PO, PSO, CO Attainment



PSN COLLEGE OF ENGINEERING AND TECHNOLOGY Melathediyoor, Tirunelveli 627152 (An Autonomous Institution affiliated to Anna University, Chennai) An ISO 9001:2015 Certified Institution

Department of Computer Science and Engineering

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes and Program Outcomes

AY 2023-2024

262	COURSE OUTCOMES AND PROGRAM
2.0.2	OUTCOMES

Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)(25)

(Program Outcomes as mentioned in Annexure I and Program Specific Outcomes as defined by the Program)

Program Outcomes (POs) & Program Specific Outcomes (PSOs) of Computer Science and Engineering department is furnished below:

Program Outcomes:

At the time of graduation, students from the Computer Science and Engineering program will possess:

Engineering Graduates will be able to

- 1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. **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.
- 3. **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.
- 4. **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.
- 5. **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.
- 6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. 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.

- 8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. **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.
- 11. **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.
- 12. 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.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Engineering Graduates will be able to

The computer science and Engineering graduates are able to analyze, design, develop, test and apply Management strategy, Mathematical concept in the development of computational solutions, make them expert in computer software and hardware. Proficient and Innovative with a strong cognizance in the IOT, through the application of acquired knowledge and skills.

<u>COURSE TITLES:</u> The following are the course titles along with course codes for the program:

Note: 1. C101 to C413 indicative Courses for first year to final year. First numeric digit indicates year of study,

remaining digit indicate course number

S. NO	Course Code	Course Name
		Regulation 2018
1	C101	Technical English
2	C102	Elementary Mathematics for Engineers
3	C103	Applied Physics I
4	C104	Applied Chemistry I
5	C105	Engineering Graphics
6	C106	Fundamental of Computers
7	C107	Applied Physics & Chemistry Lab I
8	C108	Computer Lab – I
9	C109	Workshop Practice
10	C110	Business Communication and Presentation Skills
11	C111	Applied Mathematics I

12	C112	Applied Physics II
13	C113	Applied Chemistry II
14	C114	Basic Engineering Mechanics
15	C115	Basic Civil and Mechanical Engineering
16	C116	Basic Electrical and Electronics Engineering
17	C117	Applied Physics & Chemistry Lab II
18	C118	Computer Lab – II
19	C201	Engineering Mathematics -II
20	C202	Computer Organization and Architecture
21	C203	Database Management Systems
22	C204	OOPs & Data Structures
23	C205	Operating Systems
24	C206	Digital Electronics & Microprocessor
25	C207	OOPs & Data Structures Lab
26	C208	Database Management Systems Lab
27	C209	Environmental Studies
28	C210	Engineering Mathematics -III
29	C211	Computer Networks
30	C212	Design and Analysis of Algorithms
31	C213	Software Engineering
32	C214	Java Programming
33	C215	Microcontroller and Embedded Systems
34	C216	Computer Networks Lab
35	C217	Java Programming Lab
36	C218	Microcontroller and Embedded Systems Lab
37	C301	Numerical methods
38	C302	Object Oriented Analysis and Design
39	C303	Internet Programming
40	C304	Consumer Electronics
41	C305	Digital Signal Processing
42	C306	Object Oriented Analysis and Design Lab
43	C307	Internet ProgrammingLab
44	C308	Discrete Mathematics
45	C309	Cloud Computing
46	C310	Computer Graphics and Multimedia
47	C311	Data Warehousing and Data Mining
48	C312	Advanced Database Technology
49	C313	BigData
50	C314	Principles of Modern and Communication
51	C315	Data Warehousing and Data MiningLab
52	C316	Computer Graphics and Multimedia Lab
53	C401	Total Quality Management
54	C402	Cloud Computing
55	C403	Mobile Computing
56	C404	C# and .NET Programming
57	C405	Software Testing
58	C406	C# and .NET Programming Lab
59	C407	Advanced Operating System
60	C408	Internet Of Things
61	C409	Mini Project

62	C410	Project Work
----	------	--------------

Course Name:Engineering Mathematics -II (C201)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C201.1	А	Find the Differential equations for a function of first order and highest degree logic
C201.2	А	Find the Differential equations for a function of order two logic
C201.3	А	Find the Fourier series for a function defined on closed interval
C201.4	А	Formulate and solve PDE of first order.
C201.5	A	Formulate and solve PDE of higher order.

