CRITERION2 - TEACHING-LEARNING AND EVALUATION

KEY INDICATOR 2.6 STUDENT PERFORMANCE AND LEARNING OUTCOMES

Metric No 2.6.2 Attainment of Programme Outcomes and Course Outcomes are evaluated by the Institution.

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NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

1. Program Outcomes (PO) for Electronics and Communication Engineering

PO1	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The Engineer and Society**: Apply reasoning in formed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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2. Program Specific Outeomes (PSO) for Electronics and Communication Engineering

At the end of the program students will be

PSO1	Highly proficient in Electronic Circuits, Embedded and Communication Systems and able to find solutions for real time complexities.
PSO2	Able to utilize MATLAB, Xilinx tools and techniques to develop innovative research ideas for new applications.

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3. List of courses for the Regulation 2017 (2018 – 2022 Batch)

SL. NO.	COURSE CODE	SUBJECT CODE	TITLE OF THE SUBJECT
			Semester - I
1.	C101	HS8151	Communicative English
2.	C102	MA8151	Engineering Mathematics – I
3.	C103	PH8151	Engineering Physics
4.	C104	CY8151	Engineering Chemistry
5.	C105	GE8151	Problem Solving and Python
6.	C106	GE8152	Engineering Graphics
7.	C107	GE8161	Problem Solving and Python Laboratory
8.	C108	BS8161	Physics and Chemistry Laboratory
			Semester - II
9.	C109	HS8251	Technical English
10.	C110	MA8251	Engineering Mathematics – II
11.	C111	PH8253	Physics for Electronics Engineering
12.	C112	BE8254	Basic Electrical and Instrumentation Engineering
13.	C113	EC8251	Circuit Analysis
14.	C114	EC8252	Electronic Devices
15.	C115	EC8261	Circuits and Devices Laboratory
16.	C116	GE8261	Engineering Practices Laboratory
			Semester - III
17.	C201	MA8352	Linear Algebra and Partial Differential Equations
18.	C202	EC8393	Fundamentals of Data Structures in C
19.	C203	EC8351	Electronic Circuits-I
20.	C204	EC8352	Signals and Systems
21.	C205	EC8392	Digital Electronics
22.	C206	EC8391	Control System Engineering
23.	C207	EC8381	Fundamentals of Data Structures in C Laboratory
24.	C208	EC8361	Analog and Digital Circuits Laboratory
25.	C209	HS8381	Interpersonal Skills /Listening & Speaking
			Semester - IV
26.	C210	MA8451	Probability and Random Processes
27.	C211	EC8452	Electronic Circuits-II
28.	C212	EC8491	Communication Theory
29.	C213	EC8451	Electromagnetic Fields
30.	C214	EC8453	Linear Integrated Circuits

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31.	C215	GE8291	Environmental Science and Engineering
32.	C216	EC8461	Circuits Design and Simulation Laboratory
33.	C217	EC8462	Linear Integrated Circuits Laboratory
		Semester - V	
34.	C301	EC8501	Digital Communication
35.	C302	EC8553	Discrete-Time Signal Processing
36.	C303	EC8552	Computer Architecture and Organization
37.	C304	EC8551	Communication Networks
38.	C305	EC8073	Medical Electronics
39.	C306	OMD551	Basic of Biomedical Instrumentation
40.	C307	EC8562	Digital Signal Processing Laboratory
41.	C308	EC8561	Communication Systems Laboratory
42.	C309	EC8563	Communication Networks Laboratory
		Semester - VI	
43.	C310	EC8691	Microprocessors and Microcontrollers
44.	C311	EC8095	VLSI Design
45.	C312	EC8652	Wireless Communication
46.	C313	MG8591	Principles of Management
47.	C314	EC8651	Transmission Lines and RF Systems
48.	C315	EC8004	Wireless Networks
49.	C316	EC8681	Microprocessors and Microcontrollers Laboratory
50.	C317	EC8661	VLSI Design Laboratory
51.	C318	EC8611	Technical Seminar
52.	C319	HS8581	Professional Communication
		Semester - VII	
53.	C401	EC8701	Antennas and Microwave Engineering
54.	C402	EC8751	Optical Communication
55.	C403	EC8791	Embedded and Real Time Systems
56.	C404	EC8702	Adhoc and Wireless Sensor Networks
57.	C405	EC8092	Advanced Wireless Communication
58.	C406	OIC751	Transducer Engineering
59.	C407	EC8711	Embedded Laboratory
60.	C408	EC8761	Advanced Communication Laboratory
		Semester - VIII	
61.	C409	GE8076	Professional Ethics in Engineering
62.	C410	EC8094	Satellite Communication
63.	C411	EC8811	Project Work

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4. **List of Course Outcomes (Regulation 2017) for ECE**

SEMESTER 1

Course Code &Name : C101 & HS8151 - Communicative English		
	CO Statements	**Knowledge Level**
The students should be able to		
C101.1	Enhance their reading and technical writing skills in the first year itself	K2
C101.2	Comfortably read and understand articles in science and Engineering journals and articles in dailies	K2
C101.3	Get themselves involved in an active manner during informal conversations, state opinions and express willingness	K3
C101.4	Communicate effectively in short conversations and talks uttered in English	K4
C101.5	Draft essays related to their subjects and write personal letters and emails in comfortable manner for lifelong learning	K4

Course Code &Name : C102 & MA8151 - Engineering Mathematics - I		
	CO Statements	**Knowledge Level**
The students should be able to		
C102.1	Analyze and apply the Engineering knowledge in differentiation to solve maxima and minima problems	K4
C102.2	Solve the problems of integrals using different methods of calculus	K5
C102.3	Design and develop the problems of integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables	K6
C102.4	Analyze the problems of integrals by using various methods of integration, such as substitution, partial fractions and integration by parts	K4
C102.5	Apply various tools in solving the differential equations to recognize the need for life-long learning	K3

Course Code &Name : C103 &PH8151 - Engineering Physics		
	CO Statements	**Knowledge Level**
The students should be able to		
C103.1	Analyse the problems in columns and beams andgain the engineering knowledge in properties of matter to formulate	K4
C103.2	Understand the fundamental concepts and applications of waves, lasers and fiber optics to give theoretical approaches to design modern devices	K2
C103.3	Interpret the knowledge in thermal properties of materials and can determined expansion joints and heat exchangers in devices	K3
C103.4	Understand the fundamental concepts of quantum theory and how modern electron microscope techniques use it to make predictions in the field of physics	K2
C103.5	Appreciate the behavior of solids, describe the fundamentals of crystals, their structures, and the various crystal development processes	K2

Course Code &Name : C104 &CY8151 - Engineering Chemistry		
	CO Statements	**Knowledge Level**
The students should be able to		
C104.1	Apply the water treatment techniques water in the industries and domestic water using the latest techniques by using engineering knowledge	K3
C104.2	Understand the adsorption methods used in the field of water and air pollution purification to assess societal, health, safety and cultural issues in the environmental	K2
C104.3	Know the significance of alloying and the behavior of one component and two component systems using phase diagram and apply appropriate techniques in the field of metallurgy	K2
C104.4	Discuss the types of fuels, calorific value calculations, and analyze the need for alternative fuels to solve current social problems by using engineering techniques	K4
C104.5	Review the principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells with appropriate consideration for the societal and environmental considerations	K2

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Course Code &Name : C105 &GE8151- Problem Solving and Python		
	CO Statements	**Knowledge Level**
The students should be able to		
C105.1	Understand the concepts of computational thinking and algorithmic problem-solving techniques	K2
C105.2	Develop simple python programs for applying the concepts of data types, expressions, and python statements	K3
C105.3	Develop Python programs for solving real-time computational problems by using conditionals, looping, functions, and strings	K3
C105.4	Understand the concepts of compound data using Python lists, tuples, and dictionaries	K2
C105.5	Develop python programs for solving computational problems by using modules, files, and python packages	K3

Course Code and Name : C106 & GE8152- Engineering Graphics		
	CO Statements	**Knowledge Level**
The students should be able to		
C106.1	Sketch the conic sections, special curves, and draw orthographic views from pictorial views and models	K4
C106.2	Apply the principles of orthographic projections of points in all quadrants, lines and planes in first quadrant	K3
C106.3	Sketch the projections of simple solids like prisms, pyramids, cylinder and cone and obtain the traces of plane figures	K4
C106.4	Practice the sectional views of solids like cube, prisms, pyramids, cylinders & cones and extend its lateral surfaces	K3
C106.5	Sketch the perspective projection of simple solids, truncated prisms, pyramids, cone and cylinders and sketch the isometric projection of simple machine parts	K4

Course Code and Name : C107 &GE8161- Problem Solving and Python Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C107.1	Develop simple python programs for applying the concepts of data types, expressions, and python statements	K3
C107.2	Develop Python programs using conditionals, looping, functions, and strings for solving real-time computational problems	K3
C107.3	Understand the concepts of compound data using Python lists, tuples, and dictionaries	K2
C107.4	Develop python programs for solving problems by using modules, files, and python packages	K3
C107.5	Utilize Python packages for developing real-world software applications	K6

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Course Code and Name : C108 & BS8161 - Physics and Chemistry Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C108.1	Manipulate the fundamental concepts like torque, elasticity and bending moment of beams for various engineering applications by the determination of rigidity modulus of the wire and young's modulus of the material of the beam by non-uniform bending	K3
C108.2	Practice the fundamentals of thermal properties of material of the bad conductor by Lee's disc method	K3
C108.3	Understand the basic knowledge and estimation of DO content in water sample by Winkler's method and molecular weight of polymer by Ostwald viscometer	K2
C108.4	Dramatize the strength of an acid using pH meter and conductometer for applications in the field of engineering	K3
C108.5	Experimenting the estimation of total, permanent and temporary hardness of water for our environment	K3

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SEMESTER 2

Course Code &Name : C109 & HS8251 - Technical English		
	CO Statements	Knowledge Level
The students should be able to		
C109.1	Read and write their technical and area-specific texts in an effortless manner	K3
C109.2	Listen comfortably and respond confidently to lectures and talks pertaining to their domain skills	K2
C109.3	Speak in an appropriate manner in both formal and informal situations for lifelong learning	K3
C109.4	Create CVs and draft Job applications in confident manner	K6
C109.5	Communicate confidently by using all the four skills with their peers and in real life situations	K4

Course Code &Name : C110 & MA8251 - Engineering Mathematics - II		
	CO Statements	Knowledge Level
The students should be able to		
C110.1	Analyze the different types of matrices for solving practical problems	K4
C110.2	Apply Gradient, divergence and curl of a vector point function and related identities in engineering field	K3
C110.3	Acquire the knowledge to solve the engineering problems in analytic functions	K2
C110.4	Analyze and apply the different methods to solve complex integration problems	K4
C110.5	Create and manage the projects after applying and analyzing the fundamentals of Laplace transforms	K6

Course Code &Name : C111 & PH8253 - Physics for Electronics Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C111.1	Comprehend the materials for their diverse applications, it is necessary to grasp the energy band structures and the classical and quantum electron theories	K3
C111.2	Provide a balanced understanding of diverse semiconductor electronic devices, such as hall devices, ohmic contacts, Schottky diodes, and power transistors, by explaining the fundamental principles of semiconductor physics	K2
C111.3	Interpret the properties of magnetic and dielectric materials, manipulate them and then analyze them for the purposes for which they are used in modern devices	K3

C111.4	Understand the fundamental properties of optical materials in optoelectronics is essential to comprehend the theoretical methods for designing modern optoelectronic devices	K2
C111.5	Comprehend the fundamentals of quantum structures and the nano scale manipulation of modern materials in spintronics and carbon electronics	K2

Course Code &Name : C112 & BE8254 - Basic Electrical and Instrumentation Engineering		
	CO Statements	**Knowledge Level**
The students should be able to		
C112.1	Understand the operation of three phase electrical circuits and power system.	K2
C112.2	Analyze the regulation and efficiency of transformers	K4
C112.3	Understand the characteristics of DC Generator and Motor	K2
C112.4	Analyze the performance of AC and DC machines.	K4
C112.5	Apply the concepts of measurements and instruments for real time applications.	K3

Course Code &Name : C113 & EC8251- Circuit Analysis		
	CO Statements	**Knowledge Level**
The students should be able to		
C113.1	Understand the basic concepts of circuit elements and fundamental laws applied for circuits	K2
C113.2	Apply circuit theorems for DC and AC circuits to find the electrical parameters	K3
C113.3	Understand the concept of resonant theory and coupled circuits	K2
C113.4	Analyze the transient response of DC and AC Circuits in series and parallel configurations	K4
C113.5	Construct the two port networks and to verify its properties	K2

