Student will be able to analyze and design controlled rectifier, dc to dc converters, dc to ac inverters and smps.
CO3	Student will be able to define instrument errors.
CO4	Student will be able to develop circuits for multirange ammeters, voltmeters and bridges to measure passive component values and frequency.
CO5	Student will be able to describe the principle of operation of digital instruments and plcs.



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: ELECTRONICS DEVICES AND INSTRUMENTATION LABORATORY(18ECL37) Year: 2019-20

CO1	Student will be able to understand the characteristics of various electronic device and measurement of parameters
CO2	Student will be able to design and test simple electronic circuits
CO3	Student will be able to use of circuit simulation software for the implementation and characterization of electronic circuit and device

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: DIGITAL SYSTEM DESIGN LAB(18ECL38) Year: 2019-20

CO1	Student will be able to design, realize and verify de morgan's theorem, sop, pos forms.
CO2	Student will be able to demonstrate the truth table of various expressions and combinational circuits using logic gates.
CO3	Student will be able to design various combinational circuits such as adders, subtractors, comparators, multiplexers and demultiplexers.
CO4	Student will be able to construct flips-flops, counters and shift registers.
CO5	Student will be able to simulate serial adder and binary multiplexer.

Branch : Electronics & Communication Engineering Semester : 3 Scheme : 2018

Course: Constitution of India, Professional Ethics and Cyber Law(18CPC39) Year: 2019-20

CO1	Student will be able to know constitutional knowledge and legal literacy.
CO2	Student will be able to understand engineering and professional ethics and responsibilities of engineers.
CO3	Student will be able to understand the the cybercrimes and cyber laws for cyber safety measures.



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: Complex Analysis, Probability & Statistical Methods(18MAT41) Year: 2019-20

CO1	Student will be able to use the concepts of analytic function and complex potentials to solve the problems arising in electromagnetic field theory.
CO2	Student will be able to utilize conformal transformation and complex integral arising in aerofoil theory, fluid flow visualization and image processing.
CO3	Student will be able to apply discrete and continuous probability distributions in analyzing the probability models arising in engineering field.
CO4	Student will be able to make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.
CO5	Student will be able to construct joint probability distributions and demonstrate the validity of testing the hypothesis.

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: Additional Mathematics-2(18MATDIP41) Year: 2019-20

CO1	Student will be able to solve systems of linear equations using matrix algebra.
CO2	Student will be able to apply the knowledge of numerical methods in modelling and solving engineering problems.
CO3	Student will be able to make use of analytical methods to solve higher order differential equations.
CO4	Student will be able to classify partial differential equations and solve them by exact methods.
CO5	Student will be able to apply elementary probability theory and solve related problems

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: ANALOG CIRCUIT(18EC42) Year: 2019-20

CO1	Student will be able to understand the characteristics of bjts and fet
CO2	Student will be able to design and analyze bjt and fet amplifier circuits.
CO2	Student will be able to design sinusoidal and non-sinusoidal oscillators
CO4	Student will be able to understand the functioning of linear ics
CO5	Student will be able to design of linear ic based circuits



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: control system(18ec43) Year: 2019-20

CO1	Student will be able to develop transfer function for a given control system using block diagram reduction techniques and signal flow graph method
CO2	Student will be able to determine the time domain specifications for first and second order system
CO3	Student will be able to determine the stability of a system in the time domain using routh-hurwitz criterion and root-locus technique.
CO4	Student will be able to determine the stability of a system in the frequency domain using nyquist and bode plots
CO5	Student will be able to develop a control system model in continuous and discrete time using state variable techniques.

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: ENGINEERING STATISTICS AND LINEAR Algebra(18EC44) Year: 2019-20

CO1	Student will be able to associate random variables in communication events.
CO2	Student will be able to analyze and model the random events in typical communication events to extract quantitative statistical parameters.
CO3	Student will be able to identify and associate random process in communication events.
CO4	Student will be able to analyze and model typical signal sets in terms of a basis function a set of amplitude, phase and frequency.
CO5	Student will be able to demonstrate by way of simulation or emulation the ease of analysis employing basis functions, statistical representation and eigen values.

