EASA COLLEGE
OF ENGINEERING & TECHNOLOGY (ECET)
ULTIMATE DESTINATION FOR TECHNICAL EXCELLENCE
APPROVED BY AICTE, NEW DELHI | AFFILIATED TO ANNA UNIVERSITY, CHENNAI
NH - 47, PALAKKAD MAIN ROAD, NAVAKKARAI (P.O), COIMBATORE, TAMIL NADU - 641105

Course Outcome Statements

2017 REGULATION

Electronics and Communication Engineering

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & I
Course Code & Name:	C101 & HS8151-Communicative English
Year of Study :	2017 – 2018

Course Code and Name :C102 & HS3151-Professional English -I		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C101.1	**Listen** and comprehend complex academic texts	K1
C101.2	**Read** and infer the denotative and connotative meanings of technical texts	K3
C101.3	**Write** definitions, descriptions, narrations and essays on various topics	K4
C101.4	**Speak** fluently and accurately in formal and informal communicative contexts	K2
C101.5	**Express** their opinions effectively in both oral and written medium of communication	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C102&MA8151- Engineering Mathematics – I
Year of Study :	2017 – 2018

Course Code and Name :C102&MA8151- Engineering Mathematics – I		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C102.1	**Use** both the limit definition and rules of differentiation to differentiate functions.	K3
C102.2	**Apply** differentiation to solve maxima and minima problems..	K3
C102.3	**Evaluate** integrals both by using Riemann sums and by using the Fundamental Theorem 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 of variables.	K3
C102.5	**Apply** various techniques in solving differential equations.	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C103 & PH8151- Engineering Physics
Year of Study :	2017 – 2018

Course Code and Name : C103 & PH8151- Engineering Physics		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C103.1	**Acquire** the knowledge on the basic properties of matter and its applications.	K2
C103.2	**Gain** the knowledge on wave concepts.To acquire the knowledge about the Laser and fibre optics and their applications.	K3
C103.3	**Adequate** knowledge on thermal properties of materials and their applications in expansion joints and heat exchangers.	K2
C103.4	**Get** knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes.	K3
C103.5	**Understand** the basic knowledge of crystals, their structures and different crystal growth techniques	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C104 & CY8151- Engineering Chemistry
Year of Study :	2017 – 2018

Course Code and Name : C104 & CY8151- Engineering Chemistry		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C104.1	**Understand** about various water treatment technique and its uses.	K4
C104.2	**Know** the surface phenomena of molecules and its applications	K2
C104.3	**Understand** the phase diagram and predict the composition of alloys	K2
C104.4	**Analyze** the quality of fuels and its various uses. Gain the knowledge about energy sources and its applications	K4
C104.5	**Gain** the knowledge about energy sources and its applications	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C105-GE8151 -PROBLEM SOLVING AND PYTHON PROGRAMMING
Year of Study :	2017 – 2018

Course Code and Name : C105-GE8151 -PROBLEM SOLVING AND PYTHON PROGRAMMING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C105.1	**Develop** algorithmic solutions to simple computational problems	K4
C105.2	**Read**, write, execute by hand simple Python programs	K3
C105.3	**Structure** simple Python programs for solving problems	K3
C105.4	**Represent** compound data using Python lists, tuples, dictionaries.	K3
C105.5	**Read** and write data from/to files in Python Programs	K2

Programme: B.E. Electronics and Communication Engineerg	
Year & Semester:	I& I
Course Code & Name:	C106-GE8152-ENGINEERING GRAPHICS
Year of Study :	2017 – 2018

Course Code and Name : C106-GE8152-ENGINEERING GRAPHICS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C106.1	**Familiarize** with fundamentals and standards of engineering graphics	K2
C106.2	**Perform** freehand sketching of basic geometrical constructions and multiple view of objects	K3
C106.3	**Project** orthographic projections of lines and planer surfaces	K2
C106.4	**Draw** projections of solids and development of surfaces	K3
C106.5	**Visualize** and to project isometric and perspective sections of simple	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C107-GE8161 -PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY
Year of Study :	2017 – 2018