Course Code &Name : C114 &EC8252 - Electronic Devices		
	CO Statements	**Knowledge Level**
The students should be able to		
C114.1	Understand the fundamental concepts of semiconductor diode and its operation	K2
C114.2	Elaborate the construction and operation of transistors with its equivalent circuits	K2
C114.3	Illustrate the construction and operation of FET and its characteristics	K2
C114.4	Understand the principle of operation and characteristics of special semiconductor devices	K2
C114.5	Discuss the operation of various semiconductor photo devices and power electronic devices	K2

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Course Code &Name : C115 & EC8261 - Circuits and Devices Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C115.1	Demonstrate VI characteristics of basic electronic devices	K2
C115.2	Apply network theorems for electrical circuits	K3
C115.3	Demonstrate the transient analysis and resonance of the RLC circuits	K2

Course Code &Name : C116 &GE8261 - Engineering Practices Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C116.1	Analyze the pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work	K2
C116.2	Weld various joints in steel plates using arc welding work; Simple machine processes like turning, drilling, tapping in parts; Making simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work	K2
C116.3	Apply the Knowledge of electrical wiring in common household electrical wire work	K2
C116.4	Demonstrate the soldering and testing of simple electronic circuits and assembling and testing of simple electronic components on PCB	K2

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SEMESTER 3

Course Code &Name : C201 & MA8352 - Linear Algebra and Partial Differential Equations		
	CO Statements	**Knowledge Level**
The students should be able to		
C201.1	Analyze the fundamental concepts of advanced algebra and their role in modern Mathematics and applied contexts	K3
C201.2	Apply the accurate and efficient use of advanced algebraic techniques in engineering field	K4
C201.3	Solve non - trivial problems related to the concepts and by proving simple theorems	K3
C201.4	Apply the engineering knowledge to manage the projects in transforms and partial differential equations to formulate and solve some of the physical engineering problems	K6
C201.5	Identify and analyze the partial differential equations using Fourier series analysis in engineering applications	K3

Course Code and Name : C202 & EC8393 - Fundamentals of Data Structures In C		
	CO Statements	**Knowledge Level**
The students should be able to		
C202.1	Understand the fundamentals of basic C programming.	K2
C202.2	Create an application program using functions, Pointers, structures and Unions	K3
C202.3	Implement linear data structures such as arrays, stacks, queues and linked list operations using C	K3
C202.4	Implement non-linear data structures Trees and Graphs for an application	K4
C202.5	Apply various sorting algorithms for an application using C program	K4

Course Code and Name : C203 & EC8351 - Electronic Circuits- I		
	CO Statements	**Knowledge Level**
The students should be able to		
C203.1	Understand the fundamental concepts of biasing of BJT	K2
C203.2	Design the single stage and multistage BJT amplifiers	K2
C203.3	Analyze the FET and MOSFET small signal amplifiers	K4
C203.4	Analyze the frequency response characteristics of FET and MOSFET small signal amplifiers	K4
C203.5	Illustrate different types of rectifiers and power supplies	K3

Course Code and Name : C204 & EC8352 - Signals and Systems		
	CO Statements	Knowledge Level
The students should be able to		
C204.1	Analyze the properties of signals and systems	K4
C204.2	Apply Fourier Series and Fourier transform in CT signals	K3
C204.3	Examine LTI CT systems in the Time domain and frequency domain	K4
C204.4	Apply Z transform and DTFT in DT signals	K3
C204.5	Analyze LTI DT systems in the Time domain and frequency domain	K4

Course Code and Name : C205 & EC8392- Digital Electronics		
	CO Statements	Knowledge Level
The students should be able to		
C205.1	Understand the Boolean laws and formulate the different minimization techniques using Boolean functions	K2
C205.2	Implement the various combinational circuits using logic gates	K3
C205.3	Analyze and design the various synchronous sequential circuits using logic gates	K4
C205.4	Analyze the asynchronous sequential circuits for stability and its hazards.	K4
C205.5	Apply suitable memory devices and digital integrated circuits for real time applications	K3

Course Code and Name : C206 & EC8391 - Control Systems Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C206.1	Identify the various control system components and their representations.	K2
C206.2	Attain the time response and steady state error of control systems.	K3
C206.3	Analyze the stability of the system from its frequency response plots	K4
C206.4	Apply the concepts of Routh Hurwitz, Root Locus and Nyquist stability criterions to analyze the stability of the system.	K4
C206.5	Analyze the system stability with state space models using state variables	K4

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Course Code and Name : C207 & EC8381- Fundamentals of Data Structures in C Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C207.1	Write basic C programs using looping, data manipulations, arrays and strings.	K2
C207.2	Develop a C program using functions with argument passing	K3
C207.3	Create an application using linear and nonlinear data structures	K4
C207.4	Implement various sorting algorithms using C program.	K4
C207.5	Create an application using search algorithms and Hashing function	K4

Course Code and Name : C208 & EC8361 - Analog and Digital Circuits Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C208.1	Analyze the rectifiers, filters and regulated power supplies	K4
C208.2	Demonstrate the working of BJT and JFET amplifiers and to obtain its frequency response	K2
C208.3	Design a Cascode and Cascade amplifiers	K3
C208.4	Design a Combinational and Sequential Circuit using Logic Gates & Flip-flop	K3
C208.5	Simulate the electronic circuits like amplifiers and rectifiers using PSPICE Model	K3

Course Code and Name : C209 &HS8381 - Interpersonal Skills/Listening &Speaking		
	CO Statements	Knowledge Level
The students should be able to		
C209.1	Listen and react to English in an appropriate manner	K2
C209.2	Get themselves actively involved in Group Discussion activities	K3
C209.3	Feel comfortable in making oral presentations	K2
C209.4	React well in both formal and informal contexts in professional situations	K4
C209.5	Persuade their audience by making appropriate expressions	K5

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SEMESTER 4

Course Code and Name : C210 & MA8451- Probability and Random Processes		
	CO Statements	Knowledge Level
The students should be able to		
C210.1	Understand the basic notion of the concepts of probability and have knowledge of standard distributions which can apply to real life phenomenon	K2
C210.2	Apply the Engineering knowledge of one- and two-dimensional random variables	K3
C210.3	Identify and apply the concept of random processes in engineering field	K3
C210.4	Interpret and apply the concept of correlation and spectral densities to manage the projects	K3
C210.5	Analyze various distribution functions and to attain the knowledge to handle the response of random inputs to linear time invariant systems	K5

Course Code and Name: C211 & EC8452- Electronic Circuits II		
	CO Statements	Knowledge Level
The students should be able to		
C211.1	Construct the various feedback amplifiers using BJT	K3
C211.2	Design low frequency and high frequency oscillators using BJT	K3
C211.3	Analyze the performance of different types of tuned amplifiers using BJT	K4
C211.4	Design wave shaping circuits and multivibrators using BJT	K3
C211.5	Describe power amplifiers and DC-DC converters	K2

Course Code and Name: C212 & EC8491 Communication Theory		
	CO Statements	Knowledge Level
The students should be able to		
C212.1	Understand the implementation of AM in communication systems	K2
C212.2	Design angle modulated communication systems	K4
C212.3	Apply the concepts of Random Process to design Communication systems	K3
C212.4	Analyze the noise performance of AM and FM systems	K4
C212.5	Apply the concepts of sampling and quantization in communication	K3

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Course Code and Name: C213 & EC8451 Electromagnetic Fields		
	CO Statements	Knowledge Level
The students should be able to		
C213.1	Apply the basic concepts of vector algebra that related to electromagnetic model in different Co-ordinate systems	K3
C213.2	Understand the applications of electric field, potential, and energy density	K2
C213.3	Apply the magnetic field, potential, energy density forces, torques and their applications	K4
C213.4	Categorize the relation between electric and magnetic fields using Maxwell's equations	K4
C213.5	Understand the various wave propagation techniques in lossless and in lossy media	K2

Course Code and Name: C214 & EC8453 Linear Integrated Circuits		
	CO Statements	Knowledge Level
The students should be able to		
C214.1	Understand the construction and working of Op-amp and also its AC and DC characteristics	K2
C214.2	Design the circuits using op amp for linear and nonlinear applications	K3
C214.3	Apply the concepts of analog multiplier and PLL for various applications	K3
C214.4	Interpret the principle of conversion of ADC and DAC using op-amps	K2
C214.5	Design various waveform generators and other circuits using different ICs	K3

Course Code and Name : C215 & GE8291 Environmental Science and Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C215.1	Understand the basic notion of the concepts of probability and have knowledge of standard distributions which can apply to real life phenomenon	K2
C215.2	Apply the Engineering knowledge of one- and two-dimensional random variables	K3
C215.3	Identify and apply the concept of random processes in engineering field	K3
C215.4	Interpret and apply the concept of correlation and spectral densities to manage the projects	K3
C215.5	Analyze various distribution functions and to attain the knowledge to handle the response of random inputs to linear time invariant systems	K5

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Course Code and Name : C216 & EC8461 Circuits Design and Simulation Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C216.1	Analyze the characteristics of various types of feedback amplifiers	K4
C216.2	Design oscillators, tuned amplifiers, wave-shaping circuits and multivibrators using BJT	K3
C216.3	Simulate oscillators, tuned amplifiers, wave-shaping and multivibrators using SPICE tool	K3

Course Code and Name : C217& EC8462 Linear Integrated Circuit Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C217.1	Design oscillators and amplifiers using operational amplifiers	K3
C217.2	Design filters using Op-amp and perform experiments to obtain frequency response	K3
C217.3	Analyze the working of PLL and use PLL as frequency multiplier	K4
C217.4	Design DC power supply using ICs	K3
C217.5	Analyze the performance of oscillators and multivibrators using SPICE	K4

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SEMESTER 5

Course Code and Name: C301 & EC8501 Digital Communication		
	CO Statements	Knowledge Level
The students should be able to		
C301.1	Compute the information capacity using Huffman and Shannon-Fano encoding methods	K3
C301.2	Understand the implementation of DPCM, DM, ADPCM and ADM techniques	K2
C301.3	Apply the base band transmission and reception techniques in Digital communication systems	K3
C301.4	Analyze the noise performance of various digital modulation techniques.	K4
C301.5	Compute error control coding techniques in digital communication system	K3

Course Code and Name: C302 & EC8553 Discrete-Time Signal Processing		
	CO Statements	Knowledge Level
The students should be able to		
C302.1	Understand the fundamental concepts of DFT for the analysis of discrete time signals	K2
C302.2	Implement the digital Infinite Impulse response Filters and formulate various realizations	K3
C302.3	Develop the linear phase Finite Impulse Response filters using windowing and frequency sampling techniques	K4
C302.4	Examine the finite word length effects in digital signal processing	K2
C302.5	Understand the architecture, addressing modes and instruction sets of Digital Signal Processors	K2

Course Code and Name: C303 & EC8552 Computer Architecture and Organization		
	CO Statements	Knowledge Level
The students should be able to		
C303.1	Understand the basic organization of modern computer systems	K2
C303.2	Implement fixed- and floating-point arithmetic operations in computer architecture	K3
C303.3	Design pipelined control units for implementing parallel processing	K2
C303.4	Analyze the performance of memory systems and I/O devices	K4
C303.5	Understand the parallel processing and advanced computer architectures	K2

Course Code and Name: C304 & EC8551 Communication Networks		
	CO Statements	Knowledge Level
The students should be able to		
C304.1	Understand the basic building block of Networks and formulate the different Error detection and correction techniques	K2
C304.2	Relate various media access and internetworking protocols	K2
C304.3	Apply various routing protocols and algorithms for a given network along with IP addresses	K3
C304.4	Demonstrate the flow of information in Transport Layer	K2
C304.5	Study the various Application layer paradigms and the basics of cryptography and network security	K2

Course Code and Name: C305 & EC8073 Medical Electronics		
	CO Statements	Knowledge Level
The students should be able to		
C305.1	Understand the human body electro- physiological parameters and recording of bio-potentials	K2
C305.2	Examine the non-electrical physiological parameters and their measurement	K2
C305.3	Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators	K2
C305.4	Utilize physical medicine methods like ultrasonic, shortwave, microwave surgical diathermies, and bio-telemetry principles	K2
C305.5	Outline about recent trends in medical instrumentation	K2

Course Code and Name: C306 & OMD551 Basics of Biomedical Instrumentation		
	CO Statements	Knowledge Level
The students should be able to		
C306.1	Understand the bio potential generation, propagation and types of electrodes	K2
C306.2	Apply the different electrode placement techniques for various physiological recording	K3
C306.3	Interpret non-electrical parameters measurement techniques	K3
C306.4	Apply biochemical measurement techniques for real time systems	K3
C306.5	Design bio amplifier for various physiological recording	K4

Course Code and Name: C307 & EC8562 Digital Signal Processing Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C307.1	Demonstrate convolution and correlation using MATLAB	K3
C307.2	Design and Implementation of FIR and IIR Filters using MATLAB	K4
C307.3	Design and Implementation of FIR and IIR Filters using DSP Processor	K4

