



AALIM MUHAMMAD SALEGH COLLEGE OF ENGINEERING

APPROVED BY AICTE, NEW DELHI, & AFFILIATED TO ANNA UNIVERSITY, CHENNAI
NAAC ACCREDITED INSTITUTION

ANNA UNIVERSITY COUNSELING CODE: 1101



CO – PO – PSO MAPPING

MA8352 Linear Algebra and Partial Differential Equations

LIST OF COURSE OUTCOMES

- CO1 Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts
- CO2 Demonstrate accurate and efficient use of advanced algebraic techniques
- CO3 Demonstrate their mastery by solving non - trivial problems related to the concepts and by proving simple theorems about the statements proven by the text.
- CO4 Able to solve various types of partial differential equations
- CO5 Able to solve engineering problems using Fourier series.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	1	0	0	0	0	0	1	2	2	0	1
CO2	3	3	2	2	1	0	0	0	0	0	1	2	2	0	1
CO3	3	3	2	2	1	0	0	0	0	0	1	2	2	0	1
CO4	3	3	2	2	1	0	0	0	0	0	1	2	2	0	1
CO5	3	3	2	2	1	0	0	0	0	0	1	2	2	0	1



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CO – PO – PSO MAPPING

EC8393 FUNDAMENTALS OF DATA STRUCTURES IN C

LIST OF COURSE OUTCOMES

CO1 Implement linear and non-linear data structure operations using C.

CO2 Suggest appropriate linear / non-linear data structure for any given data set

CO3 Apply hashing concepts for a given problem.

CO4 Modify or suggest new data structure for an application

CO5 Appropriately choose the sorting algorithm for an application.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	0	0	0	0	0	0	0	3	3	0
CO2	3	3	2	3	3	0	0	0	0	0	0	0	3	3	0
CO3	3	3	3	3	3	3	0	0	0	0	3	3	3	3	2
CO4	3	3	3	3	3	3	0	0	0	0	3	3	3	3	2
CO5	3	3	3	3	3	3	0	0	0	0	3	3	3	3	2



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CO – PO – PSO MAPPING

EC8351 ELECTRONIC CIRCUITS I

LIST OF COURSE OUTCOMES

CO1 Acquire knowledge of Working principles, characteristics and applications of BJT and FET ♣.

CO2 Frequency response characteristics of BJT and FET amplifiers.

CO3 Analyze the performance of small signal BJT and FET amplifiers - single stage and multi stage amplifiers

CO4 Apply the knowledge gained in the design of Electronic circuits.

CO5 To troubleshoot and fault analysis of power supplies..

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	1	0	0	0	0	0	0	1	3	3	3
CO2	3	3	2	2	1	0	0	0	0	0	0	1	3	2	2
CO3	3	2	2	2	1	0	0	0	0	0	0	1	3	2	2
CO4	3	2	2	1	0	0	0	0	0	0	0	1	3	3	2
CO5	3	3	3	2	2	1	0	0	0	0	1	1	3	3	3



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CO – PO – PSO MAPPING EC8352 SIGNALS AND SYSTEMS

LIST OF COURSE OUTCOMES

- CO1** Students will be able to determine if a given system is linear/causal/stable
- CO2** Students will be able to Capable of determining the frequency components present in a deterministic signal
- CO3** Students will be able to Capable of characterizing LTI systems in the time domain and frequency domain
- CO4** Students will be able to be able to compute the output of an LTI system in the time and frequency domains
- CO5** Students will be able to analyze discrete time signals and system in the Fourier and Z transform domain.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	1	1	0	0	0	0	1	1	2	2	1
CO2	3	3	1	1	1	1	0	0	0	0	1	1	2	2	1
CO3	3	3	2	2	1	1	0	0	0	0	1	1	2	2	1
CO4	3	3	1	1	1	1	0	0	0	0	1	1	2	2	1
CO5	3	3	2	2	1	1	0	0	0	0	1	1	2	2	1



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CO – PO – PSO MAPPING EC8392 DIGITAL ELECTRONICS