Course Code and Name : C107-GE8161 -PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C107.1	**Write**, test, and debug simple Python programs.	K2
C107.2	**Implement** Python programs with conditionals and loops.	K3
C107.3	**Develop** Python programs step-wise by defining functions and calling them.	K4
C107.4	**Use** Python lists, tuples, dictionaries for representing compound data.	K3
C107.5	**Read** and write data from/to files in Python.	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& I
Course Code & Name:	C108 & BS8161-Physics and chemistry laboratories
Year of Study :	2017 – 2018

Course Code and Name :C108 & BS8161-Physics and chemistry laboratories		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C108.1	**Apply** the principle of optics and Laser in engineering field	K4
C108.2	**Calculate** band gap of a semiconductor and velocity of sound waves.	K3
C108.3	**Determines** Young's modulus of beam and Rigidity modulus of thin wire.	K5
C108.4	**Analysis** the effect of chlorides in water DO present in sample water	K1
C108.5	**Identify** basicity , acidity and pH of the material	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & II
Course Code & Name:	C109 & HS8251-Technical English
Year of Study :	2017 – 2018

Course Code and Name : C109 & HS8251-Technical English		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C109.1	**Breakdown** the ideas in to its elementary constituents, analyze and act after a meaning full thought process	K2
C109.2	**Analyze** the phrase and passage and explicitly pass on the ideas meaning fully.	K3
C109.3	**Manage** to interpret the given phrase or the graphical rendering and review the contents well individually or as a group.	K3
C109.4	**Concentrate** on the communication aspect of complicated ideas and respond positively.	K2
C109.5	**Debate** the issues and find the rudiments of the problem individually and as a group.	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& II
Course Code & Name:	C110 &MA8251-Engineering Mathematics – II
Year of Study :	2017 – 2018

Course Code and Name :C102&MA8251-- Engineering Mathematics – II		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C110.1	**Eigenvalues** and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices	K2
C110.2	**Gradient**, divergence and curl of a vector point function and related identities.	K3
C110.3	**Evaluation** of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.	K5
C110.4	**Analytic functions**, conformal mapping and complex integration.	K2
C110.5	**Laplace transform** and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & II
Course Code & Name:	C111 &PH8253 - PHYSICS FOR ELECTRONICS ENGINEERING
Year of Study :	2017 – 2018

Course Code and Name : C111 &**PH8253 - PHYSICS FOR ELECTRONICS ENGINEERING**		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C111.1	**Gain** knowledge on classical and quantum electron theories, and energy band structues,	K4
C111.2	**Acquire** knowledge on basics of semiconductor physics and its applications in various devices,	K2
C111.3	**Get** knowledge on magnetic and dielectric properties of materials.	K3
C111.4	**Have** the necessary understanding on the functioning of optical materials for optoelectronics	K2
C111.5	**Understand** the basics of quantum structures and their applications in spintronic and carbon electronics.	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& II
Course Code & Name:	C112 & BE8254-BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING
Year of Study :	2017 – 2018

Course Code and Name : C112 & **BE8254-BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING**		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C112.1	**Understand** the concept of three phase power circuits and measurement. Comprehend the concepts in electrical generators	K2
C112.2	**Understand** the concept of three phase power circuits and measurement. Comprehend the concepts in electrical generators	K2
C112.3	**Understand** the concept of three phase power circuits and measurement.	K2
C112.4	**Comprehend** the concepts in electrical generators	K2
C112.5	**Choose** appropriate measuring instruments for given application.	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & II
Course Code & Name:	C113 & EC8251-CIRCUIT ANALYSIS
Year of Study :	2017 – 2018

Course Code and Name : C113 & EC8251-CIRCUIT ANALYSIS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C113.1	**Develop** the capacity to analyze electrical circuits	K2
C113.2	**Develop** the capacity to analyze electrical circuits	K2
C113.3	**Gain** knowledge about reasonant and couped circuits	K2
C113.4	**Understand** about transient analysis	K2
C113.5	**Understand** about two port network	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & II
Course Code & Name:	C114 & EC8252-ELECTRONIC DEVICES
Year of Study :	2017 – 2018