Course Name: Computer Architecture (C202)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C202.1	U	Understand the basic concepts of computer system.
C202.2	U	Understand the concept of computer components.
C202.3	AN	Analyze the various operations on various components.
C202.4	AN	Analyze the different techniques on RISC like types.
C202.5	U	Understand the concept of computer applications.

Course Name: Database Management Systems (C203)

S.No.	Bloom's Taxonomy Level	Statement
C203.1	U	Define and analyze the major objectives of database technology
C203.2	U	Explain and define the relational model for databases
C203.3	С	Design issues of Database
C203.4	AN	Identify the problems in Transaction
C203.5	AN	Analyze the issues involved in Implementation

Course Name: OOPs and Data Structures (C204)

S.No.	Bloom's Taxonomy Level	Statement
C204.1	U	Understand the difference between object oriented programming and procedural oriented language and data types in C++
C204.2	А	Write C++ programs with features such as composition of objects, Polymorphism etc.
C204.3	А	Write C++ programs with features such as Operator overloading and inheritance
C204.4	AN	Choose an appropriate data structure for a particular problem
C204.5	AN	Simulate problems in the subjects like Operating system, Computer networks and also real world problems in C++

Students will be able to

Course Name: Operating Systems (C205)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C205.1	U	Understand the fundamental concepts of operating system
C205.2	U	Understand the concept of processes and threads scheduling
C205.3	AN	Analyze the various semaphores techniques and the deadlock handling mechanism
C205.4	AN	Analyze the different storage management strategies
C205.5	U	Understand the concept of I/O systems

Course Name: Digital Electronics & Microprocessor (C206)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C206.1	U	Understand different methods used for the simplification of Boolean functions
C206.2	С	Design and implement combinational circuits
C206.3	С	Design and implement synchronous sequential circuits
C206.4	С	Design and implement asynchronous sequential circuits
C206.5	U	Learn the fundamentals of VHDL / Verilog HDL

Course Name: OOPs and Data Structures Lab (C207)

S.No.	Bloom's Taxonomy Level	Statement
C207.1	U	Understand the difference between object oriented programming and procedural oriented language.
C207.2	А	Write C++ programs of composition of objects, Operator overloading, inheritance, Polymorphism with its features.
C207.3	AN	Choose an appropriate data structure for a particular problem and sorting
C207.4	С	plementation of queue by using arrays
C207.5	С	eate various sorting algorithm using C++

Course Name: Database Management Systems Lab (C208)

S.No.	Bloom's Taxonomy Level	Statement
C208.1	С	Create and manipulate their own databases
C208.2	А	Manipulate various SQL commands for accessing the database
C208.3	С	Do a small application with database accessing
C208.4	С	eate the transaction Management of the Database
C208.5	С	plement Databases in Real time applications

Students will be able to

Course Name: Environmental Studies (C209)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C209.1	U	Understand the different environmental systems
C209.2	U	Know about biodiversity.
C209.3	U	Understand different environmental pollution
C209.4	U	Understand the natural resources
C209.5	U	Understand social issues

Course Name: Engineering Mathematics -III(C210)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C210.1	А	Apply Laplace transform in Engineering.
C210.2	E	Evaluate the Fourier transform of continuous functions.
C210.3	А	Solve difference equation by Z0 Transform.
C210.4	А	Apply PDE in Engineering.
C210.5	U	Understand the concept of logics.

Course Name: Computer Networks (C211)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C211.1	U	Understand the basic concepts of Physical Layer and its functions
C211.2	U	Understand the concept of Data Link Layer and its functions
C211.3	AN	Analyze the various methods in network layer and its functions.
C211.4	AN	Analyze the different techniques on Transport layer and its functions
C211.5	U	Understand the concept of various methods in Application layer

Course Name: Design and Analysis of Algorithm (C212)

S.No.	Bloom's Taxonomy Level	Statement
C212.1	U	Interpret the fundamental needs of algorithms in problem solving
C212.2	U	Classify the different algorithm design techniques for problem solving
C212.3	А	Develop algorithms for various computing problems

C212.4	AN	Analyse the time and space complexity of various algorithms
C212.5	AN	Identify the limitations of algorithms in problem solving