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Use digital electronics in the present contemporary world.
- CO2** Students will be able to Design various combinational digital circuits using logic gates
- CO3** Students will be able to analysis and design procedures for synchronous and asynchronous sequential circuits..
- CO4** Students will be able to Use the semiconductor memories and related technology
- CO5** Students will be able to Use electronic circuits involved in the design of logic gates.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	0	0	0	0	0	0	0	0	0	2	2
CO2	0	0	2	1	2	1	0	0	0	0	0	0	2	2
CO3	0	0	2	1	2	1	0	0	0	0	0	0	2	3
CO4	3	2	3	1	2	1	0	0	0	0	0	0	2	3
CO5	3	2	3	0	0	1	0	0	0	0	1	1	2	3



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CO – PO – PSO MAPPING

EC8391 CONTROL SYSTEMS ENGINEERING

LIST OF COURSE OUTCOMES

CO1 Students will be able to Identify the various control system components and their representations.

CO2 Students will be able to Analyze the various time domain parameters

CO3 Students will be able to Analysis the various frequency response plots and its system

CO4 Students will be able to Apply the concepts of various system stability criterions.

CO5 Students will be able to Design various transfer functions of digital control system using state variable models

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	3	0	1	1	0	0	0	0	1	2	3	0
CO2	1	1	3	0	0	0	0	0	0	0	0	2	3	3
CO3	3	3	3	1	1	1	0	0	0	0	0	1	3	3
CO4	2	2	3	1	0	0	0	0	0	0	2	1	3	0
CO5	1	1	2	0	0	0	0	0	0	0	2	2	3	3



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CO – PO – PSO MAPPING

EC8381 FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY

LIST OF COURSE OUTCOMES

- CO1 Students will be able to Write basic and advanced programs in C
- CO2 Students will be able to Implement functions and recursive functions in C
- CO3 Students will be able to Implement data structures using C
- CO4 Students will be able To Choose appropriate sorting algorithm for an application and implement it in a modularized way
- CO5 Students will be able To implement searching and sorting algorithms

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	3	1	1	0	0	0	0	1	2	0	3
CO2	3	3	1	2	1	1	0	0	0	0	1	2	0	3
CO3	3	3	1	2	1	1	0	0	0	0	1	2	0	3
CO4	3	3	1	2	1	1	0	0	0	0	1	2	0	3
CO5	3	3	1	2	1	1	0	0	0	0	1	2	0	3



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CO – PO – PSO MAPPING

EC8361 ANALOG AND DIGITAL CIRCUITS LABORATORY

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Design and Test rectifiers, filters and regulated power supplies.
- CO2** Students will be able to Design and Test BJT/JFET amplifiers.
- CO3** Students will be able to Differentiate cascode and cascade amplifiers.
- CO4** Students will be able to Analyze the limitation in bandwidth of single stage and multi stage amplifier
- CO5** Students will be able to Measure CMRR in differential amplifier

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	1	0	0	0	0	1	1	2	3
CO2	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO3	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO4	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO5	3	3	2	2	1	0	0	0	0	0	1	1	2	3



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CO – PO – PSO MAPPING

HS8381 INTERPERSONAL SKILLS/LISTENING&SPEAKING

LIST OF COURSE OUTCOMES

CO1 Students will be able to Listen and respond appropriately.

CO2 Students will be able to Participate in group discussions

CO3 Students will be able to Make effective presentations

CO4 Students will be able to Participate confidently and appropriately in conversations both formal and informal.

CO5 Students will be able to improve general and academic listening skills.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	1	0	0	0	0	1	1	2	3
CO2	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO3	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO4	3	3	2	2	1	0	0	0	0	0	1	1	2	3
CO5	3	3	2	2	1	0	0	0	0	0	1	1	2	3



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CO – PO – PSO MAPPING

MA8451 PROBABILITY AND RANDOM PROCESSES

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Understand the fundamental knowledge of the concepts of probability
- CO2** Students will be able to Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.
- CO3** Students will be able to Apply the concept random processes in engineering disciplines.
- CO4** Students will be able to Understand and apply the concept of correlation and spectral densities
- CO5** Students will be able to Understand the basic concepts of one and two dimensional random variables and apply in engineering applications

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2	0	0	0	0	0	1	2	2	0
CO2	3	3	2	2	2	0	0	0	0	0	1	2	2	0
CO3	3	3	2	2	2	0	0	0	0	0	1	2	2	0
CO4	3	3	2	2	2	0	0	0	0	0	1	2	2	0
CO5	3	3	2	2	2	0	0	0	0	0	1	2	2	0