Course Code and Name: C308 & EC8561 Communication Systems Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C308.1	Analysethe effects of sampling and TDM	K4
C308.2	Demonstrate the various analog and digital modulation and demodulation techniques	K3
C308.3	Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system	K3
C308.4	Simulate Digital Modulation schemes using MATLAB	K3
C308.5	Simulate Error control coding schemes using MATLAB	K3

Course Code and Name: C309 & EC8563 Communication Networks Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C309.1	Demonstrate communication between two desktop computers	K2
C309.2	Implement various networking protocols and establish connection between computers	K3
C309.3	Construct a network using sockets and exchange information	K3
C309.4	Implement various routing protocols and maintain a secure data transfer	K3
C309.5	Simulate various types of topologies and understand the differences between them	K3

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SEMESTER 6

Course Code and Name : C310 & EC8691 Microprocessors and Microcontrollers		
	CO Statements	Knowledge Level
The students should be able to		
C310.1	Understand the fundamental concepts of 8086 microprocessor architecture, addressing modes & instruction set	K2
C310.2	Understand the design aspects of I/O and Memory Interfacing circuits	K2
C310.3	Develop Assembly language program to interface 8086 microprocessors with supporting chips for different applications	K4
C310.4	Understand the fundamental concepts of 8051 microprocessor architecture, addressing modes & instruction set	K2
C310.5	Develop Assembly language program to interface 8051 microcontrollers with supporting chips for different applications	K4

Course Code and Name : C311 & EC8095 VLSI Design		
	CO Statements	Knowledge Level
The students should be able to		
C311.1	Understand the concepts of digital building blocks using MOS transistor	K2
C311.2	Design various combinational MOS logic circuits like CPL, DPL	K3
C311.3	Construct Sequential Circuits and Timing systems	K2
C311.4	Design arithmetic building blocks and memory subsystem	K3
C311.5	Implement FPGA design flow and testing	K3

Course Code and Name : C312 & EC8652 Wireless Communication		
	CO Statements	Knowledge Level
The students should be able to		
C312.1	Characterize a wireless channel and evolve the system design specifications	K2
C312.2	Illustrate the multiple access techniques and channel assignment used in cellular architecture	K2
C312.3	Apply the various digital signaling techniques for the wireless channels and systems	K3
C312.4	Identify multipath mitigation techniques for the wireless channel and system under consideration	K2
C312.5	Understand the concept of Multiple Antenna techniques with transmitter and receiver diversity	K2

Course Code and Name :C313 & MG8591 Principles of Management		
	CO Statements	**Knowledge Level**
The students should be able to		
C313.1	Discuss the evolution of management, functions and roles of managers	K2
C313.2	Explain the different types of planning, process and tools used for planning	K2
C313.3	Elaborate different organization structures and functions of human Resources manager	K2
C313.4	Illustrate the different theories of motivation and leadership	K2
C313.5	Describe the control techniques and the role of technology in management	K1

Course Code and Name : C314 & EC8651 Transmission Lines and RF Systems		
	CO Statements	**Knowledge Level**
The students should be able to		
C314.1	Understand the parameters of basic transmission lines	K2
C314.2	Understand the parameters of high frequency transmission lines	K2
C314.3	Analyze impedance matching by stubs using smith charts	K4
C314.4	Derive the field equations for TE and TM waves	K3
C314.5	Illustrate RF Active components, Gain and stability considerations	K3

Course Code and Name : C315 & EC8004 Wireless Networks		
	CO Statements	**Knowledge Level**
The students should be able to		
C315.1	Illustrate the latest 3G/4G networks and its architecture	K3
C315.2	Examine the suitable network depending on the availability and requirement	K4
C315.3	Categorize and implement wireless network environment for any application using latest wireless protocols and standards	K4
C315.4	Implement different type of applications for smart phones and mobile devices with latest network strategies.	K3
C315.5	Apply multiple antenna techniques for capacity/ performance gains and explore other research areas in 5G	K3

Course Code and Name: C316 & EC8681 Microprocessors and Microcontrollers Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C316.1	Develop the ALP Programs for fixed point arithmetic circuits	K3
C316.2	Demonstrate the interfacing circuits for different I/Os.	K3
C316.3	Develop the Assembly Language Program for generating waveforms such as square wave and triangular wave using microprocessors	K3
C316.4	Develop the arithmetic and logical programs using 8051 microcontrollers	K3
C316.5	Demonstrate the performance in simulator and emulator	K2

Course Code and Name: C317 & EC8661 VLSI Design Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C317.1	Develop the HDL code for basic combinational digital integrated circuits	K4
C317.2	Develop the HDL code for basic sequential digital integrated circuits.	K4
C317.3	Implement the logic modules in FPGA Boards	K3
C317.4	Synthesize Place and Route the digital IPs	K4
C317.5	Design, Simulate and extract the layouts of Analog IC Blocks using EDA tools	K4

Course Code and Name: C318 & EC8611 Technical Seminar		
	CO Statements	**Knowledge Level**
The students should be able to		
C318.1	Identify and formulate the problem	K3
C318.2	Make effective literature survey for the identified problem	K3
C318.3	Infer promising new directions of various cutting-edge technologies	K4
C318.4	Inspect skills in preparing detailed report describing the project	K3
C318.5	Communicate effectively by making an oral presentation before an evaluation committee	K5

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Course Code and Name: C319 & HS8581 Professional Communication		
	CO Statements	Knowledge Level
The students should be able to		
C319.1	Enhance the employability and career skills in engineering domain	K3
C319.2	Improve professional communication	K4
C319.3	Build confidence in employability skills	K4
C319.4	Face interviews with necessary skills	K5
C319.5	Acquire required skills to excel in their career	K3

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SEMESTER 7

Course Code and Name: C401 & EC8701 Antennas and Microwave Engineering		
	CO Statements	**Knowledge Level**
The students should be able to		
C401.1	Understand the basic principles of antenna and microwave system design.	K2
C401.2	Apply the knowledge of radiation mechanism to design various antennas	K3
C401.3	Apply the knowledge of radiation principles of antenna to construct arrays	K3
C401.4	Understand the fundamental active and passive microwave devices	K2
C401.5	Design a microwave system for a given specifications	K3

Course Code and Name: C402 & EC8751 Optical Communication		
	CO Statements	**Knowledge Level**
The students should be able to		
C402.1	Understand the basic elements of optical fibers, different operating modes and configurations	K2
C402.2	Analyze the transmission characteristics associated with dispersion and polarization techniques	K4
C402.3	Identify the characteristics of various fiber optical sources and detectors	K2
C402.4	Construct the fiber optic receiver systems, measurements and coupling techniques	K4
C402.5	Understand the optical communication systems and its networks	K2

Course Code and Name: C403 & EC8791 Embedded and Real Time Systems		
	CO Statements	**Knowledge Level**
The students should be able to		
C403.1	Outline the concepts of Embedded systems	K3
C403.2	Analyze the ARM Architecture and Instruction set to understand ARM based MCU with peripherals	K4
C403.3	Apply the models of programs in embedded programming to analyze the program level performance analysis	K3
C403.4	Analyze the task assignment and scheduling in the real time system	K4
C403.5	Enhance the model real time applications using Embedded system concepts	K2

Course Code and Name: C404 & EC8702 Ad hoc and Wireless Sensor Networks		
	CO Statements	Knowledge Level
The students should be able to		
C404.1	Understand the basics of Adhoc networks and Wireless Sensor Networks	K2
C404.2	Apply the knowledge to identify the suitable routing algorithm based on the network and userrequirement	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 Adhoc and sensor networks	K2
C404.5	Recognize the OS used in Wireless Sensor Networks and build basic modules	K2

Course Code and Name: C405 & EC8092 Advanced Wireless Communication		
	CO Statements	Knowledge Level
The students should be able to		
C405.1	Comprehend the significance and role of this course in the present contemporary world	K2
C405.2	Apply the knowledge about the importance of MIMO in today's communication	K3
C405.3	Illustrate channel impairment mitigation using space-time block and Trellis codes	K3
C405.4	Apply various methods for improving the data rate of wireless communication system	K3
C405.5	Analyze advanced MIMO system - layered space time codes, MU-MIMO System and MIMO-OFDM systems	K4

Course Code and Name: C406 & OIC751 Transducer Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C406.1	Understand how physical quantities are measured and the transducer is classified	K2
C406.2	Study the parameters of static characteristics and dynamic characteristics	K2
C406.3	Summarize the operation of resistive transducers	K2
C406.4	Summarize the operation of inductive and capacitive transducers	K2
C406.5	Demonstrate the operation of special transducers and sensors	K2

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Course Code and Name: C407 & EC8711 Embedded Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C407.1	Develop programs in ARM for specific applications	K3
C407.2	Interface memory, A/D & D/A converters with ARM Systems	K4
C407.3	Analyze the performance of the interrupt	K4
C407.4	Develop Program for Interfacing keyboard, display, motor and sensor	K3
C407.5	Formulate the mini project using Embedded system	K5

Course Code and Name: C408 & EC8761 Advanced Communication Laboratory		
	CO Statements	**Knowledge Level**
The students should be able to		
C408.1	Determine the performance of simple analog and digital optical link to analyze its frequency response	K4
C408.2	Experiment with optical fiber to measure the losses and to analyze the mode characteristics	K4
C408.3	Model the Wireless Channel for the study of characteristics and performance of Wireless Communication System	K3
C408.4	Determine the characteristics of active microwave devices	K2
C408.5	Determine the characteristics of passive microwave devices	K2

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Course Code and Name: C409 & EC8076 Professional Ethics in Engineering		
	CO Statements	**Knowledge Level**
The students should be able to		
C409.1	Describe the importance of human values from perspective of engineers	K1
C409.2	Explain different theories on moral development	K2
C409.3	Discuss the codes of ethics for engineers and roles of engineers as experimenters	K2
C409.4	Describe about safety, risk and to recognize the different responsibilities and rights of engineers	K2
C409.5	Interpret the different roles of engineers with regards to present global scenario	K4

Course Code and Name: C410 & EC8094 Satellite Communication		
	CO Statements	**Knowledge Level**
The students should be able to		
C410.1	Understand the basics of satellite orbits	K2
C410.2	Distinguish the satellite segment and earth segment	K2
C410.3	Analyze the satellite link design	K3
C410.4	Understand the multiple access techniques and coding methods used in satellite networks	K2
C410.5	Understand the development of satellites for various applications	K2

Course Code and Name: C411 & EC8811 Project Work		
	CO Statements	**Knowledge Level**
The students should be able to		
C411.1	Conduct a literature survey in the selected domain to identify requirements for the real-world problems and propose a methodology	K2
C411.2	Model the problem at hand and experiment with Hardware/Software skill sets to suit the requirements	K3
C411.3	Build and demonstrate the project effectively as a team with the attitudes of professional Engineers.	K4
C411.4	Evaluate the challenges and risks involved in the execution of the project and take appropriate actions to circumvent them	K5
C411.5	Communicate the results of an engineering project by means of an oral presentation, written reports and practical demonstration of the project outcomes	K6

5. i) Sample ECE Attainment of Course Outcomes (Internal & Model Examination)

Course Code: C310 **Subject Code & Name:** EC8681& Microprocessors and Microcontrollers