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: S&S(18EC45) Year: 2019-20

CO1	Student will be able to classify the signals as continuous/discrete, periodic/aperiodic, even/odd, energy/power and deterministic/random signals and basic operations on signals..
CO2	Student will be able to determine the linearity, causality, time-invariance and stability properties of continuous and discrete time systems..
CO3	Student will be able to compute the response of a continuous and discrete lti system using convolution
CO4	Student will be able to determine the spectral characteristics of continuous and discrete time signal using fourier series analysis.
CO5	Student will be able to determine the spectral characteristics of continuous and discrete time signal using fourier transform

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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: Microcontroller(18EC46) Year: 2019-20

CO1	Student will be able to explain the difference between microprocessors & microcontrollers, architecture of 8051 microcontroller, interfacing of 8051 to external memory and instruction set of 8051.
CO2	Student will be able to write 8051 assembly level programs using 8051 instruction set.
CO3	Student will be able to students are able explain the interrupt system, operation of timers/counters and serial port of 8051
CO4	Student will be able to write 8051 assembly language program to generate timings and waveforms using 8051 timers, to send & receive serial data using 8051 serial port and to generate an external interrupt using a switch. write 8051 assembly language programs to generate square wave on 8051 i/o port pin using interrupt and c programme to send & receive serial data using 8051 serial port.
CO5	Student will be able to interface simple switches, simple leds, adc 0804, lcd and stepper motor to 8051 using 8051 i/o ports

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: Microcontroller labrotary (18ECL47) Year: 2019-20

CO1	Student will be able to write Assembly language programs in 8051 for solving simple problems that manipulate input data
CO2	Student will be able to Interface different input and output devices to 8051 and control them using Assembly language
CO3	Student will be able to Interface the serial devices to 8051 and do the serial transfer using C programming.

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: ANALOG CIRCUIT LABROTARY(18ECL48) Year: 2019-20

CO1	Student will be able to design analog circuits using bjt/fets and evaluate their performance characteristics
CO2	Student will be able to design analog circuits using opamps for different applications
CO3	Student will be able to simulate and analyze analog circuits that usesics for different electronic applications.

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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 4 Scheme : 2018

Course: Aadalitha Kannada (Kannada for Administration) (18KVK49) Year: 2019-20

CO1	Student will be able to understand, speak, read and write kannada language and communicate (converse) in kannada language in their daily life with kannada speakers.
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Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: TECHNOLOGICAL INNOVATION MANGAEMENT & ENTREPRENEURSHIP(18ES51) Year: 2020-21

CO1	Student will be able to understand the fundamental concepts of management and entrepreneurship and opportunities in order to setup a business.
CO2	Student will be able to describe the functions of managers, entrepreneurs and their social responsibilities.
CO3	Student will be able to understand the components in developing a business plan.
CO4	Student will be able to awareness about various sources of funding and institutions supporting entrepreneurs.

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: DSP(18EC52) Year: 2020-21

CO1	Student will be able to determine the response of lti system using time domain and dft tcchniques.
CO2	Student will be able to compute dft of real and complex discrete time signals.
CO3	Student will be able to computation of dft using fft algorithms and linear filtering approach.
CO4	Student will be able to design and realize fir and iir digital filters.
CO5	Student will be able to understand the dsp processor architecture



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: PRINCIPLES OF COMMUNICATION SYSTEM(18EC53) Year: 2020-21

CO1	Student will be able to analyse and compute performance of am and fm modulation in the presence of noise at the receiver
CO2	Student will be able to analyse and compute performance of digital formatting processes with quantization noise.
CO3	Student will be able to understand multiplex digitally formatted signals at transmitter and demultiplex the signals and reconstruct digitally formatted signals at the receiver
CO4	Student will be able to design/demonstrate the use of digital formatting in multiplexer, vocoders and video transmission.