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CO – PO – PSO MAPPING

EC8452 ELECTRONIC CIRCUITS II

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Analyze different types of amplifier, oscillator and multivibrator circuits
- CO2** Students will be able to Design BJT amplifier and oscillator circuits
- CO3** Students will be able to Analyze transistorized amplifier and oscillator circuits
- CO4** Students will be able to Design and analyze feedback amplifiers
- CO5** Students will be able to Design LC and RC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, power amplifier and DC convertors.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	2	1	0	0	0	0	1	2	3	3
CO2	2	3	3	3	2	1	0	0	0	0	1	2	3	3
CO3	3	2	3	3	2	1	0	0	0	0	1	2	3	3
CO4	3	2	3	3	2	1	0	0	0	0	1	2	3	2
CO5	2	1	3	3	1	1	0	0	0	0	1	2	3	2



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CO – PO – PSO MAPPING EC8491 COMMUNICATION THEORY

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Design AM communication systems
- CO2** Students will be able to Design Angle modulated communication systems
- CO3** Students will be able to Apply the concepts of Random Process to the design of Communication systems
- CO4** Students will be able to Analyze the noise performance of AM and FM systems
- CO5** Students will be able to Gain knowledge in sampling and quantization

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	1	1	0	0	0	0	1	1	1	2
CO2	3	2	2	2	1	1	0	0	0	0	1	1	1	2
CO3	3	2	2	2	1	1	0	0	0	0	1	1	1	2
CO4	2	2	1	1	1	1	0	0	0	0	1	1	1	2
CO5	2	2	1	1	1	1	0	0	0	0	1	1	1	2



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CO – PO – PSO MAPPING

EC8451 ELECTROMAGNETIC FIELDS

LIST OF COURSE OUTCOMES

CO1 Students will be able Display an understanding of fundamental electromagnetic laws and concepts

CO2 Students will be able to Write Maxwell's equations in integral, differential and phasor forms

CO3 Students will be able to Explain electromagnetic wave propagation in lossy and in lossless media

CO4 Students will be able to Apply the concepts of classes, packages, interfaces, exception handling

CO5 Students will be able to Develop applications using generic programming and event handling

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	0	1	0	0	0	0	0	2	3	1
CO2	3	3	2	1	0	1	0	0	0	0	1	1	2	2
CO3	3	3	2	2	0	1	0	0	0	0	1	1	2	2
CO4	2	1	2	2	1	1	0	0	0	0	1	2	2	2
CO5	2	2	1	2	1	1	0	0	0	0	1	2	2	3



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CO – PO – PSO MAPPING

EC8453 LINEAR INTEGRATED CIRCUITS

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Design linear and non linear applications of OP
- CO2** Students will be able to Design applications using analog multiplier and PLL
- CO3** Students will be able to Design ADC and DAC using OP – AMPS
- CO4** Students will be able to Generate waveforms using OP – AMP Circuits.
- CO5** Students will be able to Analyze special function ICs

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	3	2	0	0	0	0	0	0	2	3	1
CO2	3	2	3	3	2	1	0	0	0	0	1	2	3	3
CO3	3	2	3	2	2	1	0	0	0	0	1	2	3	2
CO4	3	2	3	2	2	1	0	0	0	0	1	2	3	2
CO5	3	2	3	3	2	1	0	0	0	0	1	2	3	2



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CO – PO – PSO MAPPING

GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Environmental Pollution or problems cannot be solved by mere laws
- CO2** Students will be able to Public awareness of environmental is at infant stage.
- CO3** Students will be able to finding and implementing scientific, technological, economic and political solutions to environmental problems.
- CO4** Students will be able to study the interrelationship between living organism and environment..
- CO5** Students will be able to study the dynamic processes and understand the features of the earth's interior and surface..

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	0	2	0	1	1	2	0	0	1	2	1	0
CO2	3	3	0	2	0	1	1	2	0	0	1	2	1	0
CO3	3	3	0	2	0	1	1	2	0	0	1	2	1	0
CO4	3	3	0	2	0	1	1	2	0	0	1	2	1	0
CO5	3	3	0	2	0	1	1	2	0	0	1	2	1	0



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CO – PO – PSO MAPPING

EC8461 CIRCUITS DESIGN AND SIMULATION LABORATORY

LIST OF COURSE OUTCOMES

CO1 Students will be able to gain hands on experience in designing electronic circuits.