Course Name: Software Engineering (C213)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C213.1	U	Understand the basic concepts and life cycle models in software engineering.
C213.2	U	Understand the concept of requirement analysis and various Modeling approaches
C213.3	AN	Analyze the various design concepts and understand the architecture mapping with data flow
C213.4	AN	Analyze the different testing strategies and understand the various types of testing
C213.5	U	Understand software metrics, estimation and risk management

Course Name: Java Programming (C214)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C214.1	U	Able to implement, compile, test and run Java program
C214.2	С	Develop Java programs using OOP principles
C214.3	С	Develop Java programs implementing the concepts of inheritance and interfaces
C214.4	С	Develop multi-threaded and package Java applications
C214.5	С	Build Java applications with exception handling and using I/O streams

Course Name: Microcontroller and Embedded Systems (C215)

S.No.	Bloom's Taxonomy Level	Statement
C215.1	U	Describe architecture and operations of microcontroller 8051
C215.2	С	Develop assembly language programs for 8051 and its applications in the field of information technology using different types of interfacing
C215.3	U	Acquire knowledge on embedded systems basics and describe the architecture and operations of ARM processor
C215.4	С	Develop skills in writing small programs for ARM processor and its applications using different types of interfaces and with interrupt handling mechanism
C215.5	U	Understand the multiple process operating environments and use standard system call interfaces to monitor and control processes

Course Name: Computer Networks Lab (C216)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C216.1	U	Understand the basic concepts of client server application
C216.2	AN	Analyze the various methods on different protocols
C216.3	С	Implement different routing algorithm techniques
C216.4	С	Develop hamming code for error detection and correction
C216.5	С	Create Mesh and Star topologies using network simulator

Course Name: Java Programming Lab(C217)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C217.1	С	Develop simple Java program using classes
C217.2	А	Illustrate the Polymorphism Concepts using FunctionOverloading
C217.3	А	Make use of inheritance, Package and Interfaces concept to achieve reusability
C217.4	С	Implement Java programs with exception handling
C217.5	С	Develop a multi-threaded Java program

Course Name: Microcontroller and Embedded Systems Lab (C218)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C218.1	U	Acquire the basic knowledge of Arithmetic operations using 8051 microcontroller kit
C218.2	AN	Analyze the various interface techniques
C218.3	С	Develop embedded programming in C language and apply real time systems design techniques to various software programs
C218.4	U	Utilize a top down modular design process to complete a medium complexity
C218.5	U	Study about the embedded system design project under instructor specified design constraints

Course Name: Numerical methods (C301)

S.No.	Bloom's Taxonomy Level	Statement
C301.1	U	Find the values of the variables using iterative methods.
C301.2	U	Knowledge of methods to find interpolates values.

C301.3	А	Solve complicated differentiation and integration by numerical methods.
C301.4	U	Know the method of finding numerical solution for differential equation by initial value problems.
C301.5	U	Know the method of finding numerical solution for differential equation by final value problems.

Course Name: Object Oriented Analysis and Design (C302) Students will be able to

	Bloom's	
S.No.	Taxonomy	Statement
	Level	
C302.1	U	derstand the object-oriented life cycle.
C202.2	I	ow to identify objects, relationships, services and attributes through
C302.2	U	UML.
C302.3	А	Analyse to draw the use-case diagrams.
C302.4	U	Understand the Object-Oriented Design process.
C302.5	U	Acquire about software quality and usability.

Course Name: Internet Programming (C303)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C303.1	U	Understand the basic concepts and web services in internet programming.
C303.2	U	Understand the concept of design a web page using CSS
C303.3	А	Analyze the various JavaScript concepts and understand the how to design a webpage using JavaScript
C303.4	А	Analyze the different XML and RSS Feed concept used to update their own blogs
C303.5	U	Remember software tool Dream viewer and AJAX methods

Course Name: Consumer Electronics (C304)

S.No.	Bloom's Taxonomy Level	Statement
C304.1	U	Know about various electronic audio and video devices and systems.
C304.2	U	Understand working principles and main features of consumer electronics
C304.3	U	Understand the home and commercial audio-systems, Disk systems. TV,VCR etc.
C304.4	U	Know the working of digital clocks, calculators microwave ovens, Photostat machines computing systems, etc
C304.5	U	Know about various electronic audio and video devices and systems.