Course Code and Name : C114 & EC8252-ELECTRONIC DEVICES		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C114.1	**Explain** the V-I characteristic of diode, UJT and SCR	K2
C114.2	**Describe** the equivalence circuits of transistors	K2
C114.3	**Operate** the basic electronic devices such as PN junction diode, Bipolar and Field effect Transistors, Power control devices, LED, LCD and other Opto-electronic devices	K2
C114.4	**Understand** about semiconductor devices	K2
C114.5	**Understand** about power devices	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I& II
Course Code & Name:	C115 & EC8261-CIRCUIT AND DEVICES LABORATORY
Year of Study :	2017 – 2018

Course Code and Name : C115 & EC8261-CIRCUIT AND DEVICES LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C115.1	**Analyze** the characteristics of basic electronic devices	K3
C115.2	**Design** RL and RC circuits	K4
C115.3	**Verify** Thevinin & Norton theorem	K4
C115.4	**Verify** Superposition Theorem	K4
C115.5	**Verify** KVL and KCL Circuits	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	I & II
Course Code & Name:	C116 & GE8261-ENGINEERING PRACTICES LABORATORY
Year of Study :	2017 – 2018

Course Code and Name : C116 & GE8261-ENGINEERING PRACTICES LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C116.1	**Fabricate** carpentry components and pipe connections including plumbing works.	K3
C116.2	**Illustrate** on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings	K3
C116.3	**Carry** out basic home electrical works and appliances	K3
C116.4	**Measure** the electrical quantities	K3
C116.5	**Elaborate** on the components, gates, soldering practices	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C201 &MA8352 - LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS
Year of Study :	2018-2019

Course Code and Name :MA8352 LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C201.1	**Explain** the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.	K2
C201.2	**Demonstrate** accurate and efficient use of advanced algebraic techniques.	K3
C201.3	**Demonstrate** their mastery by solving non - trivial problems related to the concepts and by proving simple theorems about the statements proven by the text	K3
C201.4	**Solve** various types of partial differential equations.	K3
C201.5	**Solve** engineering problems using Fourier series.	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C202 &EC8393 FUNDAMENTALS OF DATA STRUCTURES IN C
Year of Study :	2018-2019

Course Code and Name : EC8393 FUNDAMENTALS OF DATA STRUCTURES IN C		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C202.1	**Implement** linear and non-linear data structure operations using C	K3
C202.2	**Suggest** appropriate linear / non-linear data structure for any given data set.	K2
C202.3	**Apply** hashing concepts for a given problem	K3
C202.4	**Modify** or suggest new data structure for an application	K2
C202.5	**Appropriately** choose the sorting algorithm for an application	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C203 & EC8351 ELECTRONIC CIRCUITS I
Year of Study :	2018-2019

Course Code and Name :EC8351 ELECTRONIC CIRCUITS I		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C203.1	**Acquire** knowledge of Working principles, characteristics and applications of BJT and FET	K1
C203.2	**Acquire** knowledge of Frequency response characteristics of BJT and FET amplifiers	K1
C203.3	**Analyze** the performance of small signal BJT and FET amplifiers	K4
C203.4	**Analyze** the performance of Single and multistage amplifiers	K4
C203.5	**Apply** the knowledge gained in the design of Electronic circuits	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C204 &EC8352 SIGNALS AND SYSTEMS
Year of Study :	2018-2019

Course Code and Name :EC8352 SIGNALS AND SYSTEMS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C204.1	**Determine** if a given system is linear/causal/stable	K1
C204.2	**Capable** of determining the frequency components present in a deterministic signal	K2
C204.3	**Capable** of characterizing LTI systems in the time domain and frequency domain	K2
C204.4	**Analyze** the performance of Discrete time signals	K4
C204.5	**Compute** the output of an LTI system in the time and frequency domains	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C205 &EC8392 DIGITAL ELECTRONICS
Year of Study :	2018-2019