CO2 Students will be able to learn simulation software used in circuit design

CO3 Students will be able to learn the fundamental principles of amplifier circuits.

CO4 Students will be able to differentiate feedback amplifiers and oscillators

CO5 Students will be able to differentiate the operation of various multivibrators

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	1	1	0	0	0	0	1	2	3	2
CO2	3	3	3	2	1	1	0	0	0	0	1	2	3	2
CO3	1	2	2	1	0	1	0	0	0	0	1	1	3	2
CO4	2	2	2	2	1	1	0	0	0	0	1	2	3	2
CO5	3	3	3	2	1	1	0	0	0	0	1	2	3	2



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CO – PO – PSO MAPPING

EC8462 LINEAR INTEGRATED CIRCUITS LABORATORY

LIST OF COURSE OUTCOMES

CO1 Students will be able to understand the basics of linear integrated circuits and available ICs

CO2 Students will be able to understand the characteristics of the operational amplifier.

CO3 Students will be able to apply operational amplifiers in linear and nonlinear applications.

CO4 Students will be able to acquire the basic knowledge of special function IC

CO5 Students will be able to use SPICE software for circuit design

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	2	0	2	0	0	0	0	2	2	3	2
CO2	3	2	2	2	0	2	0	0	0	0	2	2	3	2
CO3	3	2	2	0	3	0	0	0	0	0	2	3	3	2
CO4	3	2	2	2	0	2	0	0	0	0	2	2	3	2
CO5	3	2	2	0	3	0	0	0	0	0	2	3	3	2



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CO – PO – PSO MAPPING

EC8501 DIGITAL COMMUNICATION

LIST OF COURSE OUTCOMES

CO1 Students will be able to study the limits set by Information Theory.

CO2 Students will be able to study the various waveform coding schemes

CO3 Students will be able to learn the various baseband transmission schemes

CO4 Students will be able to understand the various band pass signaling schemes

CO5 Students will be able to know the fundamentals of channel coding

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

EC8553 DISCRETE-TIME SIGNAL PROCESSING

LIST OF COURSE OUTCOMES

- CO1** Students will be able to learn discrete fourier transform, properties of DFT and its application to linear filtering
- CO2** Students will be able to understand the characteristics of digital filters, design digital IIR and FIR filters and apply these filters to filter undesirable signals in various frequency bands
- CO3** Students will be able to understand the effects of finite precision representation on digital filters
- CO4** Students will be able to understand the effects of finite precision representation on digital filters
- CO5** Students will be able to introduce the concepts of adaptive filters and its application to communication engineering

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



CO – PO – PSO MAPPING

EC8552 COMPUTER ARCHITECTURE AND ORGANIZATION

LIST OF COURSE OUTCOMES

- CO1** Students will be able to make students understand the basic structure and operation of digital computer
- CO2** Students will be able to familiarize with implementation of fixed point and floating-point arithmetic operations
- CO3** Students will be able to study the design of data path unit and control unit for processor
- CO4** Students will be able to understand the concept of various memories and interfacing
- CO5** Students will be able to introduce the parallel processing technique

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

EC8551 COMMUNICATION NETWORKS

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Understand the division of network functionalities into layers..
- CO2** Students will be able to Choose the required functionality at each layer for given application.
- CO3** Students will be able to Identify solution for each functionality at each layer..
- CO4** Students will be able to Trace the flow of information from one node to another node in the network.
- CO5** Students will be able to Understand and characterize phenomenon which evolve with respect to time in a probabilistic manner

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

GE8077 TOTAL QUALITY MANAGEMENT

LIST OF COURSE OUTCOMES

CO1 Students will be able to apply the tools and techniques of quality management to manufacturing and services processes.