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C305.1	U	Represent and process discrete/digital signals and systems
C305.2	U	Understanding of frequency domain analysis of discrete time signals
C305.3	С	Design IIR
C305.4	С	Design FIR filters
C305.5	U	Characterize the effects of finite precision representation on digital filters

Course Name: Object Oriented Analysis and Design Lab(C306)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C306.1	С	Design and implement projects using OO concepts.
C306.2	С	Use the UML analysis and design diagrams.
C306.3	А	Apply appropriate design patterns and create code from design.
C306.4	С	Create a eBook Management
C306.5	C	Design a Real time application for Online Quiz

Course Name: Internet ProgrammingLab (C307)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C307.1	U	Understand the basic concepts of HTML Program
C307.2	С	Create a web page using HTML
C307.3	С	Create a DTD for the Bank domain
C307.4	U	Understand the concept of JavaScript and AJAX
C307.5	С	Create a Web page using Dream weaver tool in JSP

Course Name: Discrete Mathematics (C308) Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C308.1	U	Understand the concepts needed to test the logic of a program.
C308.2	U	Identify structures and counting principles on many levels.
C308.3	U	Exposed the concepts and properties of algebraic structures such as semi groups, monoids and groups.
C308.4	U	Understand the concept of Lattices and Boolean Algebra.
C308.5	U	Improve the knowledge in basic graph theory.

Course Name: Cloud Computing (C309)

S.No.	Bloom's Taxonomy Level	Statement
C309.1	С	Deploy the concepts of virtualization strategies and virtual machines
C309.2	А	Apply the concept of virtualization infrastructure in the cloud computing
C309.3	AN	Identify the architecture and deployment models of cloud computing
C309.4	С	Develop cloud services using cloud computing for real time environment
C309.5	А	Apply the security models in the cloud environment

Students will be able to

Course Name: Computer Graphics and Multimedia

(C310)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C310.1	U	Understand the basic concepts and algorithms in Graphics
C310.2	U	Understand the concept of design a algorithm using primitives
C310.3	А	Analyze the various 2D and 3D concepts and understand how to design a Graphic Image
C310.4	U	Understand software technique for color models and its methods
C310.5	U	Remember the basic concept of Multimedia System Design

Course Name: Data Warehousing and Data Mining (C311)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C311.1	U	Understand the data warehouse and OLAP technology
C311.2	А	Apply various data preprocessing techniques
C311.3	U	Identify appropriate data mining classification algorithms to solve real world problems
C311.4	U	Identify appropriate data mining clustering algorithms to solve real world problems
C311.5	U	Understand the other data mining methodologies, applications and trends

Course Name: Advanced Database Technology (C312)

S.No.	Bloom's Taxonomy Level	Statement
C312.1	С	Design the basic queries for accessing DB
C312.2	U	Understand about the object, object-relational & distributed databases
C312.3	U	Identify and solve transaction problems like dead lock
C312.4	U	Link the database with an active web page
C312.5	U	Connect our data base with some mobile applications

Course Name: BigData (C313)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C313.1	U	Know the basics of big data management concepts.
C313.2	U	Know the technology foundation of Big data and its applications.
C313.3	U	Understand the Map reduce fundamentals and Hadoop.
C313.4	U	Understand the big data analytics approaches and building text analytics tools
C313.5	R	Gain an insight into the various issues in implementation of Big Data

Course Name: Principles of Modern and Communication(C314) Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C314.1		
C314.2		
C314.3		
C314.4		
C314.5		

Course Name: Data Warehousing and Data MiningLab (C315)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement	
C315.1	U	Demonstrate the classification, clustering and etc. in large data sets.	
C315.2	U	rmalize techniques for an available data set using "Knowledge Flow" application.	
C315.3	U	Ability to apply Mining techniques for realistic data.	
C315.4	С	Implement the basic elements of association rule using WEKA Tool	
C315.5	С	Illustrates the use of Bayesian classifier and J48 with WEKA explorer.	