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: INFORMATION THEORY CODING(18EC54) Year: 2020-21

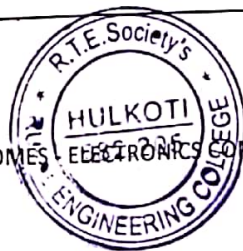
CO1	Student will be able to analyze dependent & independent source, measure information, entropy, rate of information and order of a source
CO2	Student will be able to understand the information using Shannon encoding, Shannon-Fano, prefix and Huffman encoding algorithms
CO3	Student will be able to study and understand the continuous and discrete communication channels using input, output and joint probabilities
CO4	Student will be able to analyze and derive the codeword comprising of the check bits computed using linear block codes, cyclic codes & convolutional codes
CO5	Student will be able to solve the encoding and decoding circuits for linear block codes, cyclic codes, convolutional codes, BCH and Golay codes

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: ELECTROMAGNETICS(18EC55) Year: 2020-21

CO1	Student will be able to evaluate problems on electric field due to point, linear, volume charges by applying conventional methods or by Gauss law.
CO2	Student will be able to determine potential and energy with respect to point charge and capacitance using Laplace equation.
CO3	Student will be able to calculate magnetic field, force, and potential energy with respect to magnetic materials
CO4	Student will be able to apply Maxwell's equation for time-varying fields, EM waves in free space and conductors
CO5	Student will be able to evaluate power associated with EM waves using Poynting theorem.

COURSE OUTCOMES, ELECTRONICS COMMUNICATION ENGINEERING



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018  
Course: Verilog HDL(18EC56) Year: 2020-21

CO1	Student will be able to understand design flow and and verify the functionality of digital circuit/system using test benches.
CO2	Student will be able to students are able learn and write the programs more effectively using verilog tasks and directives
CO3	Student will be able to analyse different verilog gate primitives and write program using gate level modeling and dataflow level modeling and perform timing and delay simulation
CO4	Student will be able to understand various constructs and write program using behavioural modeling using verilog tasks,functions and directives
CO5	Student will be able to perform timing and delay simulation and interpret the various constucts in logic synthesis

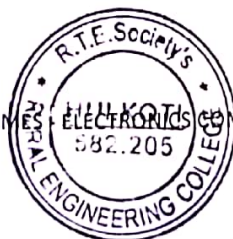
Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018  
Course: Digital Signal Processing(18ECL57) Year: 2020-21

CO1	Student will be able to understand the concept of analog to digital conversion of signal & frequency domain sampling of signals.
CO2	Student will be able to do the modelling of discrete time signals & sytems & verifications of its properties & results.
CO3	Student will be able to do the implementation of discrete computation using dsp processor & verify the results.
CO4	Student will be able to realize digital filters using simulation tool & dsp processor & verify the frequency & phase response.

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018  
Course: HDL lab(18ECL58) Year: 2020-21

CO1	Student will be able to write verilog/vhdl program to simulate the oombinational circuits in dataflow,behavioral and gate level abstraction
CO2	Student will be able to describe sequential circuits like flip flop and counters in behavioral description and obtain simulation waveforms
CO3	Student will be able to use fpga/cpld kits for down loading verilog codes and check output
CO4	Student will be able to synthesize combinational circuit on programmable ics and test the hardware
CO5	Student will be able to interface the hardware tothe programmble chips and obtain the required output.