CO2 Students will be able to facilitate the understanding of Quality Management principles and process

CO3 Students will be able to Concepts of Performance measures

CO4 Students will be able to Apply quality management systems

CO5 Students will be able to get Continuous process improvement.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

OMD 551 BASIC OF BIOMEDICAL INSTRUMENTATION

LIST OF COURSE OUTCOMES

CO1 Students will be able to study about the different bio potential and its propagation

CO2 Students will be able to understand the different types of electrodes and its placement for various recording

CO3 Students will be able to study the design of bio amplifier for various physiological recording

CO4 Students will be able to learn the different measurement techniques for non-physiological parameters

CO5 Students will be able to familiarize the different biochemical measurements

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

EC8562 Digital Signal Processing Laboratory

LIST OF COURSE OUTCOMES

CO1 Students will be able to Carryout basic signal processing operations

CO2 Students will be able to Demonstrate their abilities towards MATLAB based implementation of various DSP systems

CO3 Students will be able to Analyze the architecture of a DSP Processor

CO4 Students will be able to Design and Implement the FIR and IIR Filters in DSP Processor for performing filtering operation over real-time signals

CO5 Students will be able to Design a DSP system for various applications of DSP

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	0	0	0	0	0	0	2	3	3
CO2	3	3	2	2	3	0	0	0	0	0	0	2	2	3
CO3	3	3	3	2	3	0	0	0	0	0	0	2	3	3
CO4	3	3	2	2	3	0	0	0	0	0	0	2	2	3
CO5	3	3	3	2	3	0	0	0	0	0	0	2	3	3



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CO – PO – PSO MAPPING

EC8561 COMMUNICATION SYSTEMS LABORATORY

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Simulate & validate the various functional modules of a communication system
- CO2** Students will be able to Demonstrate their knowledge in base band signaling schemes through implementation of digital modulation scheme.
- CO3** Students will be able to Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system
- CO4** Students will be able to Simulate end-to-end communication Link
- CO5** Students will be able to To simulate Error control coding schemes

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3	3	3	2	2	2	1	3	1	3	2	3
CO2	2	3	3	3	3	2	2	2	0	3	1	3	2	3
CO3	2	3	2	3	3	2	2	1	0	3	1	3	2	3
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

EC8563 COMMUNICATION NETWORKS LABORATORY

LIST OF COURSE OUTCOMES

CO1 Students will be able to Communicate between two desktop computers

CO2 Students will be able to Implement the different protocols

CO3 Students will be able to Program using sockets

CO4 Students will be able to Implement and compare the various routing algorithms.

CO5 Students will be able to Use the simulation tool.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3	3	3	2	2	2	1	3	1	3	2	3
CO2	2	3	3	3	3	2	2	2	0	3	1	3	2	3
CO3	2	3	2	3	3	2	2	1	0	3	1	3	2	3
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

EC8691 MICROPROCESSORS AND MICROCONTROLLERS

LIST OF COURSE OUTCOMES

CO1 Student will be able to Understand and execute programs based on 8086 microprocessor.

CO2 Student will be able to Design Memory Interfacing circuits.

CO3 Student will be able to Design and interface I/O circuits..

CO4 Student will be able to Design and implement 8051 microcontroller based systems..

CO5 Student will be able to To learn the design aspects of I/O and Memory Interfacing circuits.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	1	0	2	0	0	0	0	0	0	0	1	2
CO2	3	3	2	3	2	0	0	0	0	0	0	2	2	2
CO3	3	2	0	0	0	0	0	0	0	0	0	0	2	3
CO4	2	3	2	2	3	0	0	0	0	0	0	0	1	3
CO5	3	2	3	3	1	2	0	0	0	0	0	2	2	3



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CO – PO – PSO MAPPING

EC8095 VLSI DESIGN

LIST OF COURSE OUTCOMES

CO1 Students will be able to Realize the concepts of digital building blocks using MOS transistor.

CO2 Students will be able to Design combinational MOS circuits and power strategies

CO3 Students will be able To Design and construct Sequential Circuits and Timing systems.

CO4 Students will be able To Design arithmetic building blocks and memory subsystems.

CO5 Students will be able Apply and implement FPGA design flow and testing

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	3	2	0	0	0	0	1	0	2	3	1
CO2	3	2	3	2	2	1	0	0	0	0	1	0	3	3
CO3	3	2	3	2	2	1	0	0	0	0	1	2	3	2
CO4	3	2	3	2	2	0	0	0	0	0	1	2	3	3
CO5	3	2	3	3	2	1	0	0	0	0	1	2	3	3



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CO – PO – PSO MAPPING

EC8652 WIRELESS COMMUNICATION

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Characterize a wireless channel and evolve the system design specifications
- CO2** Students will be able to Design a cellular system based on resource availability and traffic demands
- CO3** Students will be able to Identify suitable signaling and multipath mitigation techniques for the wireless channel and system under consideration
- CO4** Students will be able to understand the concepts of multiple antenna techniques
- CO5** Students will be able to understand the design of a cellular system