Course Name: Computer Graphics and Multimedia Lab(C316)

S.No.	Bloom's Taxonomy Level	Statement
C316.1	U	Understand the basic concepts and algorithms in Graphics
C316.2	А	alyze the concept of design a 2D animation algorithm
C316.3	U	Acquire the knowledge about Multimedia System
C316.4	С	Implement the Cohen-Sutherland Line Clipping algorithm
C316.5	С	create Interactive 3D animation using any authoring tool

Course Name: Total Quality Management(C401)

	Students	will	be	able	to	
--	----------	------	----	------	----	--

S.No.	Bloom's Taxonomy Level	Statement
C401.1	U	understand the TQM tools for continuous process improvement and learn the importance of ISO and Quality systems
C401.2	U	understand the team work strategy
C401.3	U	learn about basic TQM Tools
C401.4	U	Learn about cost of quality
C401.5	С	Implement TQM

Course Name: Cloud Computing (C402)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C402.1	U	Deploy the concepts of virtualization strategies and virtual machines
C402.2	А	Apply the concept of virtualization infrastructure in the cloud computing
C402.3	U	Identify the architectureand deployment models of cloud computing
C402.4	С	Develop cloud services using cloud computing for real time environment
C402.5	А	Apply the security models in the cloud environment

Course Name: Mobile Computing (C403)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C403.1	U	Understand the basics of wireless communication systems
C403.2	U	Determine the functionality of GSM mobile networks
C403.3	U	Discuss the various wireless networks
C403.4	U	Explain the functionality of networks layers
C403.5	С	Explain the functionality of Transport and Application layers

Course Name: C# and .NET Programming (C404)

S.No.	Bloom's Taxonomy Level	Statement
C404.1	U	Understand the basic concepts of .NET platform
C404.2	U	Understand the basics of C#
C404.3	С	Develop to implement the concept of exception handling in C#
C404.4	А	Illustrate their ability to write C# programs in .NET platform programs of indexers, properties and inheritance.
C404.5	U	Demonstrate their skills by developing delegates and event0driven applications

Course Name: Software Testing (C405)

S.No.	Bloom's Taxonomy Level	Statement
C405.1	U	Describe testing fundamentals, principles, TMM levels and classify the defects.
C405.2	А	Apply suitable Black box and White Box testing techniques and design Test cases in practice.
C405.3	U	Understand the concept of different levels of software testing and how those testing methods are used in software development.
C405.4	U	Describe to develop test plans, testing goals & policies and perform reviews for practical applications.
C405.5	U	Determine the controlling and monitoring the review metrics

Students will be able to

Course Name:C# and .NET Programming Lab (C406)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C406.1	С	velop and implement C# program for simple applications that make use of classes
C406.2	С	velop and implement C# program with exception handling
C406.3	С	velop and implement C# program with inheritance
C406.4	С	Develop and implement C# program with constructor overloading and Method overloading
C406.5	С	Develop and implement C# program with indexers, properties and delegates

Course Name: Advanced Operating System (C407)

S.No.	Bloom's Taxonomy	Statement
	Level	
C407.1	U	Understand the fundamental concepts of operating system
C407.2	U	Recognize the concept of various distributed operating systems
		algorithms
C407.3	А	Analyze the various resource management protocol for the
		distributed systems
C407.4	C	Implement the concepts of virtual machines and mobile operating
C407.4	C	systems
C407.5	I	Understand the basic principle category of embedded operating
	U	systems

Course Name: Internet Of Things (C408)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C408.1	U	Understand the fundamental concepts of Internet of Things
C408.2	U	Understand the concept of M2M communications to internet of things
C408.3	А	Analyze the concept of M2m Vs IoT characteristics
C408.4	U	Understand the concepts of domain specific communication models of IoT
C408.5	C	Developing the concept of IoT solutions

Course Name: Mini Project (C409)

Students will be able to

S.No.	Bloom's Taxonomy Level	Statement
C409.1	U	ntify the Problems by applying acquired knowledge
C409.2	AN	alyse and categorize executable project modules after considering risk
C409.3	U	derstand Efficient tool for designing project modules
C409.4	U	mbine all the modules through effective team work after efficient testing
C409.5	U	aborate the completed task and compile the project report

Course Name: Project Work (C410)

S.No.	Bloom's Taxonomy Level	Statement
C410.1	U	entify the Problems by applying acquired knowledge
C410.2	AN	alyse and categorize executable project modules after considering risk
C410.3	U	derstand Efficient tool for designing project modules
C410.4	U	mbine all the modules through effective team work after efficient testing
C410.5	U	aborate the completed task and compile the project report