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### COURSE OUTCOMES

Branch : Electronics & Communication Engineering Semester : 5 Scheme : 2018

Course: ENVIRONMENTAL STUDIES(18CIV59) Year: 2020-21

CO1	Student will be able to understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
CO2	Student will be able to develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.s
CO3	Student will be able to demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
CO4	Student will be able to apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018

Course: DIGITAL COMMUNICATION(18EC61) Year: 2020-21

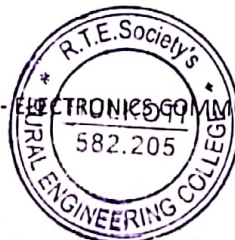
CO1	Student will be able to associate and apply tassociate and apply the concepts of bandpass sampling to well specified signals and channels
CO2	Student will be able to analyze and compute performance parameters and transfer rates for low pasand bandpass symbol under ideal and corrupted non band limited channels
CO3	Student will be able to test and validate symbol processing and performance parameters at the receiver under ideal and corrupted bandlimited channels
CO4	Student will be able to demonstrate by simulation and emulation that bandpass signals subjected to corrupted and distorted symbols in a bandlimited channel, can be demodulated
CO5	Student will be able to estimate at receiver to meet specified performance criteria

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018

Course: Embedded system(18EC62) Year: 2020-21

CO1	Student will be able to describe the architectural features and instructions of 32 bit microcontroller arm cortex m3
CO2	Student will be able to apply the knowledge gained for programming arm cortex m3 for different applications.
CO3	Student will be able to students are able understand the basic hardware components and their selection method based on the characteristics and various arrtributes of embedded system .
CO4	Student will be able to develop the hardware /software co-design and firmware design approaches
CO5	Student will be able to explain the need of real time operating system for embedded system applications

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Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018  
 Course: MICROWAVE AND ANTENNAS(18EC63) Year: 2020-21

CO1	Student will be able to describe the use and advantages of microwave transmission.
CO2	Student will be able to analyse various parameters related to microwave transmission line and waveguide.
CO3	Student will be able to student must be able to identify microwave device for several application.
CO4	Student will be able to analyse various antenna parameters necessary for building an rf system.
CO5	Student will be able to recommend various antenna configurations according to the applications.

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018  
 Course: DIGITAL SYSTEM DESIGN USING VERILOG(18EC644) Year: 2020-21

CO1	Student will be able to construct the combinational circuits, using discrete gates and programmable logic devices.
CO2	Student will be able to describe how arithmetic operations can be performed for each kind of code, and also combinational circuits that implement arithmetic operations.
CO3	Student will be able to design a semiconductor memory for specific chip design
CO4	Student will be able to design embedded systems using small microcontrollers, larger cpus/ dsps, or hard or soft prosesser cores
CO5	Student will be able to synthesize different types of i/o controllers that are used in embedded system.

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018  
 Course: SIGNAL PROCESSING LAB(18ECL651) Year: 2020-21

CO1	Student will be able to Understand and explain continuous time and discrete time signals and systems, in time and frequency domain
CO2	Student will be able to Apply the concepts of signals and systems to obtain the desired parameter/ representation
CO3	Student will be able to Analyse the given system and classify the system/arrive at a suitable
CO4	Student will be able to Design analog/digital filters to meet given specifications
CO5	Student will be able to Design and implement the analog filter using components/ suitable simulation

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Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018

Course: EMBEDDED SYSTEM LAB(18ECL66) Year: 2020-21

CO1	Student will be able to understand the instruction set of 32 bit microcontroller arm cortex m3 and the software tool required for programming in assembly and c language.
CO2	Student will be able to develop assembly language programs using arm cortex m3 for different application.
CO3	Student will be able to interface external devices and i/o with arm cortex m3.
CO4	Student will be able to develop the c language programs and library functions for embedded system application.

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018

Course: COMMUNICATION LAB(18ECL67) Year: 2020-21

CO1	Student will be able to determine the characteristics and response of microwave waveguide.
CO2	Student will be able to determine the characteristics of microstrip antennas and devices and compute the parameters associated with it.
CO3	Student will be able to design and test the digital and analog modulation circuits and display the waveforms.
CO4	Student will be able to simulate digital modulation systems and compare the error performance of basic digital modulation schemes.
CO5	Student will be able to simulate digital modulation systems and compare the error performance of basic digital modulation schemes.