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	0	0	1	0	0	0	0	2	3	2
CO2	3	2	3	0	1	0	2	0	0	0	0	2	3	3
CO3	3	2	2	2	2	0	0	0	0	0	0	2	3	0
CO4	3	2	2	0	0	0	0	0	0	0	0	2	3	2
CO5	3	2	2	2	0	0	0	0	0	0	0	2	3	1



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CO – PO – PSO MAPPING

MG8591 PRINCIPLES OF MANAGEMENT

LIST OF COURSE OUTCOMES

CO1 Students will be able to management and organization, managerial roles

CO2 Students will be able to nature,purpose,types,steps and various tools in planning,

CO3 Students will be able to the nature,purpose,types,structure of organising

CO4 Students will be able to the knowledge about the activities of directing(behaviour,motivation types)

CO5 Students will be able to prepare the budgetary control techniques and various controlling activities

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	0	0	0	0	0	0	2	3	2	3	2	0	0
CO2	1	0	0	0	0	0	0	2	3	2	3	2	0	0
CO3	1	0	0	0	0	0	0	2	2	2	3	2	0	0
CO4	1	0	0	0	0	0	0	2	3	3	3	2	0	0
CO5	1	0	0	0	0	0	0	2	3	2	3	2	0	0



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CO – PO – PSO MAPPING

EC8651 TRANSMISSION LINES AND RF SYSTEMS

LIST OF COURSE OUTCOMES

CO1 Students will be able to Explain the characteristics of transmission lines and its losses

CO2 Students will be able to Write about the standing wave ratio and input impedance in high frequency transmission lines

CO3 Students will be able to Analyze impedance matching by stubs using smith charts.

CO4 Students will be able to Analyze the characteristics of TE and TM waves.

CO5 Students will be able to Design a RF transceiver system for wireless communication

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	0	0	1	2	0	0	0	0	0	3	2	0
CO2	1	3	2	3	0	0	0	0	0	0	0	0	0	2
CO3	2	3	0	0	3	0	0	0	2	2	2	1	0	2
CO4	1	0	3	0	3	0	0	0	2	1	2	1	2	0
CO5	1	0	3	2	2	2	0	0	2	2	2	2	0	3



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CO – PO – PSO MAPPING

EC8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Write ALP Programmes for fixed and Floating Point and Arithmetic operations
- CO2** Students will be able to Interface different I/Os with processor
- CO3** Students will be able to Generate waveforms using Microprocessors
- CO4** Students will be able to Execute Programs in 8051
- CO5** Students will be able to Explain the difference between simulator and Emulator

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	0	1	1	0	0	0	0	0	0	0	0	0
CO2	0	0	1	2	2	0	0	0	0	0	0	0	2	2
CO3	2	0	2	3	2	0	0	0	0	0	0	2	0	2
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

EC8661 VLSI DESIGN LABORATORY

LIST OF COURSE OUTCOMES

CO1 Student will be able to Write HDL code for basic as well as advanced digital integrated circuit

CO2 Student will be able to Import the logic modules into FPGA Boards

CO3 Student will be able to Synthesize Place and Route the digital IPs

CO4 Student will be able to Design, Simulate and Extract the layouts of Digital & Analog IC Blocks using EDA tools.

CO5 Student will be able to T familiarize fusing of logical modules on FPGAs

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	3	3	2	2	0	0	3	1	3	2	2
CO2	2	3	2	3	3	2	2	0	0	3	1	3	2	2
CO3	2	3	2	3	3	2	2	0	0	3	1	3	2	2
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

HS8581 PROFESSIONAL COMMUNICATION

LIST OF COURSE OUTCOMES

CO1 Student will be able to Enhance the Employability and Career Skills of students

CO2 Student will be able to Orient the students towards grooming as a professional

CO3 Student will be able to Make them Employable Graduates

CO4 Student will be able to Develop their confidence and help them attend interviews successfully.