1	SUBJECT NAME	MICROPROCESSORS AND MICROCONTROLLERS
	COURSE CODE :	C310

			Internal Assessment Test 1		Internal Assessment Test 2		Model Examination					
Sl	Reg No	Name	CO1	CO2	CO3	CO4	CO1	CO2	CO3	CO4	COS	UNIV EXAM(10
1	920818106001	ABILASHA M	60	40	59	40	17	17	17	16	32	10
2	920818106002	ABINAYA S	60	40	59	40	16	17	17	17	31	10
3	920818106004	BLESSING X	59	40	59	40	17	16	17	17	31	10
4	920818106005	DHARSHNI V	59	39	58	39	16	17	17	16	31	10
5	920818106007	DURGA DEVI B	59	39	58	39	16	17	17	16	31	10
6	920818106008	DURGA DEVI S	59	39	59	40	16	17	17	17	32	10
7	920818106009	HARIPRIYA M	59	39	59	40	16	17	17	17	32	10
8	920818106010	ILAKKIYA B	60	40	59	40	16	17	17	17	32	10
9	920818106011	JAYA PRATHAP S	57	38	57	38	14	17	16	16	30	9
10	920818106012	JEYARAJ S	59	39	59	40	16	17	17	17	32	10
11	920818106013	KIRUTHIKA R	59	39	59	39	16	17	17	17	31	10
12	920818106014	MANOJ PRABHAKAR V	58	39	58	39	16	17	17	16	31	9
13	920818106016	MUKESH KANNA G	58	39	58	38	16	17	17	16	31	10
14	920818106017	MUTHU VIGNESH M	60	40	59	40	16	17	17	17	32	10
15	920818106018	NISHA M	59	39	59	40	16	17	17	17	31	9
16	920818106019	NIVETHA K S	58	39	58	39	16	17	17	16	31	10
17	920818106020	PONBHARATHI V	55	37	59	39	16	17	17	17	31	9
18	920818106022	PUGALARASU S	58	39	59	39	16	17	17	16	31	10
19	920818106023	PUSHPA PRIYADHARSHINI R	58	38	59	39	16	17	17	16	31	10
20	920818106024	RAJKUMAR K	57	38	58	39	16	17	17	16	31	10
21	920818106026	SARITHARANI K	59	39	59	40	16	17	17	17	32	10
22	920818106027	SARMATHI R	59	40	59	40	16	17	17	17	32	10
23	920818106028	SATHISH KUMAR G	54	36	58	39	16	17	17	16	31	10
24	920818106029	SEEMA FATHIMA S	60	40	59	40	16	17	17	17	32	10
25	920818106031	SOWMIYA P	58	39	59	40	16	17	17	17	32	10
26	920818106032	SREE RAGA SUDHA K	59	39	59	40	16	17	17	17	32	9
27	920818106033	SURYA PRAKASH VM	49	33	56	37	12	15	14	13	26	7
28	920818106035	SWETHA M	51	34	58	39	13	14	14	14	26	10
29	920818106036	VARSHINI B	60	40	59	40	16	17	17	17	32	10
30	920818106037	VENNILA A	59	39	59	40	16	17	17	17	32	8
31	920818106038	VIGNESH R	55	37	58	39	16	17	17	16	31	9
32	920818106039	VISHALINI B	56	37	59	40	16	17	17	17	31	10
33	920818106040	VIVEKA S	54	36	59	40	16	17	17	17	32	10
34	920818106302	VIGNESH S	57	38	58	39	16	17	17	16	31	9
		NO OF STUDENTS ATTE	34	34	34	34	34	34	34	34	34	34
		MAX MARK CO WISE	60	40	60	40	17	17	17	17	32	10
	THRESHOLD	70	42	28	42	28	11.9	11.9	11.9	11.9	22.4	7
		CO No of students above t	34	34	34	34	34	34	34	34	34	34
		LEVEL	3	3	3	3	3	3	3	3	3	3

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CO Vs PO														
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C310.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-
C310.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-
C310.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3
C310.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-
C310.5	3	3	3	3	3	-	-	-	-	-	-	-	3	3
C310	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00
CO-PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C310	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJE				0.60	2.40
FINAL CO ATTAINTMNET FOR TH				3.00	

Internal Examination and University examination:

Internal Assessment Test-1 addresses the COs C310.1 and C310.2 whereas Internal Assessment Test-2 addresses C310.3, C310.4 and Model Assessment Test-3 addresses all the COs C310.1, C310.2, C310.3, C310.4, and C310.5 which covers the entire syllabus. University exam covers the entire syllabus of a course and hence, it is used to measure the attainment of all COs related to a course.

COs attainment is calculated from university examination result with 80% weightage and three internal assessment test results with 20% weightage. The average of all COs for the particular course C310 through internal assessment tests is calculated as 3.00 and it is converted into 20% for the attainment of 3 as 0.60. In the university examination 100% of the students scored more than the set attainment level of B+ grade in the corresponding course so the attainment level is converted into80% as 2.40 out of 3. Finally, the COs attainment of the course C310 is 3 out of 3.

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6. CO – PO Mapping for ECE (Regulation 2017)

The mapping level contribution between CO-PO/PSOs is categorized as follows:

3:High 2:Medium 1:Low 0 -:No Correlation

SEMESTER 1

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & I**
Course Code & Name:	**C101 & HS8151 - Communicative English**
Year of Study :	**2018-2019**

CO Vs PO															
COURSE OUTCOME	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C101.1	-	-	-	-	-	-	-	2	2	3	-	3	2	2	-
C101.2	-	-	-	-	-	-	-	0	2	3	-	3	2	2	-
C101.3	-	-	-	-	-	-	-	2	2	3	-	3	2	2	-
C101.4	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C101.5	-	-	-	-	-	-	-	2	2	3	-	3	2	2	-
C101	-	-	-	-	-	-	-	2.00	2.20	3.00	-	3.00	2.00	2.00	-
PO ATTAINMENT	-	-	-	-	-	-	-	1.47	1.61	2.20	-	2.20	1.47	1.47	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C101	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	I & I
Course Code & Name:	C102 & MA8151 - Engineering Mathematics - I
Year of Study:	2018-2019

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C102.1	3	3	1	-	-	-	-	-	-	-	2	2	2	-	-
C102.2	3	3	1	-	-	-	-	-	-	-	2	2	2	-	-
C102.3	3	3	1	-	-	-	-	-	-	-	2	2	2	-	-
C102.4	3	3	1	-	-	-	-	-	-	-	2	2	2	-	-
C102.5	3	3	2	-	-	-	-	-	-	-	2	2	2	-	-
C102	3.00	3.00	1.20	-	-	-	-	-	-	-	2.00	2.00	2.00	-	-
PO ATTAINMENT	1.40	1.40	0.56	-	-	-	-	-	-	-	0.93	0.93	0.93	-	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C102	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	I & I
Course Code & Name:	C103 & PH8151 - Engineering Physics
Year of Study:	2018-2019

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C103.1	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C103.2	3	2	-	-	1	-	-	-	-	-	-	1	2	-	-
C103.3	2	1	-	-	-	-	-	-	-	-	-	1	2	-	-
C103.4	2	2	-	-	1	-	-	-	-	-	-	-	2	-	-
C103.5	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
C103	2.40	1.60	-	-	1.00	-	-	-	-	-	-	1.00	2.00	-	-
PO ATTAINMENT	1.06	0.70	-	-	0.44	-	-	-	-	-	-	0.44	0.88	-	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C103	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	3	2.00	1
CO2	1	0	3	2.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				2.60	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.52	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.32	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & I**
Course Code & Name:	**C104 & CY8151 - Engineering Chemistry**
Year of Study :	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C104.1	2	1	2	-	1	2	0	-	-	0	-	1	1	-	-
C104.2	2	1	0	-	2	1	1	-	-	1	-	0	1	-	-
C104.3	2	1	1	-	1	1	0	-	-	1	-	1	1	-	-
C104.4	2	1	0	-	2	2	0	-	-	2	-	1	1	-	-
C104.5	2	1	2	-	1	2	2	-	-	1	-	1	1	-	-
C104	2.00	1.00	1.67	-	1.40	1.60	1.50	-	-	1.25	-	1.00	1.00	-	-
PO ATTAINMENT	0.93	0.47	0.78	-	0.65	0.75	0.70	-	-	0.58	-	0.47	0.47	-	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C104	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	I & I
Course Code & Name:	C105 & GE8151- Problem Solving and Python
Year of Study :	2018-2019

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C105.1	3	2	2	-	-	-	-	-	-	-	-	2	1	2	-
C105.2	3	3	3	2	2	-	-	-	-	-	-	2	1	2	-
C105.3	3	3	3	2	2	-	-	-	-	-	-	2	1	2	-
C105.4	3	2	2	-	-	-	-	-	-	-	-	2	1	2	-
C105.5	3	3	3	2	3	-	-	-	-	-	-	2	1	2	-
C105	3.00	2.60	2.60	2.00	2.33	-	-	-	-	-	-	2.00	1.00	2.00	-
PO ATTAINMENT	1.40	1.21	1.21	0.93	1.09	-	-	-	-	-	-	0.93	0.47	0.93	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C105	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & I**
Course Code & Name:	**C106 & GE8152- Engineering Graphics**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C106.1	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C106.2	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C106.3	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C106.4	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C106.5	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C106	1.00	1.00	2.00	1.00	-	-	-	-	-	2.00	-	2.00	1.00	-	-
PO ATTAINMENT	0.45	0.45	0.91	0.45	-	-	-	-	-	0.91	-	0.91	0.45	-	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C106	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	2	3	2.50	1
CO4	0	2	3	2.50	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				2.80	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.56	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.36	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & I**
Course Code & Name:	**C107 & GE8161- Problem Solving and Python Laboratory**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C107.1	3	2	2	-	2	-	-	-	3	-	2	2	1	2	-
C107.2	3	3	3	2	2	-	-	-	2	-	2	2	1	2	-
C107.3	3	2	1	2	-	-	-	-	2	-	2	2	1	2	-
C107.4	3	2	2	2	2	-	-	-	-	2	0	2	1	2	-
C107.5	3	3	3	2	2	-	-	-	-	2	0	2	1	2	-
C107	3.00	2.40	2.20	2.00	2.00	-	-	-	2.33	2.00	2.00	2.00	1.00	2.00	-
PO ATTAINMENT	3.00	2.40	2.20	2.00	2.00	-	-	-	2.33	2.00	2.00	2.00	1.00	2.00	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C107	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & I**
Course Code & Name:	**C108 & BS8161- Physics and Chemistry Laboratory**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C108.1	2	2	-	-	-	-	-	-	-	-	-	1	-	-	-
C108.2	2	2	-	-	-	-	-	-	-	-	-	1	-	-	-
C108.3	3	2	-	-	-	-	2	-	-	-	-	0	-	-	-
C108.4	3	2	-	-	-	-	3	-	-	-	-	1	-	-	-
C108.5	3	2	-	-	-	-	3	-	-	-	-	1	-	-	-
C108	2.60	2.00	-	-	-	-	2.67	-	-	-	-	1.00	-	-	-
PO ATTAINMENT	2.60	2.00	-	-	-	-	2.67	-	-	-	-	1.00	-	-	-

RUBRICS	
20	50% OF STUDENTS ABOVE 70% - 1 (LOW)
24	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
32	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C108	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

SEMESTER 2

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C109 & HS8251 - Technical English**
Year of Study :	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C109.1	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C109.2	-	-	-	-	-	-	-	1	2	3	-	3	1	2	-
C109.3	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C109.4	-	-	-	-	-	-	-	2	2	3	-	3	2	2	-
C109.5	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C109	-	-	-	-	-	-	-	1.80	2.60	3.00	-	3.00	1.80	2.00	-
PO ATTAINMENT	-	-	-	-	-	-	-	1.32	1.91	2.20	-	2.20	1.32	1.47	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C109	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme:	B.E. Electronics & Communication Engineering
Year & Sem:	I & II
Course Code & Name:	C110 &MA8251 - Engineering Mathematics - II
Year of Study :	2018-2019

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C110.1	3	3	1	-	-	-	-	-	-	-	2	2	2	-	-
C110.2	3	3	2	-	-	-	-	-	-	-	1	-	2	-	-
C110.3	3	3	2	-	-	-	-	-	-	-	1	-	2	-	-
C110.4	3	3	2	-	1	-	-	-	-	-	-	-	2	-	-
C110.5	3	3	2	-	1	-	-	-	-	-	2	2	2	-	-
C110	3.00	3.00	1.80	-	1.00	-	-	-	-	-	1.50	2.00	2.00	-	-
PO ATTAINMENT	2.20	2.20	1.32	-	0.73	-	-	-	-	-	1.10	1.47	1.47	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C110	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C111 & PH8253 - Physics for Electronics Engineering**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C111.1	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
C111.2	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C111.3	2	-	-	-	1	-	-	-	-	-	-	1	2	-	-
C111.4	3	-	-	-	2	-	-	-	-	-	-	1	2	-	-
C111.5	2	-	-	-	2	-	-	-	-	-	-	1	2	-	-
C111	2.40	1.50	-	-	1.67	-	-	-	-	-	-	1.00	2.00	-	-
PO ATTAINMENT	1.12	0.70	-	-	0.78	-	-	-	-	-	-	0.47	0.93	-	-

	RUBRICS
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C111	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				**1.40**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C112 &BE8254 - Basic Electrical and Instrumentation Engineering**
Year of Study :	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C112.1	2	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C112.2	2	2	1	-	2	-	-	-	-	-	-	-	2	-	-
C112.3	2	2	1	-	2	-	-	-	-	-	-	-	1	-	-
C112.4	2	2	1	1	1	-	-	-	-	-	-	-	1	-	-
C112.5	2	2	1	1	1	-	-	-	-	-	-	-	1	-	-
C112	2.00	2.00	1.00	1.00	1.50	-	-	-	-	-	-	-	1.40	-	-
PO ATTAINMENT	1.47	1.47	0.73	0.73	1.10	-	-	-	-	-	-	-	1.03	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C112	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C113 & EC8251- Circuit Analysis**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C113.1	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C113.2	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C113.3	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C113.4	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C113.5	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C113	3.00	2.00	2.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	1.40	0.93	0.93	-	-	-	-	-	-	-	-	-	1.40	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C113	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C114 & EC8252 - Electronic Devices**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C114.1	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
C114.2	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
C114.3	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
C114.4	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
C114.5	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
C114	3.00	2.00	-	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	1.40	0.93	-	-	-	-	-	-	-	-	-	-	1.40	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C114	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C115 & EC8261 - Circuits and Devices Laboratory**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C115.1	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C115.2	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C115.3	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C115.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C115.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C115	3.00	2.00	1.00	-	-	-	-	-	-	-	-	-	2.00	-	-
PO ATTAINMENT	3.00	2.00	1.00	-	-	-	-	-	-	-	-	-	2.00	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
23	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C115	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	0	0.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	0	0.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**I & II**
Course Code & Name:	**C116 & GE8261 - Engineering Practices Laboratory**
Year of Study:	**2018-2019**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C116.1	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C116.2	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C116.3	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C116.4	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C116.5	1	1	2	1	-	-	-	-	-	2	-	2	1	-	-
C116	1.00	1.00	2.00	1.00	-	-	-	-	-	2.00	-	2.00	1.00	-	-
PO ATTAINMENT	1.00	1.00	2.00	1.00	-	-	-	-	-	2.00	-	2.00	1.00	-	-