Branch : Electronics & Communication Engineering Semester : 6 Scheme : 2018

Course: MINI PROJECT(18ECMP68) Year: 2020-21

CO1	Student will be able to present the mini-project and be able to defend it.
CO2	Student will be able to make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.
CO3	Student will be able to habituated to critical thinking and use problem solving skills
CO4	Student will be able to communicate effectively and to present ideas clearly and coherently in both the written and oral forms.
CO5	Student will be able to work in a team to achieve common goal and learn on their own, reflect on their learning and take appropriate actions to improve it

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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: Computer Networks(18EC71) Year: 2021-22

CO1	Student will be able to understand the concepts of networking thoroughly
CO2	Student will be able to identify the protocols and services of different layers.
CO3	Student will be able to distinguish the basic network configurations and standards associated with each network. reference model and tcp/ip protocol suite
CO4	Student will be able to analyze a simple network and measurement of its parameters.

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

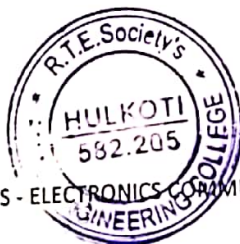
Course: VLS I DESIGN(18EC72) Year: 2021-22

CO1	Student will be able to demonstrate understanding of mos transistor theory,cmos fabrication flow and technology scaling
CO2	Student will be able to draw the basic gates using the stick and layout diagrams with the knowledge of physical design aspects
CO3	Student will be able to demonstrate ability to design combinational, sequential and dynamic logic circuits as per the requirement
CO4	Student will be able to interpret memory elements along with timing considerations
CO5	Student will be able to interpret testing and testability issues in vlsi design

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: REAL TIME SYSTEM(18EC731) Year: 2021-22

CO1	Student will be able to understand the fundamentals of real time systems and its classification.
CO2	Student will be able to understand the concept of computer control,operating s/m and suitable computer hardware requirements for real time application.
CO3	Student will be able to learn the software languages to meet real time application requirement.
CO4	Student will be able to develop algorithms using suitable languages to meet real time application
CO5	Student will be able to students are able to apply suitable methodologies to design and develop real time system.



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: Machine Learning with Python (18EC745) Year: 2021-22

CO1	Student will be able to identify the problems in machine learning.
CO2	Student will be able to select supervised, unsupervised or reinforcement learning for problem solving.
CO3	Student will be able to apply theory of probability and statistics in machine learning.
CO4	Student will be able to apply concept learning, ann, bayes classifier, k nearest neighbour.
CO5	Student will be able to perform statistical analysis of machine learning techniques.

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: AUTOMOTIVE ENGINEERING(18ME752) Year: 2021-22

CO1	Student will be able to know layout and arrangement of principal parts of an automobile
CO2	Student will be able to understand the working of transmission and brake systems.
CO3	Student will be able to comprehend operation and working of steering and suspension systems
CO4	Student will be able to know the injection system and its advancements.
CO5	Student will be able to know the automobile emissions and its effects on environment.

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: COMPUTER NETWORKS LAB(18ECL76) Year: 2021-22

CO1	Student will be able to Use the network simulator for learning and practice of networking algorithms.
CO2	Student will be able to Illustrate the operations of network protocols and algorithms using C
CO3	Student will be able to Simulate the network with different configurations to measure the performance parameters.
CO4	Student will be able to Implement the data link and routing protocols using C programming.



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

Course: VLSI LAB(18ECL77) Year: 2021-22

CO1	Student will be able to design and simulate combinational and sequential digital circuits using verilog hdl
CO2	Student will be able to understand the synthesis process of digital circuits using eda tools
CO3	Student will be able to perform asic design flow and understand the process of synthesis, synthesis constraints & evaluating the synthesis reports to obtain optimum gatelevel netlist
CO4	Student will be able to design and simulate basic cmos circuits like inverter, common source amplifier and differential amplifier
CO5	Student will be able to perform rtl - gdsii flow and understand the stages in asic design