Course Code and Name :EC8392 DIGITAL ELECTRONICS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C205.1	**Use** digital electronics in the present contemporary world	K1
C205.2	**Design** various combinational digital circuits using logic gates	K5
C205.3	**Analysis** and design procedures for synchronous and asynchronous sequential circuits	K2
C205.4	**Use** the semiconductor memories and related technology	K2
C205.5	**Use** electronic circuits involved in the design of logic gates	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C206 &EC8391 CONTROL SYSTEMS ENGINEERING
Year of Study :	2018-2019

Course Code and Name :EC8391 CONTROL SYSTEMS ENGINEERING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C206.1	**Identify** the various control system components and their representations.	K3
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.	K3
C206.5	**Design** various transfer functions of digital control system using state variable models	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C207 &EC8381 FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY
Year of Study :	2018-2019

Course Code and Name :EC8381 FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C207.1	**Write** basic and advanced programs in C	K2
C207.2	**Implement** functions and recursive functions in C	K3
C207.3	**Implement** data structures using C	K3
C207.4	**Choose** appropriate sorting algorithm for an application	K2
C207.5	**Implement** it in a modularized way	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C208 &EC8361 ANALOG AND DIGITAL CIRCUITS LABORATORY
Year of Study :	2018-2019

Course Code and Name :EC8361 ANALOG AND DIGITAL CIRCUITS LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C208.1	**Design** and Test rectifiers, filters and regulated power supplies	K5
C208.2	**Design** and Test BJT/JFET amplifiers.	K5
C208.3	**Analyze** the limitation in bandwidth of single stage and multi stage amplifier	K4
C208.4	**Measure** CMRR in differential amplifier	K2
C208.5	**Design** and Test the digital logic circuits.	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & III
Course Code & Name:	C209 &HS8381 INTERPERSONAL SKILLS/LISTENING&SPEAKING
Year of Study :	2018-2019

Course Code and Name :HS8381 INTERPERSONAL SKILLS/LISTENING&SPEAKING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C209.1	**Listen** and respond appropriately	K2
C209.2	**Participate** in group discussions	K2
C209.3	**Make** effective presentations	K1
C209.4	**Participate** in verbal and non verbal feedback	K2
C209.5	**Participate** confidently and appropriately in conversations both formal and informal	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C210 &MA8451 PROBABILITY AND RANDOM PROCESSES
Year of Study :	2018-2019

Course Code and Name:MA8451 PROBABILITY AND RANDOM PROCESSES		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
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	**Analyze** the response of random inputs to linear time invariant systems.	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C211 &EC8452 ELECTRONIC CIRCUITS II
Year of Study :	2018-2019

Course Code and Name:EC8452 ELECTRONIC CIRCUITS II		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C211.1	**Analyze** different types of amplifier, oscillator and multivibrator circuits	K4
C211.2	**Design** BJT amplifier and oscillator circuits	K5
C211.3	**Analyze** transistorized amplifier and oscillator circuits	K4
C211.4	**Design** and analyze feedback amplifiers	K5
C211.5	**Design** LC and RC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, power amplifier and DC convertors.	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C212 &EC8491 COMMUNICATION THEORY
Year of Study :	2018-2019

Course Code and Name:EC8491 COMMUNICATION THEORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C212.1	**Design** AM communication systems	K5
C212.2	**Design** Angle modulated communication systems	K5
C212.3	**Apply** the concepts of Random Process to the design of Communication systems	K3
C212.4	**Analyze** the noise performance of AM and FM systems	K4
C212.5	**Gain** knowledge in sampling and quantization.	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C213 & EC8451 ELECTROMAGNETIC FIELDS
Year of Study :	2018-2019

Course Code and Name: EC8451 ELECTROMAGNETIC FIELDS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C213.1	**Understanding** of fundamental electromagnetic laws and concepts	K4
C213.2	**Write** Maxwell's equations in integral, differential and phasor forms and explain their physical meaning	K2
C213.3	**Explain** electromagnetic wave propagation in lossy and in lossless media	K2
C213.4	**Solve** simple problems requiring estimation of electric and magnetic field quantities based on these concepts and laws	K4
C213.5	**Solve** plane electromagnetic waves.	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C214 &EC8453 LINEAR INTEGRATED CIRCUITS
Year of Study :	2018-2019