CO mapping with POs and PSOs

AY 2023-2024

CO mapping with POs and PSOs

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201.1	3	1	1	2								3		
C201.2	3		1	2								3		
C201.3	3	1	2	2	1							2	1	
C201.4	2		1									2		
C201.5	2		1									2		
C201	2.6	1.00	1.2	1.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0	0.0

Course Name: Engineering Mathematics II (C201)

Course Name: Computer Architecture (C202)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C202.1	3	1	1	2								3		2
C202.2	3		1	2								3		2
C202.3	3	1	2	2	1							2	1	
C202.4	2	2	1	2	2							2		1
C202.5	2		1	1	2							2		1
C202	2.6	1.3	1.2	1.8	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0	1.5

Course Name: Database Management System (C203)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	1	2	1	1							2	1	
C203.2	3	1	2	2	1							2	2	
C203.3	2	2	2	2							2	2		2
C203.4	2	2		2	1							2		2
C203.5	2		2	2							2	2		2
C203	2.4	1.5	2	1.8	1	0	0	0	0	0	2	2	1.5	2

Course Name: OOPs and Data Structures (C204)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C204.1	3	1	1	2							2	2	2	
C204.2	3	2	2	2	2							2	1	
C204.3	3	2	2	2	2						3	3		2
C204.4	3	2		2							3	3		2
C204.5	3	2	1	1	1						3	3		2
C204	3	1.8	1.5	1.8	1.666 66666 7	0	0	0	0	0	2.75	2.6	1.5	2

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C205.1	3											2	2	
C205.2	2	1	1	1								2		2
C205.3	3	2		2	2							3		2
C205.4	2		2	2	2							3		2
C205.5	2	1	2	1	1							3		2
C205	2.40	1.33	1.67	1.50	1.67	0.00	0.00	0.00	0.00	0.00	0.00	2.60	2.00	2.00

Course Name: Operating System (C205)

Course Name: Digital Electronics & Microprocessor (C206)

CO	s/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C2	206.1		2	1										2	
C2	206.2			1											2
C2	206.3				1										2
C2	206.4					2									2
C2	206.5	1	1												2
C	206	1	1.5	1	1	2	0	0	0	0	0	0	0	2	2

Course Name: OOPs and Data Structures Lab (C207)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C207.1	3	1	1	1								3	2	
C207.2	3	2	2	1	2							3		3
C207.3	2		2	2	1							3		3
C207.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C207.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C207	2.67	1.50	1.67	1.33	1.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2.00	3.00

Course Name: Database Management System Lab (C208)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C208.1	3	2	2	2							1	3	2	
C208.2	3	2	2	2	2						1	3		2
C208.3	2		2	1	2						1	2		2
C208.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C208.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C208	2.67	2.00	2.00	1.67	2.00	0.00	0.00	0.00	0.00	0.00	1.00	2.67	2.00	2.00

Course Name: Environmental Studies (C209)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C209.1	3	2	2	2							1	3	2	
C209.2	3	2	2	2	2						1	3		2
C209.3	2		2	1	2						1	2		2
C209.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C209.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C209	2.67	2.00	2.00	1.67	2.00	0.00	0.00	0.00	0.00	0.00	1.00	2.67	2.00	2.00

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C210.1	2	1	2	1										
C210.2	2	1	2	1										
C210.3	2	1	1	1	2									
C210.4	2	2	2	1	2	1								
C210.5	2	2	2	2	1	1				1				
C210	2	1.4	1.8	1.2		1	0	0	0	1	0		0	0

Course Name: ENGINEERING MATHEMATICS - III (C210)

Course Name: Computer Networks (C211)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C211.1	3	2	2	2	2							3	2	
C211.2	3	2	2	2	2							3	2	
C211.3	3	2	2	2	2							3		2
C211.4	3	2	2	2	2							3		2
C2011.5	3	2	2	2	2							3		2
C211	3.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0	2.0

Course Name: Design Analysis and Algorithm (C212)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C212.1	2	2	2	2	2							1	2	
C212.2	3	2		2	2							1		2
C212.3	3		2	2	2							2		2
C212.4	3	2			2							2		2
C212.5	2	2	2		2							2	2	
C212	2.6	2	2	2	2	0	0	0	0	0	0	1.6	2	2