RUBRICS	
19	60% OF STUDENTS ABOVE 70% - 1 (LOW)
23	70% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C116	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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SEMESTER 3

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C201 & MA8352 - Linear Algebra and Partial Differential Equations**
Year of Study:	**2019 - 2020**

CO Vs PO															
COURSE OUTCOME	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C201.1	2	3	-	-	-	-	-	-	-	-	-	-	2	-	-
C201.2	3	2	-	-	-	-	-	-	-	-	2	-	2	-	-
C201.3	2	2	2	-	1	-	-	-	-	-	-	1	2	-	-
C201.4	2	2	-	-	-	-	-	-	-	-	1	-	2	-	-
C201.5	2	2	-	-	1	-	-	-	-	-	1	1	2	-	-
C201	2.20	2.20	2.00	-	1.00	-	-	-	-	-	1.33	1.00	2.00	-	-
PO ATTAINMENT	0.94	0.94	0.85	-	0.43	-	-	-	-	-	0.57	0.43	0.85	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C201	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	3	2.50	1
CO2	2	0	3	2.50	1
CO3	0	2	3	2.50	1
CO4	0	2	3	2.50	1
CO5	0	0	2	2.00	1
INTERNAL/UNIV ATTAINMENTS				2.40	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.48	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.28	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C202 & EC8393 - Fundamentals of Data Structures In C**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C202.1	3	2	2	-	-	-	-	-	-	-	-	2	1	2	-
C202.2	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C202.3	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C202.4	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C202.5	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C202	3.00	2.80	2.80	-	-	-	-	-	-	-	-	2.00	1.00	2.00	-
PO ATTAINMENT	1.00	0.93	0.93	-	-	-	-	-	-	-	-	0.67	0.33	0.67	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C202	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	1	1.00	1
CO2	1	0	1	1.00	1
CO3	0	1	1	1.00	1
CO4	0	1	1	1.00	1
CO5	0	0	1	1.00	1
INTERNAL/UNIV ATTAINMENTS				1.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.20	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C203 & EC8351 - Electronic Circuits- I**
Year of Study :	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C203.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C203.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C203.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C203.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C203.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C203	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	1.36	1.36	0.91	-	-	-	-	-	-	-	-	-	1.36	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C203	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	3	2.50	1
CO2	2	0	3	2.50	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				2.80	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.56	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.36	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C204 & EC8352 - Signals and Systems**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C204.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C204.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C204.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C204.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C204	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	1.92	1.92	1.28	-	-	-	-	-	-	-	-	-	1.92	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C204	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	2	1.50	2
CO2	1	0	2	1.50	2
CO3	0	1	2	1.50	2
CO4	0	1	2	1.50	2
CO5	0	0	2	2.00	2
INTERNAL/UNIV ATTAINMENTS				1.60	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.32	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				1.92	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	II & III
Course Code & Name:	C205 & EC8392- Digital Electronics
Year of Study:	2019 - 2020

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C205.1	3	2	-	-	-	-	-	-	-	-	-	-	3	1	-
C205.2	3	2	3	2	1	-	-	-	-	-	-	-	3	1	-
C205.3	3	2	3	2	1	-	-	-	-	-	-	-	3	1	-
C205.4	3	3	1	2	1	-	-	-	-	-	-	-	3	1	-
C205.5	3	2	3	3	1	-	-	-	-	-	-	-	3	1	-
C205	3.00	2.20	2.50	2.25	1.00	-	-	-	-	-	-	-	3.00	1.00	-
PO ATTAINMENT	1.16	0.85	0.97	0.87	0.39	-	-	-	-	-	-	-	1.16	0.39	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C205	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	3	2.00	1
CO2	1	0	2	1.50	1
CO3	0	1	3	2.00	1
CO4	0	1	2	1.50	1
CO5	0	0	2	2.00	1
INTERNAL/UNIV ATTAINMENTS				1.80	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.36	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.16	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	II & III
Course Code & Name:	C206 & EC8391 - Control Systems Engineering
Year of Study:	2019 - 2020

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C206.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C206.2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C206.3	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C206.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C206.5	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C206	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
PO ATTAINMENT	1.00	1.00	0.67	-	-	-	-	-	-	-	-	-	0.67	-	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C206	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	1	1.00	1
CO2	1	0	1	1.00	1
CO3	0	1	1	1.00	1
CO4	0	1	1	1.00	1
CO5	0	0	1	1.00	1
INTERNAL/UNIV ATTAINMENTS				1.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.20	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	II & III
Course Code & Name:	C207 & EC8381- Fundamentals of Data Structures in C Laboratory
Year of Study:	2019 - 2020

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C207.1	3	2	2	-	-	-	-	-	-	-	-	2	1	2	-
C207.2	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C207.3	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C207.4	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C207.5	3	3	3	-	-	-	-	-	-	-	-	2	1	2	-
C207	3.00	2.80	2.80	-	-	-	-	-	-	-	-	2.00	1.00	2.00	-
PO ATTAINMENT	2.80	2.61	2.61	-	-	-	-	-	-	-	-	1.87	0.93	1.87	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C207	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	2	2.00	3
CO2	0	0	2	2.00	3
CO3	0	0	2	2.00	3
CO4	0	0	2	2.00	3
CO5	0	0	2	2.00	3
INTERNAL/UNIV ATTAINMENTS				2.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.40	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				2.80	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C208 & EC8361 - Analog and Digital Circuits Laboratory**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C208.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C208.2	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C208.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C208.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C208.5	3	3	2	2	2	-	-	-	-	-	-	-	3	2	-
C208	3.00	2.80	2.60	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	3.00	2.80	2.60	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C208	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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NAAC

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & III**
Course Code & Name:	**C209 & HS8381 - Interpersonal Skills/Listening & Speaking**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C209.1	-	-	-	-	-	-	-	1	2	2	-	3	2	3	-
C209.2	-	-	-	-	-	-	-	2	3	3	-	3	2	3	-
C209.3	-	-	-	-	-	-	-	1	3	3	-	3	2	3	-
C209.4	-	-	-	-	-	-	-	2	3	3	-	3	2	3	-
C209.5	-	-	-	-	-	-	-	2	3	3	-	3	2	3	-
C209	-	-	-	-	-	-	-	1.60	2.80	2.80	-	3.00	2.00	3.00	-
PO ATTAINMENT	-	-	-	-	-	-	-	1.60	2.80	2.80	-	3.00	2.00	3.00	-

RUBRICS	
19	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
30	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C209	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				**3.00**	

COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

Dr. J.SUNDARARAJAN
B.E., M.Tech., Ph.D
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

SEMESTER 4

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C210 & MA8451- Probability and Random Processes**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C210.1	3	3	-	-	-	-	-	-	-	-	2	2	2	-	-
C210.2	3	3	-	-	1	-	-	-	-	-	1	1	2	-	-
C210.3	3	3	-	-	1	-	-	-	-	-	2	2	2	-	-
C210.4	3	3	-	-	0	-	-	-	-	-	3	2	2	-	-
C210.5	3	3	-	-	0	-	-	-	-	-	3	2	2	-	-
C210	3.00	3.00	-	-	1.00	-	-	-	-	-	2.20	1.80	2.00	-	-
PO ATTAINMENT	2.00	2.00	-	-	0.67	-	-	-	-	-	1.47	1.20	1.33	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C210	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	0	2.00	2
CO2	2	0	0	2.00	2
CO3	0	2	0	2.00	2
CO4	0	2	0	2.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.40	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				**2.00**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	II & IV
Course Code & Name:	C211 & EC8452- Electronic Circuits II
Year of Study:	2019 - 2020

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C211.1	3	2	3	-	-	-	-	-	-	-	-	-	3	-	-
C211.2	3	2	3	-	-	-	-	-	-	-	-	-	3	-	-
C211.3	3	2	3	-	-	-	-	-	-	-	-	-	3	-	-
C211.4	3	2	3	-	-	-	-	-	-	-	-	-	3	-	-
C211.5	3	2	2	-	-	-	-	-	-	-	-	-	3	-	-
C211	3.00	2.00	2.80	-	-	-	-	-	-	-	-	-	3	-	-
PO ATTAINMENT	2.10	1.40	1.96	-	-	-	-	-	-	-	-	-	3.00	-	-
													2.10	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C211	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	0	2.00	2
CO2	2	0	0	2.00	2
CO3	0	3	0	3.00	2
CO4	0	3	0	3.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.50	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.50	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.10	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	II & IV
Course Code & Name:	C212 & EC8491 Communication Theory
Year of Study:	2019 - 2020

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C212.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C212.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C212.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C212.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C212.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C212	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	3	-	-
PO ATTAINMENT	2.10	2.10	1.40	-	-	-	-	-	-	-	-	-	3.00	-	-
													2.10	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C212	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	0	2.00	2
CO2	2	0	0	2.00	2
CO3	0	3	0	3.00	2
CO4	0	3	0	3.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.50	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.50	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.10	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C213 & EC8451 Electromagnetic Fields**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C213.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C213.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C213.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C213.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C213.5	3	2	1	-	-	-	-	-	-	-	-	-	3	-	-
C213	3.00	2.80	1.80	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	2.10	1.96	1.26	-	-	-	-	-	-	-	-	-	2.10	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C213	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	0	2.00	2
CO2	2	0	0	2.00	2
CO3	0	3	0	3.00	2
CO4	0	3	0	3.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.50	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.50	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.10	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C214 & EC8453 Linear Integrated Circuits**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C214.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C214.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C214.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C214.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C214	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	2.00	2.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C214	TEST1	TEST2	TEST3	INT	UNIV
CO1	1	0	0	1.00	2
CO2	1	0	0	1.00	2
CO3	0	3	0	3.00	2
CO4	0	3	0	3.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.40	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				**2.00**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C215 & GE8291 Environmental Science and Engineering**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C215.1	2	-	-	-	-	2	3	-	1	-	-	1	1	-	-
C215.2	-	-	-	-	-	1	3	-	1	-	-	1	1	-	-
C215.3	-	-	-	-	-	1	3	-	3	-	-	1	1	-	-
C215.4	2	-	-	-	-	1	3	-	3	-	-	1	1	-	-
C215.5	2	-	-	-	-	2	3	-	3	-	-	1	1	-	-
C215	2.00	-	-	-	-	1.40	3.00	-	2.20	-	-	1.00	1.00	-	-
PO ATTAINMENT	1.33	-	-	-	-	0.93	2.00	-	1.47	-	-	0.67	0.67	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C215	TEST1	TEST2	TEST3	INT	UNIV
CO1	2	0	0	2.00	2
CO2	2	0	0	2.00	2
CO3	0	2	0	2.00	2
CO4	0	2	0	2.00	2
CO5	0	0	0	0.00	2
INTERNAL/UNIV ATTAINMENTS				2.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.40	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				**2.00**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C216 & EC8461 Circuits Design and Simulation Laboratory**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C216.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C216.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C216.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C216.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C216.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C216	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C216	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	0	0.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	0	0.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**II & IV**
Course Code & Name:	**C217 & EC8462 Linear Integrated Circuits Laboratory**
Year of Study:	**2019 - 2020**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C217.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C217.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C217.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C217.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C217.5	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C217	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C217	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

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SEMESTER 5

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & V
Course Code & Name:	C301 & EC8501 Digital Communication
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C301.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C301.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C301.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C301.4	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C301.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C301	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C301	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & V**
Course Code & Name:	**C302 & EC8553 Discrete-Time Signal Processing**
Year of Study:	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C302.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C302.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C302.3	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C302.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C302.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C302	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	1.40	1.40	1.40	0.93	0.93	-	-	-	-	-	-	-	1.40	0.93	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C302	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				**1.40**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & V**
Course Code & Name:	**C303 & EC8552 Computer Architecture and Organization**
Year of Study:	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C303.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C303.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C303.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C303.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C303.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C303	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	2.20	2.20	1.47	-	-	-	-	-	-	-	-	-	2.20	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C303	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & V**
Course Code & Name:	**C304 & EC8551 Communication Networks**
Year of Study :	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	3	3	-	-	-	-	-	-	-	-	-	-	2	-	-
C304.2	3	3	-	-	-	-	-	-	-	-	-	-	2	-	-
C304.3	3	3	2	2	2	-	-	-	-	-	-	-	2	-	-
C304.4	3	3	-	-	-	-	-	-	-	-	-	-	2	2	-
C304.5	3	3	-	-	-	-	-	-	-	-	-	-	2	-	-
C304	3.00	3.00	2.00	2.00	2.00	-	-	-	-	2	-	-	2	-	-
PO ATTAINMENT	2.20	2.20	1.47	1.47	1.47	-	-	-	-	2.00	-	-	2.00	2.00	-
										1.47			1.47	1.47	