Course Code and Name: EC8453 LINEAR INTEGRATED CIRCUITS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C214.1	**Design** linear and non linear applications of OP – AMPS	K5
C214.2	**Design** applications using analog multiplier and PLL	K5
C214.3	**Design** ADC and DAC using OP – AMPS	K5
C214.4	**Generate** waveforms using OP – AMP Circuits	K2
C214.5	**Analyze** special function ICs	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C215 & GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING
Year of Study :	2018-2019

Course Code and Name:GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C215.1	**Solve** Environmental Pollution or problems cannot be solved by mere laws	K2
C215.2	**Obtain** knowledge on the following after completing the course.	K1
C215.3	**Understand** Public awareness of environmental is at infant stage.	K2
C215.4	**Ignorance** and incomplete knowledge has lead to misconceptions	K2
C215.5	**Development** and improvement in std. of living has lead to serious environmental disasters	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C216 & EC8461 CIRCUITS DESIGN AND SIMULATION LABORATORY
Year of Study :	2018-2019

Course Code and Name:EC8461 CIRCUITS DESIGN AND SIMULATION LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C216.1	**Analyze** various types of feedback amplifiers	K4
C216.2	**Design** oscillators, tuned amplifiers, wave-shaping circuits and multivibrators	K5
C216.3	**Design** feedback amplifiers, oscillators, tuned amplifiers, wave-shaping circuits	K5
C216.4	**Simulate** feedback amplifiers, oscillators, tuned amplifiers, wave-shaping circuits and multivibrators using SPICE Tool.	K5
C216.5	**Design** the power amplifier and Schmitt trigger	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	II & IV
Course Code & Name:	C217 &EC8462 LINEAR INTEGRATED CIRCUITS LABORATORY
Year of Study :	2018-2019

Course Code and Name:EC8462 LINEAR INTEGRATED CIRCUITS LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C217.1	**Design** amplifiers, oscillators, D-A converters using operational amplifiers	K5
C217.2	**Design** filters using op-amp and performs an experiment on frequency response.	K5
C217.3	**Analyze** the working of PLL and describe its application as a frequency multiplier.	K4
C217.4	**Design** DC power supply using ICs.	K5
C217.5	**Analyze** the performance of filters, multivibrators, A/D converter and analog multiplier using SPICE.	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C301 & EC8501 DIGITAL COMMUNICATION
Year of Study :	2018-2019

Course Code and Name: EC8501 DIGITAL COMMUNICATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C301.1	**Design** PCM systems	K5
C301.2	**Design** and implement base band transmission schemes	K5
C301.3	**Design** and implement band pass signaling schemes.	K5
C301.4	**Analyze** the spectral characteristics of band pass signaling schemes and their noise performance	K4
C301.5	**Design** error control coding schemes	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C302 & EC8553 DISCRETE-TIME SIGNAL PROCESSING
Year of Study :	2018-2019

Course Code and Name: EC8553 DISCRETE-TIME SIGNAL PROCESSING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C302.1	**Apply** DFT for the analysis of digital signals and systems	K3
C302.2	**Design** IIR and FIR filters	K5
C302.3	**Characterize** the effects of finite precision representation on digital filters	K2
C302.4	**Design** multirate filters	K5
C302.5	**Apply** adaptive filters appropriately in communication systems	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C303 & EC8552 COMPUTER ARCHITECTURE AND ORGANIZATION
Year of Study :	2019-2020

Course Code and Name: EC8552 COMPUTER ARCHITECTURE AND ORGANIZATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C303.1	**Describe** data representation, instruction formats and the operation of a digital computer	K2
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	K2
C303.4	**Explain** the concept of various memories, interfacing and organization of multiple processors	K2
C303.5	**Discuss** parallel processing technique and unconventional architectures	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C304 & EC8551 COMMUNICATION NETWORKS
Year of Study :	2019-2020

Course Code and Name: EC8551 COMMUNICATION NETWORKS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
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	K2
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	K2
C304.5	**Understand** about real time working in application layer	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C305 & EC8073 MEDICAL ELECTRONICS
Year of Study :	2019-2020