CO5 Student will be able to Develop adequate Soft Skills required for the workplace

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

EC8701 ANTENNAS AND MICROWAVE ENGINEERING

LIST OF COURSE OUTCOMES

- CO1** Student will be able to Apply the basic principles and evaluate antenna parameters and link power budgets.
- CO2** Student will be able to Design and assess the performance of various antennas.
- CO3** Student will be able to Design a microwave system given the application specifications.
- CO4** Student will be able to enhance the student knowledge in the area of microwave components and antenna for practical applications.
- CO5** Student will be able to enable the student to understand the basic principles in antenna and microwave system design.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	0	0	1	2	0	0	0	0	0	3	2	3
CO2	0	3	2	3	0	0	0	0	0	0	0	0	0	0
CO3	2	3	0	0	0	0	0	0	0	0	0	1	1	2
CO4	1	0	3	0	3	0	0	0	2	2	2	1	2	0
CO5	1	0	3	2	3	0	0	0	2	1	2	2	0	3



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CO – PO – PSO MAPPING

EC8751 OPTICAL COMMUNICATION

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Realize basic elements in optical fibers, different modes and configurations
- CO2** Students will be able to Analyze the transmission characteristics associated with dispersion and polarization techniques
- CO3** Students will be able to Design optical sources and detectors with their use in optical communication system
- CO4** Students will be able to Construct fiber optic receiver systems, measurements and coupling techniques
- CO5** Students will be able to Design optical communication systems and its networks.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	0	0	0	0	0	1	2	2	0
CO2	3	3	2	2	1	0	0	0	0	0	1	2	2	0
CO3	3	3	3	2	1	0	0	0	0	0	1	2	2	2
CO4	3	3	2	2	1	0	0	0	0	0	1	2	2	2
CO5	3	3	3	2	1	0	0	0	0	0	1	2	2	2



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CO – PO – PSO MAPPING

EC8791 EMBEDDED AND REAL TIME SYSTEMS

LIST OF COURSE OUTCOMES

CO1 Student will be able to Describe the architecture and programming of ARM processor

CO2 Student will be able to Outline the concepts of embedded systems.

CO3 Student will be able to Explain the basic concepts of real time operating system design

CO4 Student will be able to Model real-time applications using embedded-system concepts.

CO5 Student will be able to Understand the concepts of embedded system design and analysis

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	1	0	0	0	0	0	0	0	1	2
CO2	3	3	2	2	3	1	1	0	0	0	0	0	1	2
CO3	3	3	2	2	2	2	2	0	0	0	0	0	2	2
CO4	3	3	2	1	0	1	1	1	0	0	0	0	3	3
CO5	3	3	3	2	2	2	2	1	1	1	2	2	3	3



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CO – PO – PSO MAPPING

EC8702 AD HOC AND WIRELESS SENSOR NETWORKS

LIST OF COURSE OUTCOMES

- CO1** Student will be able to Know the basics of Ad hoc networks and Wireless Sensor Networks
- CO2** Student will be able to Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
- CO3** Student will be able to Apply the knowledge to identify appropriate physical and MAC layer protocols
- CO4** Student will be able to Understand the transport layer and security issues possible in Ad hoc and sensor networks.
- CO5** Student will be able to Be familiar with the OS used in Wireless Sensor Networks and build basic modules

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1	1	3	2	0	1	2	1	1	1	1	1
CO2	3	1	1	1	3	1	2	1	3	1	1	1	2	1
CO3	3	1	1	0	3	0	2	1	0	2	1	1	2	1
CO4	3	0	1	0	3	1	0	1	3	2	1	1	2	1
CO5	3	0	1	0	3	0	2	1	2	3	1	1	3	0



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CO – PO – PSO MAPPING

EC8071 Cognitive Radio

LIST OF COURSE OUTCOMES

CO1 Students will be able to Configure various virtualization tools such as Virtual Box, VMware workstation

CO2 Students will be able to Design and deploy a web application in a PaaS environment.

CO3 Students will be able to Learn how to simulate a cloud environment to implement new schedulers.

CO4 Students will be able to Install and use a generic cloud environment that can be used as a private cloud.