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C304	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & V
Course Code & Name:	C305 & EC8073 Medical Electronics
Year of Study:	2020 - 2021

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C305.2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C305.3	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C305.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C305.5	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C305	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
PO ATTAINMENT	2.20	2.20	1.47	-	-	-	-	-	-	-	-	-	1.47	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C305	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	0	3.00	2
CO2	3	0	0	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & V**
Course Code & Name:	**C306 & OMD551 Basics of Biomedical Instrumentation**
Year of Study:	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C306.2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C306.3	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C306.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C306.5	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C306	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
PO ATTAINMENT	1.40	1.40	0.93	-	-	-	-	-	-	-	-	-	0.93	-	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C306	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	1
CO2	3	0	3	3.00	1
CO3	0	3	3	3.00	1
CO4	0	3	3	3.00	1
CO5	0	0	3	3.00	1
INTERNAL/UNIV ATTAINMENTS				3.00	1.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	0.80
FINAL CO ATTAINMENT FOR THE SUBJECT				1.40	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & V
Course Code & Name:	C307 & EC8562 Digital Signal Processing Laboratory
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C307.1	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C307.2	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C307.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C307.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C307.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C307	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C307	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & V
Course Code & Name:	C308 & EC8561 Communication Systems Laboratory
Year of Study:	2020 - 2021

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C308.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C308.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C308.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C308.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C308.5	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C308	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C308	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & V**
Course Code & Name:	**C309 & EC8563 Communication Networks Laboratory**
Year of Study :	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C309.1	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C309.2	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C309.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C309.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C309.5	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C309	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
18	50% OF STUDENTS ABOVE 70% - 1 (LOW)
22	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
29	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C309	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

SEMESTER 6

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C310 & EC8691 Microprocessors and Microcontrollers
Year of Study:	2020 - 2021

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C310.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C310.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C310.3	3	3	3	3	3	-	-	-	-	-	-	-	3	-	-
C310.4	3	3	3	-	-	-	-	-	-	-	-	-	3	3	-
C310.5	3	3	3	3	3	-	-	-	-	-	-	-	3	-	-
C310	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3	3	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
													3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C310	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C311 & EC8095 VLSI Design
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C311.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C311.2	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C311.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C311.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C311.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C311	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C311	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & VI**
Course Code & Name:	**C312 & EC8652 Wireless Communication**
Year of Study:	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C312.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C312.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C312.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C312.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C312.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C312	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	3.00	-	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C312	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C313 & MG8591 Principles of Management
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C313.1	-	-	-	-	-	3	2	3	-	2	3	3	2	-	-
C313.2	-	-	-	-	-	3	2	3	-	2	3	3	2	-	-
C313.3	-	-	-	-	-	3	2	3	-	2	3	3	2	-	-
C313.4	-	-	-	-	-	3	2	3	-	2	3	3	2	-	-
C313.5	-	-	-	-	-	3	2	3	-	2	3	3	2	-	-
C313	-	-	-	-	-	3.00	2.00	3.00	-	2.00	3.00	3.00	2.00	-	-
PO ATTAINMENT	-	-	-	-	-	3.00	2.00	3.00	-	2.00	3.00	3.00	2.00	-	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C313	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C314 & EC8651 Transmission Lines and RF Systems
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C314.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C314.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C314.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C314.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C314.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C314	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C314	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C315 & EC8004 Wireless Networks
Year of Study:	2020 - 2021

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C315.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C315.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C315.3	3	3	3	3	3	-	-	-	-	-	-	-	3	-	-
C315.4	3	3	3	-	-	-	-	-	-	-	-	-	3	3	-
C315.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C315	3.00	3.00	2.80	3.00	3.00	-	-	-	-	-	-	-	3	-	-
PO ATTAINMENT	3.00	3.00	2.80	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
													3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C315	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & VI**
Course Code & Name:	**C316 & EC8681 Microprocessors and Microcontrollers Laboratory**
Year of Study:	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C316.1	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C316.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C316.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C316.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C316.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C316	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C316	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV **ATTAINMENTS**				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT **FOR THE SUBJECT**				0.60	2.40
FINAL CO **ATTAINMENT FOR THE SUBJECT**				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C317 & EC8661 VLSI Design Laboratory
Year of Study:	2020 - 2021

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C317.1	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C317.2	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C317.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C317.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C317.5	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C317	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3	3	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
													3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C317	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**III & VI**
Course Code & Name:	**C318 & EC8611 Technical Seminar**
Year of Study :	**2020 - 2021**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C318.1	3	3	-	3	2	1	-	1	2	2	3	3	3	3	-
C318.2	3	3	-	2	2	2	-	2	2	2	3	3	3	3	-
C318.3	3	3	-	3	3	2	-	2	2	2	3	3	3	3	-
C318.4	3	3	-	3	3	2	-	2	2	2	3	3	3	3	-
C318.5	3	3	-	2	2	1	-	1	3	3	3	3	3	3	-
C318	3.00	3.00	-	2.60	2.40	1.60	-	1.60	2.20	2.20	3.00	3.00	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	-	2.60	2.40	1.60	-	1.60	2.20	2.20	3.00	3.00	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C318	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				**3.00**	**3.00**
WEIGHTAGE				**20%**	80%
CO ATTAINTMENT FOR THE SUBJECT				**0.60**	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				**3.00**	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	III & VI
Course Code & Name:	C319 & HS8581 Professional Communication
Year of Study:	2020 - 2021

CO Vs PO															
COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C319.1	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C319.2	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C319.3	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C319.4	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C319.5	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
C319	-	-	-	-	-	-	-	2	3	3	-	3	2	2	-
PO ATTAINMENT	-	-	-	-	-	-	-	2.00	3.00	3.00	-	3.00	2.00	2.00	-
	-	-	-	-	-	-	-	2.00	3.00	3.00	-	3.00	2.00	2.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C319	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

SEMESTER 7

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VII
Course Code & Name:	C401 & EC8701 Antennas and Microwave Engineering
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C401.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C401.2	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C401.3	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C401.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C401.5	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C401	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C401	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VII
Course Code & Name:	C402 & EC8751 Optical Communication
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C402.2	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C402.3	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C402.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C402.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C402	3.00	3.00	2.40	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	3.00	3.00	2.40	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C402	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VII
Course Code & Name:	C403 & EC8791 Embedded and Real Time Systems
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C403.2	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C403.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C403.4	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C403.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C403	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C403	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**IV & VII**
Course Code & Name:	**C404 & EC8702 Adhoc and Wireless Sensor Networks**
Year of Study:	**2021 - 2022**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C404.2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C404.3	3	3	2	1	1	-	-	-	-	-	-	-	2	1	-
C404.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C404.5	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C404	3.00	3.00	2.00	1.00	1.00	-	-	-	-	-	-	-	2.00	1.00	-
PO ATTAINMENT	3.00	3.00	2.00	1.00	1.00	-	-	-	-	-	-	-	2.00	1.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C404	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV& VII
Course Code & Name:	C405 & EC8092 Advanced Wireless Communication
Year of Study :	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C405.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C405.2	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C405.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C405.4	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C405.5	3	3	3	2	2	-	-	-	-	-	-	-	3	2	-
C405	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
PO ATTAINMENT	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C405	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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NAAC

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VII
Course Code & Name:	C406 & OIC751 Transducer Engineering
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C406.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C406.2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C406.3	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C406.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C406.5	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C406	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
PO ATTAINMENT	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C406	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	3
CO2	3	0	3	3.00	3
CO3	0	3	3	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**IV & VII**
Course Code & Name:	**C407 & EC8711 Embedded Laboratory**
Year of Study:	**2021 - 2022**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C407.1	3	3	2	2	2	-	-	-	-	-	-	-	3	2	-
C407.2	3	3	-	-	-	-	-	-	-	-	-	-	3	-	-
C407.3	3	3	-	-	-	-	-	-	-	-	-	-	3	-	-
C407.4	3	3	2	2	2	-	-	-	-	-	3	-	3	2	-
C407.5	3	3	2	2	2	-	-	-	-	-	-	-	3	2	-
C407	3.00	3.00	2.00	2.00	2.00	-	-	-	-	-	3.00	-	3.00	2.00	-
PO ATTAINMENT	3.00	3.00	2.00	2.00	2.00	-	-	-	-	-	3.00	-	3.00	2.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C407	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VII
Course Code & Name:	C408 & EC8761 Advanced Communication Laboratory
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C408.1	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C408.2	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C408.3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
C408.4	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C408.5	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C408	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
PO ATTAINMENT	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
27	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C408	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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SEMESTER 8

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	**IV & VIII**
Course Code & Name:	**C409 & EC8076 Professional Ethics in Engineering**
Year of Study:	**2021 - 2022**

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C409.1	-	-	-	-	-	2	2	3	2	1	-	3	2	-	-
C409.2	-	-	-	-	-	2	2	3	2	1	-	3	2	-	-
C409.3	-	-	-	-	-	2	2	3	2	1	-	3	2	-	-
C409.4	-	-	-	-	-	2	2	3	2	1	-	3	2	-	-
C409.5	-	-	-	-	-	2	2	3	2	1	-	3	2	-	-
C409	-	-	-	-	-	2.00	2.00	3.00	2.00	1.00	-	3.00	2.00	-	-
PO ATTAINMENT	-	-	-	-	-	1.47	1.47	2.20	1.47	0.73	-	2.20	1.47	-	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
26	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C409	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VIII
Course Code & Name:	C410 & EC8094 Satellite Communication
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410.1	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C410.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C410.3	3	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C410.4	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C410.5	3	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C410	3.00	3.00	2.20	-	-	-	-	-	-	-	-	-	3.00	-	-
PO ATTAINMENT	2.20	2.20	1.61	-	-	-	-	-	-	-	-	-	2.20	-	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
26	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C410	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	3	3.00	2
CO2	3	0	3	3.00	2
CO3	0	3	3	3.00	2
CO4	0	3	3	3.00	2
CO5	0	0	3	3.00	2
INTERNAL/UNIV ATTAINMENTS				3.00	2.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	1.60
FINAL CO ATTAINMENT FOR THE SUBJECT				2.20	

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NAAC

Programme: B.E. Electronics & Communication Engineering	
Year & Sem:	IV & VIII
Course Code & Name:	C411 & EC8811 Project Work
Year of Study:	2021 - 2022

CO Vs PO

COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C411.1	3	3	3	2	1	2	2	2	3	3	2	3	3	1	-
C411.2	3	3	3	3	3	2	2	2	3	3	2	3	3	2	-
C411.3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	-
C411.4	3	3	3	3	3	3	3	3	3	3	2	3	3	3	-
C411.5	3	3	3	3	3	3	3	3	3	3	2	3	3	3	-
C411	3.00	3.00	3.00	2.80	2.60	2.60	2.60	2.60	3.00	3.00	2.00	3.00	3.00	2.20	-
PO ATTAINMENT	3.00	3.00	3.00	2.80	2.60	2.60	2.60	2.60	3.00	3.00	2.00	3.00	3.00	2.20	-

RUBRICS	
17	50% OF STUDENTS ABOVE 70% - 1 (LOW)
20	60% OF STUDENTS ABOVE 70% - 2 (MEDIUM)
26	80% OF STUDENTS ABOVE 70% - 3 (HIGH)

C411	TEST1	TEST2	TEST3	INT	UNIV
CO1	0	0	3	3.00	3
CO2	0	0	3	3.00	3
CO3	0	0	3	3.00	3
CO4	0	0	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINTMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	

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7. ECE Course attainment for all the subjects (Regulation 2017)