Course Code and Name: EC8073 MEDICAL ELECTRONICS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C305.1	**Know** the human body electro- physiological parameters and recording of bio-potentials	K2
C305.2	**Comprehend** the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc	K3
C305.3	**Interpret** the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators	K3
C305.4	**Comprehend** physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods	K3
C305.5	**Know** about recent trends in medical instrumentation	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C306 & OCE551 AIR POLLUTION AND CONTROL ENGINEERING
Year of Study :	2019-2020

Course Code and Name: OCE551 AIR POLLUTION AND CONTROL ENGINEERING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C306.1	**understand** the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management	K2
C306.2	**identify**, formulate and solve air and noise pollution problems	K3
C306.3	**design** stacks and particulate air pollution control devices to meet applicable standards.	K3
C306.4	**select** control equipments.	K3
C306.5	**ensure** quality, control and preventive measures.	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C307 & EC8562 DIGITAL SIGNAL PROCESSING LABORATORY
Year of Study :	2019-2020

Course Code and Name: EC8562 DIGITAL SIGNAL PROCESSING LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C307.1	**Carryout** basic signal processing operations	K4
C307.2	**Demonstrate** their abilities towards MATLAB based implementation of various DSP systems	K4
C307.3	**Analyze** the architecture of a DSP Processor	K4
C307.4	**Trace** the flow of information from one node to another node in the network	K4
C307.5	**Understand** about real time working in application layer	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C308 & EC8561 COMMUNICATION SYSTEMS LABORATORY
Year of Study :	2019-2020

Course Code and Name: EC8561 COMMUNICATION SYSTEMS LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C308.1	**Simulate** & validate the various functional modules of a communication system	K4
C308.2	**Demonstrate** their knowledge in base band signaling schemes through implementation of digital modulation schemes	K3
C308.3	**Apply** various channel coding schemes	K3
C308.4	**Demonstrate** their capabilities towards the improvement of the noise performance of communication system	K3
C308.5	**Simulate** end-to-end communication Link	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & V
Course Code & Name:	C309 & EC8563 COMMUNICATION NETWORKS LABORATORY
Year of Study :	2019-2020

Course Code and Name: EC8563 COMMUNICATION NETWORKS LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C309.1	**Communicate** between two desktop computers	K2
C309.2	**Implement** the different protocols	K3
C309.3	**Program** using sockets.	K4
C309.4	**Implement** and compare the various routing algorithms	K3
C309.5	**Use** the simulation tool.	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C310 & EC8691 MICROPROCESSORS AND MICROCONTROLLERS
Year of Study :	2019-2020

Course Code and Name: EC8691 MICROPROCESSORS AND MICROCONTROLLERS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C310.1	**Understand** and execute programs based on 8086 microprocessor	K2
C310.2	**Design** Memory Interfacing circuits	K5
C310.3	**Design** and interface I/O circuits	K5
C310.4	**Design** and implement 8051 microcontroller based systems.	K5
C310.5	**Design** and implement 8051 microcontroller interfaces	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C311 & EC8095 VLSI DESIGN
Year of Study :	2019-2020

Course Code and Name: EC8095 VLSI DESIGN		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C311.1	**Realize** the concepts of digital building blocks using MOS transistor	K2
C311.2	**Design** combinational MOS circuits and power strategies.	K5
C311.3	**Design** and construct Sequential Circuits and Timing systems	K5
C311.4	**Design** arithmetic building blocks and memory subsystems.	K5
C311.5	**Apply** and implement FPGA design flow and testing	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C312 & EC8652 WIRELESS COMMUNICATION
Year of Study :	2019-2020

Course Code and Name: EC8652 WIRELESS COMMUNICATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C312.1	**Understand** the characteristic of wireless channel	K2
C312.2	**Evolve** system design Specifications	K3
C312.3	**Design** a cellular system based on resource availability and traffic demands	K5
C312.4	**Identify** suitable signaling and multipath mitigation techniques for the wireless channel	K2
C312.5	**Design** a multiple antenna Techniques	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C313 & MG8591 PRINCIPLES OF MANAGEMENT
Year of Study :	2019-2020