CO5 Students will be able to Manipulate large data sets in a parallel environment.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

OBM751 Basics of Human Anatomy and Physiology

LIST OF COURSE OUTCOMES

CO1 Students will be able to learn the basic components of formation of systems

CO2 Students will be able to identify all the organelles of an animal cell and their function

CO3 Students will be able to understand structure and functions of the various types of systems of human body

CO4 Students will be able to demonstrate their knowledge of importance of anatomical features and physiology of human systems

CO5 Students will be able to comprehend circulatory and nervous systems and their components

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	1	1	0	1	1	0	1	2	2
CO2	2	2	2	1	1	1	0	0	0	1	0	1	2	2
CO3	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO4	2	2	2	2	2	1	0	0	0	2	0	1	2	2
CO5	2	2	2	2	2	1	0	0	0	2	0	2	2	2



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CO – PO – PSO MAPPING

EC8711 EMBEDDED LABORATORY

LIST OF COURSE OUTCOMES

- CO1** Students will be able to Write programs in ARM for a specific Application.
- CO2** Students will be able to interface A/D and D/A convertors with ARM system
- CO3** Students will be able to Analyze the performance of interrupt
- CO4** Students will be able to Write program for interfacing keyboard, display, motor and sensor
- CO5** Students will be able to Formulate a mini project using embedded system

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	2	2	3	1	0	0	1	1	1	0	2	3
CO2	1	2	2	2	3	1	0	0	1	1	1	0	2	2
CO3	1	3	3	3	3	1	0	0	2	2	2	0	2	2
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

EC8761 ADVANCED COMMUNICATION LABORATORY

LIST OF COURSE OUTCOMES

CO1 Students will be able to Understand the working principle of optical sources, detector, fibers

CO2 Students will be able to Develop understanding of simple optical communication link

CO3 Students will be able to Understand the measurement of BER, Pulse broadening

CO4 Students will be able to Understand and capture an experimental approach to digital wireless communication

CO5 Students will be able to Understand actual communication waveforms that will be sent and received across wireless channel

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	2	3	1	1	0	0	2	2	2	3	2
CO2	3	2	3	2	3	2	1	0	0	2	2	1	3	2
CO3	3	2	2	2	1	2	1	0	0	2	2	2	0	0
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3



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CO – PO – PSO MAPPING

GE8076 PROFESSIONAL ETHICS IN ENGINEERING

LIST OF COURSE OUTCOMES

- CO1** Students will be able to enable the students to create an awareness on Engineering Ethics and Human Values
- CO2** Students will be able to instill Moral and Social Values.
- CO3** Students will be able to Make Loyalty and to appreciate the rights of others
- CO4** Students will be able to discuss the ethical issues related to engineering
- CO5** Students will be able to realize the responsibilities and rights in the society.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	0	0	0	0	0	0	0	3	0	0	0	2	0	0
CO2	0	0	2	0	0	2	2	3	3	0	0	2	0	0
CO3	0	0	0	2	0	2	2	3	0	2	0	2	0	0
CO4	0	0	0	0	0	3	2	3	0	0	2	2	0	0
CO5	0	0	0	0	0	3	2	3	0	0	2	2	0	0



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CO – PO – PSO MAPPING

EC8094 SATELLITE COMMUNICATION

LIST OF COURSE OUTCOMES

CO1 Students will be able to Understand the basics of satellite orbits

CO2 Students will be able to Understand the satellite segment and earth segment.

CO3 Students will be able to Analyze the various methods of satellite access.

CO4 Students will be able to Understand the applications of satellites

CO5 Students will be Understand the basics of satellite Networks.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	2	1	0	0	0	1	1	1	2
CO2	3	3	2	2	1	2	1	0	0	0	1	1	1	2
CO3	3	3	2	2	1	2	1	0	0	0	1	1	1	2
CO4	3	3	2	2	1	2	1	0	0	0	1	1	1	2
CO5	3	3	2	2	1	2	1	0	0	0	1	1	1	2

EC8811- Project Work

LIST OF COURSE OUTCOMES

CO1 Students will be able to identify problem statements during literature survey

CO2 Students will be able to implement latest technological methods .

CO3 Students will be able to frame a team work

CO4 Students will learn about ethical and social values

CO5 Students will be able to find solution to formulate new methodology.

CO –PO-PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	1	1	2	3	3	2	2	3	2
CO2	3	3	3	3	3	1	1	3	3	3	3	2	3	3
CO3	3	3	3	3	3	2	1	3	3	3	3	2	3	3
CO4	3	2	3	1	1	1	2	1	1	1	1	3	3	3
CO5	3	2	3	1	2	1	2	1	1	1	2	3	3	3