Branch : Electronics & Communication Engineering Semester : 7 Scheme : 2018

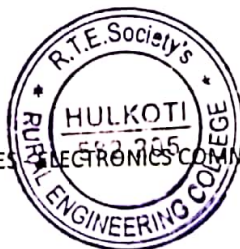
Course: PROJECT WORK PHASE-I(18ECP78) Year: 2021-22

CO1	Student will be able to identify an engineering problem, devise a means of solving and exhibit the ability to execute the solution
CO2	Student will be able to demonstrate knowledge of professional and ethical responsibilities.
CO3	Student will be able to show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues
CO4	Student will be able to communicate effectively in both verbal and written form
CO5	Student will be able to develop confidence for self-education and ability for lifelong learning

Branch : Electronics & Communication Engineering Semester : 8 Scheme : 2018

Course: Wireless and Cellular Communication (18EC81) Year: 2021-22

CO1	Student will be able to explain concepts of propagation mechanisms like reflection, diffraction, scattering in wireless
CO2	Student will be able to develop a scheme for idle mode, call set up, call progress handling and call tear down in a gsm cellular network.
CO3	Student will be able to develop a scheme for idle mode, call set up, call progress handling and call tear down in a cdma cellular network.
CO4	Student will be able to understand the basic operations of air interface in a lte 4g system



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**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 8 Scheme : 2018  
Course: OPTICAL FIBER COMMUNICATION(18EC824) Year: 2021-22

CO1	Student will be able to classification and working of optical fiber with different modes of signal propagation
CO2	Student will be able to describe the transmission characteristics and losses in optical fiber communication
CO3	Student will be able to describe the construction and working principle of optical connectors, multiplexers and amplifiers
CO4	Student will be able to describe the constructional features and the characteristics of optical
CO5	Student will be able to illustrate the networking aspects of optical fiber and describe various standards associated with it

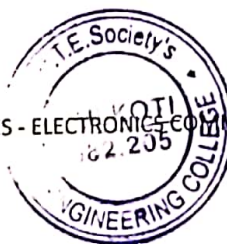
Branch : Semester : 8 Scheme : 2018  
Course: PROJECT WORK PHASE-II(18ECP83) Year: 2021-22

CO1	Student will be able to identify an engineering problem, devise a means of solving and exhibit the ability to execute the solution
CO2	Student will be able to demonstrate knowledge of professional and ethical responsibilities.
CO3	Student will be able to show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues
CO4	Student will be able to communicate effectively in both verbal and written form
CO5	Student will be able to develop confidence for self-education and ability for lifelong learning

Branch : Electronics & Communication Engineering Semester : 8 Scheme : 2018  
Course: TECHNICAL SEMINAR(18ECS84) Year: 2021-22

CO1	Student will be able to develop interest towards research oriented field with ability to search the literature and brief report preparation.(literature work & report)
CO2	Student will be able to develop the skills,competencies and points of view needed by professionals in the field most closely related to the course(topic coverage)
CO3	Student will be able to discuss and critical thinking about topics of current intellectual practice(topic selection)
CO4	Student will be able to improve the interpersonal and communication skills and awareness about the industrial environment(questionnaire)
CO5	Student will be able to develop of presentation skills (body language and presentation skill)

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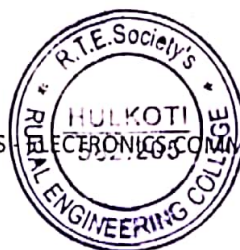
**COURSE OUTCOMES**

Branch : Electronics & Communication Engineering Semester : 8 Scheme : 2018

Course: INTERNSHIP(18CSI85) Year: 2021-22

CO1	Student will be able to gain hands-on professional work experience prior to their graduation.
CO2	Student will be able to learn, understand and sharpen the real-time technical, managerial and life skills required at the job.
CO3	Student will be able to contextualise the value of industry and professional networks and their importance to independent practice, lifelong learning and career progression
CO4	Student will be able to demonstrate employability skills and attributes, linking them to industry expectations.
CO5	Student will be able to expose to the engineer's responsibilities and ethics.

COURSE OUTCOMES



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