Course Code and Name: MG8591 PRINCIPLES OF MANAGEMENT		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C313.1	**Understand** about the management principles and organisations	K2
C313.2	**Understand** about the planning of management	K2
C313.3	**Understanding** about the organizing and staffing	K2
C313.4	**Understanding** about leading and directing of management	K2
C313.5	**Understanding** about controlling and have same basic knowledge on international aspect of management	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C314 & EC8651 TRANSMISSION LINES AND RF SYSTEMS
Year of Study :	2019-2020

Course Code and Name: EC8651 TRANSMISSION LINES AND RF SYSTEMS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C314.1	**Explain** the characteristics of transmission lines and its losses	K2
C314.2	**Write** about the standing wave ratio and input impedance in high frequency transmission lines	K3
C314.3	**Analyze** impedance matching by stubs using smith charts	K4
C314.4	**Analyze** the characteristics of TE and TM waves	K4
C314.5	**Design** a RF transceiver system for wireless communication	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C315 & EC8004 WIRELESS NETWORKS
Year of Study :	2019-2020

Course Code and Name: EC8004 WIRELESS NETWORKS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C315.1	**Conversant** with the latest 3G/4G networks and its architecture	K2
C315.2	**Design** and implement wireless network environment for any application using latest wireless protocols and standards	K5
C315.3	**Select** the suitable network depending on the availability and requirement	K3
C315.4	**Implement** different type of applications for smart phones and mobile devices with latest network strategies	K3
C315.5	**Design** Various 4G models and architecture	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C316 & EC8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY
Year of Study :	2019-2020

Course Code and Name: EC8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C316.1	**Write** ALP Programmes for fixed and Floating Point and Arithmetic operations	K4
C316.2	**Interface** different I/Os with processor	K3
C316.3	**Generate** waveforms using Microprocessors	K4
C316.4	**Execute** Programs in 8051	K4
C316.5	**Explain** the difference between simulator and Emulator	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C317 & EC8661 VLSI DESIGN LABORATORY
Year of Study :	2019-2020

Course Code and Name: EC8661 VLSI DESIGN LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C317.1	**Write** HDL code for basic as well as advanced digital integrated circuit	K3
C317.2	**Import** the logic modules into FPGA Boards	K2
C317.3	**Synthesize** Place and Route the digital IPs	K4
C317.4	**Design** and Extract the layouts of Digital & Analog IC Blocks	K5
C317.5	**Simulate** IC blocks using EDA tools	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	III & VI
Course Code & Name:	C318 & HS8581 PROFESSIONAL COMMUNICATION
Year of Study :	2019-2020

Course Code and Name: HS8581 PROFESSIONAL COMMUNICATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C318.1	**Make** effective presentations	K2
C318.2	**Participate** confidently in Group Discussions.	K2
C318.3	**Attend** job interviews and be successful in them.	K2
C318.4	**Develop** adequate Soft Skills required for the workplace	K3
C318.5	**Develop** the team management	K3

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C401 & EC8701 ANTENNAS AND MICROWAVE ENGINEERING
Year of Study :	2020-2021

Course Code and Name: EC8701 ANTENNAS AND MICROWAVE ENGINEERING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C401.1	**Apply** the basic principles and evaluate antenna parameters	K3
C401.2	**Apply** the link power budgets.	K3
C401.3	**Design** and assess the performance of various antennas	K5
C401.4	**Design** the active and passive antennas	K5
C401.5	**Design** a microwave system given the application specifications	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C402 & EC8751 OPTICAL COMMUNICATION
Year of Study :	2020-2021

Course Code and Name: EC8751 OPTICAL COMMUNICATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C402.1	**Realize** basic elements in optical fibers, different modes and configurations	K2
C402.2	**Analyze** the transmission characteristics associated with dispersion and polarization techniques.	K4
C402.3	**Design** optical sources and detectors with their use in optical communication system	K5
C402.4	**Construct** fiber optic receiver systems, measurements and coupling techniques.	K4
C402.5	**Design** optical communication systems and its networks.	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C403 & EC8791 EMBEDDED AND REAL TIME SYSTEMS
Year of Study :	2020-2021