SL. NO.	COURSE CODE	COURSE NAME	INTERNAL EXAMINATION ATTAINMENT VALUE	UNIVERSITY EXAMINATION ATTAINMENT VALUE	CO ATTAINMENT (3 Scale)	PERCENTAGE OF ATTAINMENT (%)
1.	C101	Communicative English	0.60	1.60	2.20	73%
2.	C102	Engineering Mathematics-I	0.60	0.80	1.40	47%
3.	C103	Engineering Physics	0.52	0.80	1.32	44%
4.	C104	Engineering Chemistry	0.60	0.80	1.40	47%
5.	C105	Problem Solving and Python Programming	0.60	0.80	1.40	47%
6.	C106	Engineering Graphics	0.56	0.80	1.36	45%
7.	C107	Problem Solving and Python Programming Laboratory	0.60	2.40	3.00	100%
8.	C108	Physics and Chemistry Laboratory	0.60	2.40	3.00	100%
9.	C109	Technical English	0.60	1.60	2.20	73%
10.	C110	Engineering Mathematics - II	0.60	1.60	2.20	73%
11.	C111	Physics for Electronics Engineering	0.60	0.80	1.40	47%
12.	C112	Basic Electrical and Instrumentation Engineering	0.60	1.60	2.20	73%
13.	C113	Circuit Analysis	0.60	0.80	1.40	47%
14.	C114	Electronic Devices	0.60	0.80	1.40	47%
15.	C115	Circuits and Devices Laboratory	0.60	2.40	3.00	100%
16.	C116	Engineering Practices Laboratory	0.60	2.40	3.00	100%
17.	C201	Linear Algebra and Partial Differential Equations	0.48	0.80	1.28	43%
18.	C202	Fundamentals and Data Structures in C	0.20	0.80	1.00	33%
19.	C203	Electronic Circuits - I	0.56	0.80	1.36	45%
20.	C204	Signals and Systems	0.32	1.60	1.92	64%
21.	C205	Digital Electronics	0.36	0.80	1.16	39%
22.	C206	Control System Engineering	0.20	0.80	1.00	33%
23.	C207	Fundamentals of Data Structures in C Laboratory	0.40	2.40	2.80	93%
24.	C208	Analog and Digital Circuits Laboratory	0.60	2.40	3.00	100%
25.	C209	Interpersonal Skills/ Listening & Speaking	0.60	2.40	3.00	100%
26.	C211	Probability and Random Process	0.40	1.60	2.00	67%
27.	C212	Electronic Circuits II	0.50	1.60	2.10	70%
28.	C213	Communication Theory	0.50	1.60	2.10	70%
29.	C214	Electromagnetic Fields	0.50	1.60	2.10	70%

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30.	C215	Linear Integrated Circuits	0.40	1.60	2.00	67%
31.	C216	Environmental Science and Engineering	0.40	1.60	2.00	67%
32.	C217	Circuits Design and Simulation Laboratory	0.60	2.40	3.00	100%
33.	C218	Linear Integrated Circuits Laboratory	0.60	2.40	3.00	100%
34.	C301	Digital Communication	0.60	2.40	3.00	100%
35.	C302	Discrete-Time Signal Processing	0.60	0.80	1.40	47%
36.	C303	Computer Architecture and Organization	0.60	1.60	2.20	73%
37.	C304	Communication Networks	0.60	1.60	2.20	73%
38.	C305	Medical Electronics	0.60	1.60	2.20	73%
39.	C306	Basics of Biomedical Instrumentation	0.60	0.80	1.40	47%
40.	C307	Digital Signal Processing Laboratory	0.60	2.40	3.00	100%
41.	C308	Communication Systems Laboratory	0.60	2.40	3.00	100%
42.	C309	Communication Networks Laboratory	0.60	2.40	3.00	100%
43.	C310	Microprocessors and Microcontrollers	0.60	2.40	3.00	100%
44.	C311	VLSI Design	0.60	2.40	3.00	100%
45.	C312	Wireless Communication	0.60	2.40	3.00	100%
46.	C313	Principles of Management	0.60	2.40	3.00	100%
47.	C314	Transmission Lines and RF Systems	0.60	2.40	3.00	100%
48.	C315	Wireless Networks	0.60	2.40	3.00	100%
49.	C316	Microprocessors and Microcontrollers Laboratory	0.60	2.40	3.00	100%
50.	C317	VLSI Design Laboratory	0.60	2.40	3.00	100%
51.	C318	Technical Seminar	0.60	2.40	3.00	100%
52.	C319	Professional Communication	0.60	2.40	3.00	100%
53.	C401	Antennas and Microwave Engineering	0.60	2.40	3.00	100%
54.	C402	Optical Communication	0.60	2.40	3.00	100%
55.	C403	Embedded and Real Time Systems	0.60	2.40	3.00	100%
56.	C404	Adhoc and Wireless Sensor Networks	0.60	2.40	3.00	100%
57.	C405	Advanced Wireless Communication	0.60	2.40	3.00	100%
58.	C406	Transducer Engineering	0.60	2.40	3.00	100%
59.	C407	Embedded Laboratory	0.60	2.40	3.00	100%
60.	C408	Advanced Communication Laboratory	0.60	2.40	3.00	100%
61.	C409	Professional Ethics in Engineering	0.60	1.60	2.20	73%

62.	C410	Satellite Communication	0.60	1.60	2.20	73%
63.	C411	Project Work	0.60	2.40	3.00	100%

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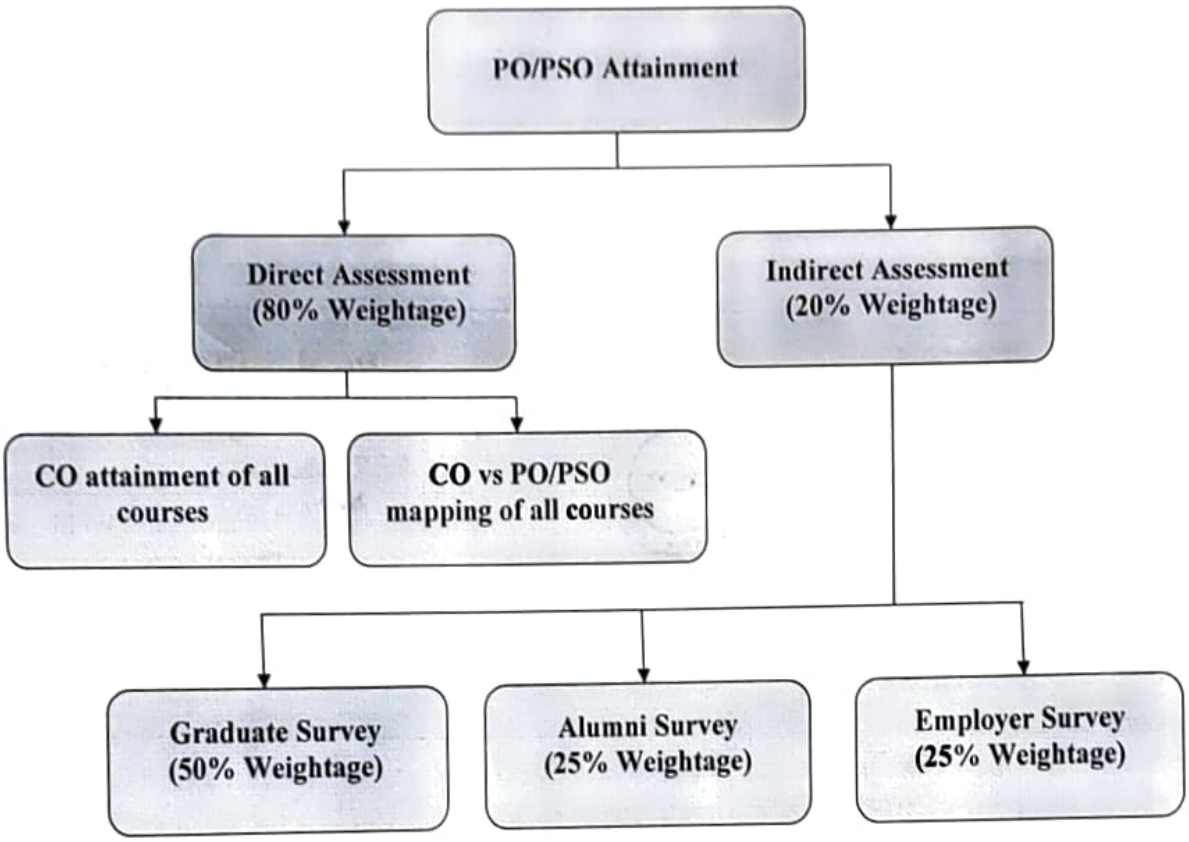
8. Flow Chart for PO and PSO Attainment



9. Calculation of POs and PSOs Attainment

Attainment Level through Direct Assessment	=	(0.8 x Attainment level based on University Examination Marks) + (0.2 x Attainment level based on Internal Assessment Marks)

PO Attainment Level for a Course

$$\text{PO Attainment} = \frac{\text{CO Vs PO Average of the course}}{\text{Maximum Attainment Value}} \times \text{CO Attainment of the Course}$$

Overall PO Attainment

Overall PO Attainment	=	(80% of Direct Assessment) + (20% of Indirect Assessment)

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10. Indirect Assessment Tools

Graduate Survey - Analysis

Program: B.E **Survey Collected: 32**
Branch: Electronics & Communication Engineering **Academic Year: 2021-2022**

POs	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Fair (1)	Total Weightage	Maximum Weightage	Weightage based on 3 scale
PO1	28	3	1	0	0	32	96.88%	2.91
PO2	26	3	3	0	0	32	94.38%	2.83
PO3	23	4	5	0	0	32	91.25%	2.74
PO4	27	3	2	0	0	32	95.63%	2.87
PO5	27	4	1	0	0	32	96.25%	2.89
PO6	29	2	1	0	0	32	97.50%	2.93
PO7	26	5	1	0	0	32	95.63%	2.87
PO8	26	1	5	0	0	32	93.13%	2.79
PO9	27	1	4	0	0	32	94.38%	2.83
PO10	26	4	2	0	0	32	95.00%	2.85
PO11	25	3	4	0	0	32	93.13%	2.79
PO12	28	2	2	0	0	32	96.25%	2.89
PO 13	25	3	4	0	0	32	93.13%	2.79
PO 14	27	4	1	0	0	32	96.25%	2.89

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Alumini Survey - Analysis

Program: B.E
Branch: Electronics & Communication Engineering

Survey Collected: 18
Academic Year: 2021-2022

POs	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Fair (1)	Total Weightage	Maximum Weightage	Weightage based on 3 scale
PO1	16	2	0	0	0	88	90	2.93
PO2	17	1	0	0	0	89	90	2.97
PO3	15	3	1	0	0	86	90	3.00
PO4	15	3	0	0	0	87	90	2.90
PO5	16	1	1	0	0	87	90	2.90
PO6	12	4	2	0	0	82	90	2.73
PO7	13	5	0	0	0	85	90	2.83
PO8	10	5	3	0	0	79	90	2.63
PO9	14	2	2	0	0	84	90	2.80
PO10	10	8	0	0	0	82	90	2.73
PO11	12	6	0	0	0	84	90	2.80
PO12	15	2	1	0	0	86	90	2.87
PSO1	12	4	2	0	0	82	90	2.73
PSO2	13	5	0	0	0	85	90	2.83

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Employer Survey - Analysis

Program: B.E
Branch: Electronics & Communication Engineering

Survey Collected: 6
Academic Year: 2021-2022

POs	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Fair (1)	Total Weightage	Maximum Weightage	Weightage based on 3 scale
PO1	5	1	0	0	0	28	30	2.90
PO2	5	1	0	0	0	29	30	2.90
PO3	3	3	0	0	0	27	30	2.70
PO4	5	1	0	0	0	28	30	2.90
PO5	4	1	1	0	0	27	30	2.70
PO6	2	3	1	0	0	25	30	2.50
PO7	4	1	1	0	0	29	30	2.70
PO8	3	3	0	0	0	27	30	2.70
PO9	4	2	0	0	0	28	30	2.80
PO10	5	1	0	0	0	29	30	2.90
PO11	2	4	0	0	0	26	30	2.60
PO12	4	2	0	0	0	28	30	2.80
PSO1	4	2	0	0	0	28	30	2.80
PSO2	3	3	0	0	0	27	30	2.70

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Indirect Assessment

Survey	Assessment Weightage	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Graduate Survey	50%	1.46	1.42	1.36	1.43	1.45	1.46	1.43	1.39	1.42	1.42	1.39	1.45	1.39	1.45
Alumni Survey	25%	0.73	0.74	0.75	0.73	0.73	0.68	0.71	0.66	0.70	0.68	0.70	0.72	0.68	0.71
Employer Survey	25%	0.73	0.73	0.68	0.73	0.68	0.63	0.68	0.68	0.70	0.73	0.65	0.70	0.70	0.68
Indirect Survey		2.92	2.88	2.79	2.88	2.85	2.77	2.82	2.72	2.82	2.83	2.74	2.86	2.77	2.83

PO/PSO attainment through Indirect assessment for the Batch: 2018 – 2022

C. Overall PO/PSO Attainment

The overall PO/PSO attainment is calculated from direct and indirect assessments

ASSESSMENT TYPE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
DIRECT	2.24	2.15	1.99	2.19	1.99	1.72	1.91	1.97	2.20	1.93	1.90	1.61	1.95	2.22
INDIRECT	2.92	2.88	2.79	2.88	2.85	2.77	2.82	2.72	2.82	2.83	2.74	2.86	2.77	2.83
DIRECT 80%	1.79	1.72	1.59	1.75	1.59	1.38	1.52	1.58	1.76	1.54	1.52	1.29	1.56	1.78
INDIRECT 20%	0.58	0.58	0.56	0.58	0.57	0.55	0.56	0.54	0.56	0.57	0.55	0.57	0.55	0.57
PO ATTAINMENT	2.38	2.30	2.15	2.33	2.16	1.93	2.09	2.12	2.32	2.11	2.07	1.86	2.11	2.34

Overall PO/PSO Attainment for the Batch: 2018 – 2022

COLLEGE OF ENGG & TECHNOLOGY NATHAM NPRCET

Dr. J.SUNDARARAJAN,
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Natham, Dindigul (Dt) - 624 401.