Course Code and Name: EC8791 EMBEDDED AND REAL TIME SYSTEMS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
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	**Model** real-time applications using embedded-system concepts	K3
C403.5	**Understand** the various real time OS in embedded systems	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C404 & EC8702 AD HOC AND WIRELESS SENSOR NETWORKS
Year of Study :	2020-2021

Course Code and Name: EC8702 AD HOC AND WIRELESS SENSOR NETWORKS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C404.1	**Know** the basics of Ad hoc networks and Wireless Sensor Networks	K2
C404.2	**Apply** this knowledge to identify the suitable routing algorithm based on the network and user requirement	K3
C404.3	**Apply** the knowledge to identify appropriate physical and MAC layer protocols	K3
C404.4	**Understand** the transport layer and security issues possible in Ad hoc and sensor networks.	K2
C404.5	**B**e familiar with the OS used in Wireless Sensor Networks and build basic modules	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C405 & OML 751 TESTING OF MATERIALS
Year of Study :	2020-2021

Course Code and Name: OML 751 TESTING OF MATERIALS		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C405.1	Identify suitable testing technique to inspect industrial component	K2
C405.2	Understand the concept of mechanical Testing	K3
C405.3	**Understand** the concept of non destructive Testing	K3
C405.4	**Understand** the various characters of testing	K2
C405.5	Use the different technique and know its applications and limitations	K2

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C406 & EC8711 EMBEDDED LABORATORY
Year of Study :	2020-2021

Course Code and Name: EC8711 EMBEDDED LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C406.1	**Write** programs in ARM for a specific Application	K3
C406.2	**Interface** memory, A/D and D/A convertors with ARM system	K3
C406.3	**Analyze** the performance of interrupt	K4
C406.4	**Write** program for interfacing keyboard, display, motor and sensor	K3
C406.5	**Formulate** a mini project using embedded system	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VII
Course Code & Name:	C407 & EC8761 ADVANCED COMMUNICATION LABORATORY
Year of Study :	2020-2021

Course Code and Name: EC8761 ADVANCED COMMUNICATION LABORATORY		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C407.1	**Analyze** the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber	K4
C407.2	**Analyze** the Eye Pattern, Pulse broadening of optical fiber and the impact on BER	K4
C407.3	**Estimate** the Wireless Channel Characteristics and Analyze the performance of Wireless Communication System	K3
C407.4	**Understand** the intricacies in Microwave System design	K2
C407.5	**Demonstrate** the Microwave IC Sockets	K4

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VIII
Course Code & Name:	C408 & EC8094 SATELLITE COMMUNICATION
Year of Study :	2020-2021

Course Code and Name: EC8094 SATELLITE COMMUNICATION		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C408.1	**Analyze** the satellite orbits	K4
C408.2	**Analyze** the earth segment and space segment	K4
C408.3	**Analyze** the satellite Link design	K4
C408.4	**Analyze** the satellite coding methods	K4
C408.5	**Design** various satellite applications	K5

Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VIII
Course Code & Name:	C409 & GE8076 PROFESSIONAL ETHICS IN ENGINEERING
Year of Study :	2020-2021

Course Code and Name: GE8076 PROFESSIONAL ETHICS IN ENGINEERING		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C409.1	**Understand** the concepts of Human values	K2
C409.2	**Understand** the concepts of Engineering ethics	K2
C409.3	**Learn** about the social experimentation	K2
C409.4	**Understand** the concepts of rights and duties	K2
C409.5	**Discuss** about the various global issues	K2

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Programme: B.E. Electronics and Communication Engineering	
Year & Semester:	IV & VIII
Course Code & Name:	C410 & EC8811 PROJECT WORK
Year of Study :	2020-2021

Course Code and Name: EC8811 PROJECT WORK		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C410.1	**Use** literature to identify the objective, scope and the concept of the work.	K2
C410.2	**Apply** suitable methods and materials to carry out experiments	K3
C410.3	**Discuss** the results obtained to derive conclusion	K3
C410.4	**Defend** the work by preparing a report as per the University format.	K2
C410.5	Compile the experimental information to publish in conference	K3