NPR
College of Engineering & Technology
Approved by AICTE, Affiliated to Anna University,
Accredited by NAAC WITH 'A' GRADE, Recognized by UGC under 2 (f)
Natham, Dindigul - 624 401. Web: www.nprcet.org

Department of Electronics and Communication Engineering

GRADUATE SURVEY

Name of the Student : vignesh. S

Registration Number : 920818106302

Contact Number : 8610526124

Email : vickyvignesh97057@gmail.com

Batch : 2018 - 2022

PO/PSO	Questions	Ratings				
		Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)
PO1	To what level you are able to apply science and engineering concepts to problem solving?	✓				
PO2	To what extent you are able to analyze Electronics and Communication Engineering problems?	✓				
PO3	To what extent you are able to design solutions for complex engineering problems?	✓				
PO4	To what extent you are able to analyze and interpret data?	✓				
PO5	To what extent you are able to use state of the art tools for Electronics and Communication Engineering applications?	✓				
PO6	To what extent you are able to apply the knowledge to solve the societal issues?	✓				
PO7	To what extent you are able to apply the knowledge to find the solution for global and sustained development?	✓				
PO8	To what extent you are able to develop awareness of professional, ethical and social responsibilities?	✓				
PO9	To what extent you are able to function as an individual or leader in multidisciplinary teams in projects implementation?	✓				
PO10	To what extent you are able to communicate for engineering activities and presentation?		✓			

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PO/PSO	Questions	Ratings				
		Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)
PO11	To what extent you are able to demonstrate knowledge and understanding engineering and management principles to deal with projects?	✓				
PO12	To what extent you are able to engage in life-long learning and adapt to rapidly changing technologies?	✓				
PSO1	To what extent you are able to apply knowledge related to core and specialized fields like Electronic Circuits, Embedded and Communication Systems to find solutions for real time applications?	✓				
PSO2	To what extent you are able to use Xilinx, NS2, TINA, Microwind, DSCH and MATLAB to arrive cost effective and appropriate solutions?	✓				

Vignesh

SIGNATURE

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

ALUMNI Survey for 2018-2022 (ECE)Batch

Name

Janaki S

Year of Graduation

2021

Branch

ECE

Email-id

tjanusubbu@gmail.com

Present Occupation :
(Please send appointment letter copy to the HOD at the earliest)

WiFi Developer, Tata Consultancy Services

Whether undergone higher education: Yes/No

(If Yes, please send Admission details at the earliest)

No

Please provide your comments on the following

College Infrastructure

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Effectiveness of Teaching Processes

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Department Resources

- ( ) Excellent
- (●) Good
- ( ) Average
- ( ) Fair

Overall rating of the College

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Your Positive/Negative Comments:

Nice Place to Learn

Your suggestions for the Improvement of the Institution

Good

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Employer Survey for 2018-2022 (ECE)Batch

Name of the Organization

Xcel Corp

Name of the Officer and Designation

Ms. Annet, Senior HR

Name of the Employee

B. Durga Devi

Please provide your comments on the following:

Performance of the staff

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Technical Skills

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Attitude

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Interpersonal Skills

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Faculties helpfulness

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Library Facilities

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Computing and Internet Facilities

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Sports, Extra Curricular Facilities

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Personality/Communications Skills Development Facilities

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Placement Cell

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

COLLEGE OF ENGG. & TECHNOLOGY • NPR • NATHAM

Passion for Growth

- (●) Excellent
- ( ) Good
- ( ) Average
- ( ) Fair

Would you like to consider our students for future employment:

- (●) Yes
- ( ) No

What are your advices for further improvements on our candidates?

Still need to learn new technologies

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11. Direct and Indirect Assessment for PO Attainment

PO ATTAINMENT

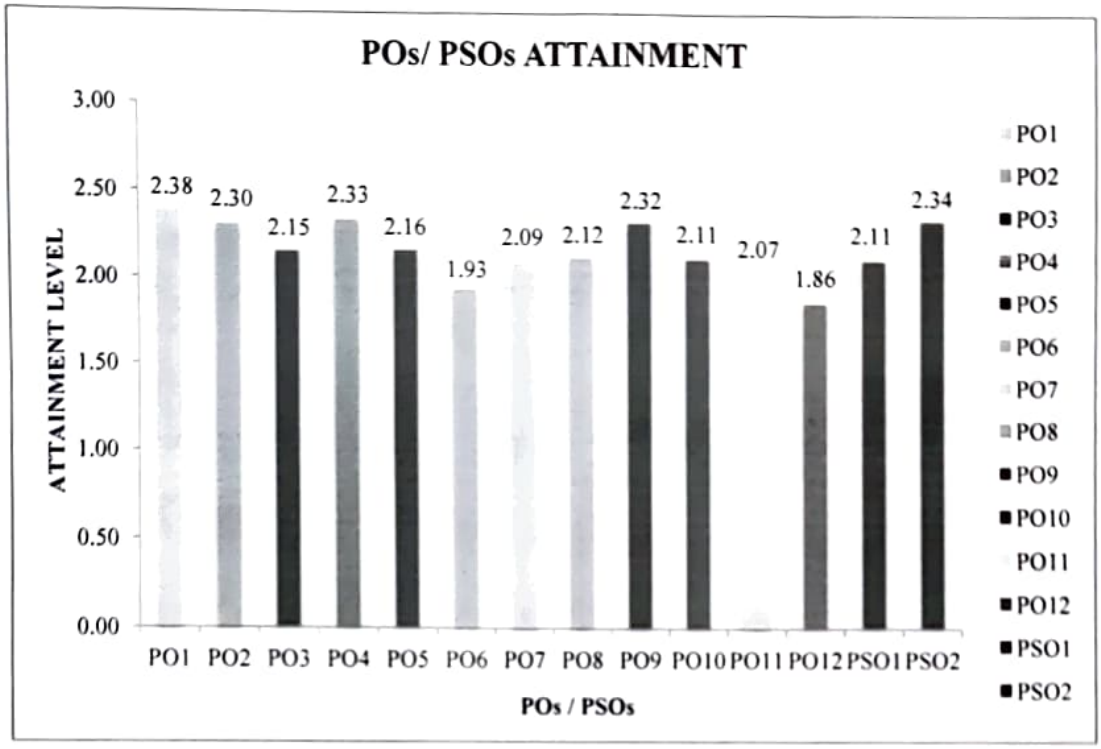
SUBJECTWISE PO ATTAINMENT

COURSE CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C101	-	-	-	-	-	-	-	1.47	1.61	2.20	-	2.20	1.47	1.47	-
C102	1.40	1.40	0.56	-	-	-	-	-	-	-	0.93	0.93	0.93	-	-
C103	1.06	0.70	-	-	0.44	-	-	-	-	-	-	0.44	0.88	-	-
C104	0.93	0.47	0.78	-	0.65	0.75	0.70	-	-	0.58	-	0.47	0.47	-	-
C105	1.40	1.21	1.21	0.93	1.09	-	-	-	-	-	-	0.93	0.47	0.93	-
C106	0.45	0.45	0.91	0.45	-	-	-	-	-	0.91	-	0.91	0.45	-	-
C107	3.00	2.40	2.20	2.00	2.00	-	-	-	2.33	2.00	2.00	2.00	1.00	2.00	-
C108	2.60	2.00	-	-	-	-	2.67	-	-	-	-	1.00	-	-	-
C109	-	-	-	-	-	-	-	1.32	1.91	2.20	-	2.20	1.32	1.47	-
C110	2.20	2.20	1.32	-	0.73	-	-	-	-	-	1.10	1.47	1.47	-	-
C111	1.12	0.70	-	-	0.78	-	-	-	-	-	-	0.47	0.93	-	-
C112	1.47	1.47	0.73	0.73	1.10	-	-	-	-	-	-	-	1.03	-	-
C113	1.40	0.93	0.93	-	-	-	-	-	-	-	-	-	1.40	-	-
C114	1.40	0.93	-	-	-	-	-	-	-	-	-	-	1.40	-	-
C115	3.00	2.00	1.00	-	-	-	-	-	-	-	-	-	2.00	-	-
C116	1.00	1.00	2.00	1.00	-	-	-	-	-	2.00	-	2.00	1.00	-	-
C201	0.94	0.94	0.85	-	0.43	-	-	-	-	-	0.57	0.43	0.85	-	-
C202	1.00	0.93	0.93	-	-	-	-	-	-	-	-	0.67	0.33	0.67	-
C203	1.36	1.36	0.91	-	-	-	-	-	-	-	-	-	1.36	-	-
C204	1.92	1.92	1.28	-	-	-	-	-	-	-	-	-	1.92	-	-
C205	1.16	0.85	0.97	0.87	0.39	-	-	-	-	-	-	-	1.16	0.39	-
C206	1.00	1.00	0.67	-	-	-	-	-	-	-	-	-	0.67	-	-
C207	2.80	2.61	2.61	-	-	-	-	-	-	-	-	1.87	0.93	1.87	-
C208	3.00	2.80	2.60	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
C209	-	-	-	-	-	-	-	1.60	2.80	2.80	-	3.00	2.00	3.00	-
C210	2.00	2.00	-	-	0.67	-	-	-	-	-	1.47	1.20	1.33	-	-
C211	2.10	1.40	1.96	-	-	-	-	-	-	-	-	-	2.10	-	-
C212	2.10	2.10	1.40	-	-	-	-	-	-	-	-	-	2.10	-	-
C213	2.10	1.96	1.26	-	-	-	-	-	-	-	-	-	2.10	-	-

C214	2.00	2.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
C215	1.33	-	-	-	-	0.93	2.00	-	1.47	-	-	0.67	0.67	-	-
C216	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C217	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C301	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
C302	1.40	1.40	1.40	0.93	0.93	-	-	-	-	-	-	-	1.40	0.93	-
C303	2.20	2.20	1.47	-	-	-	-	-	-	-	-	-	2.20	-	-
C304	2.20	2.20	1.47	1.47	1.47	-	-	-	-	1.47	-	-	1.47	1.47	-
C305	2.20	2.20	1.47	-	-	-	-	-	-	-	-	-	1.47	-	-
C306	1.40	1.40	0.93	-	-	-	-	-	-	-	-	-	0.93	-	-
C307	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C308	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C309	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C310	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C311	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C312	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	3.00	-	-
C313	-	-	-	-	-	3.00	2.00	3.00	-	2.00	3.00	3.00	2.00	-	-
C314	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C315	3.00	3.00	2.80	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C316	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C317	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C318	3.00	3.00	-	2.60	2.40	1.60	-	1.60	2.20	2.20	3.00	3.00	3.00	3.00	-
C319	-	-	-	-	-	-	-	2.00	3.00	3.00	-	3.00	2.00	2.00	-
C401	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
C402	3.00	3.00	2.40	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
C403	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C404	3.00	3.00	2.00	1.00	1.00	-	-	-	-	-	-	-	2.00	1.00	-
C405	3.00	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	3.00	2.00	-
C406	3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	-	-
C407	3.00	3.00	2.00	2.00	2.00	-	-	-	-	-	3.00	-	3.00	2.00	-
C408	3.00	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	-
C409	-	-	-	-	-	1.47	1.47	2.20	1.47	0.73	-	2.20	1.47	-	-
C410	2.20	2.20	1.61	-	-	-	-	-	-	-	-	-	2.20	-	-
C411	3.00	3.00	3.00	2.80	2.60	2.60	2.60	2.60	3.00	3.00	2.00	3.00	1.47	1.47	-

DIRECT	2.24	2.15	1.99	2.19	1.99	1.72	1.91	1.97	2.20	1.93	1.90	1.61	1.95	2.22	-
INDIRECT	2.92	2.88	2.79	2.88	2.85	2.77	2.82	2.72	2.82	2.83	2.74	2.86	2.77	2.83	-
DIRECT 80%	1.79	1.72	1.59	1.75	1.59	1.38	1.52	1.58	1.76	1.54	1.52	1.29	1.56	1.78	-
INDIRECT 20%	0.58	0.58	0.56	0.58	0.57	0.55	0.56	0.54	0.56	0.57	0.55	0.57	0.55	0.57	-
PO ATTAIN MENT	2.38	2.30	2.15	2.33	2.16	1.93	2.09	2.12	2.32	2.11	2.07	1.86	2.11	2.34	-

PO ATTAINMENT



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