Course Name: Software Engineering (C213)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C213.1	3	1	2	2	2		1		2			3	2	
C213.2	3	2	1	2	2		1		1			2		2
C213.3	3	2	2	2	1		2		2			3		2
C213.4	2	1	1	1	1						2	3		2
C213.5	2	1	2	1	2						2	2		2
C213	2.60	1.40	1.60	1.60	1.60	0.00	1.33	0.00	1.67	0.00	2.00	2.60	2.00	2.00

Course Name: Java Programming (C214)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C214.1	3	2	2	1	2							2	2	
C214.2	3	2	2	1	2							2	2	
C214.3	3	2	2	2	2							2		2
C214.4	3	2	2	1	2							2		2
C214.5	3	2	2	2	2							2		2
C214	3	2	2	1.4	2	0	0	0	0	0	0	2	2	2

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215.1	2	1	1										1	
C215.2		1			1									
C215.3		2		1										1
C215.4			1		1									
C215.5	1			1									1	
C215	1.5	1.333 33333 3	1	1	1	0	0	0	0	0	0	0	1	1

Course Name: Microcontroller and Embedded System (C215)

Course Name: Computer Networks Lab (C216)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C216.1	2	1	1	2										2
C216.2	2	2	2	1								2	1	
C216.3	2		2	2	2							2		1
C216.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C216.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C216	2.00	1.50	1.67	1.67	2.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.50

Course Name: Java Programming Lab (C217)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C217.1	3	3	3	1	2							3	1	3
C217.2	3	3	3	3	2							3	1	3
C217.3	3	3	3	3	2							3	1	3
C217.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C217.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C217	3.00	3.00	3.00	2.33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1.00	3.00

Course Name: Microcontroller and Embedded System Lab (C218)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C218.1	2	1	1										1	
C218.2		1			1									
C218.3		2		1										1
C218.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2185	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C218	2.00	1.33	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C301.1	2	2	2	2	2						1			
C301.2	2	2	1	1	1	2								
C301.3	2	1	2	2	2						1			
C301.4	2	1	1	1	1	2								
C301.5	2	1	1	1	1									
C301	2.00	1.40	1.40	1.40	1.40	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00

Course Name: Numerical methods (C301)

Course Name: Object Oriented Analysis and Design (C302)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C302.1	3	2	1	2	3							3		2
C302.2	3		2		2							2		3
C302.3	3			1	2	2						3	3	
C302.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C302.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C302	3.00	2.00	1.50	1.50	2.33	2.00	0.00	0.00	0.00	0.00	0.00	2.67	3.00	2.50

Course Name: Internet Programming(C303)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C303.1	3	2	1	1	3							2	2	
C303.2	3			1	2			2	2			2		2
C303.3	3				2						2	2	2	
C303.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C303.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C303	3.00	2.00	1.00	1.00	2.33	0.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00

Course Name: Consumer Electronics (C304)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	3	2	3	3	1	-	-	-	-	-	-	2	2	3
C304.2	3	3	3	2	2	2	•	-	-	-	-	2	2	3
C304.3	3	2	2	2	1	1	-	-	-	-	2	2	3	2
C304.4	2	3	2	2	1	2	-	-	-	-	-	2	2	3
C304.5	3	2	2	2	2	2	-	-	-	-	-	2	2	3
C304	2.8	2.4	2.4	2.2	1.4	1.75	0	0	0	0	2	2	2.2	2.8

Course Name:Digital Signal Processing (C305)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C305.1	2	1	1										1	
C305.2		2	1	1										1
C305.3			1	1										
C305.4				1									1	
C305.5	1		1											
C305	1.5	1.5	1	1	0	0	0	0	0	0	0	0	1	1

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C306.1	3	2	1	2	3							3		2
C306.2	3		2		2							2		3
C306.3	3			1	2	2						3	3	
C306.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C306.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C306	3.00	2.00	1.50	1.50	2.33	2.00	0.00	0.00	0.00	0.00	0.00	2.67	3.00	2.50

Course Name: Object Oriented Analysis and design Lab (C306)

Course Name:Internet Programming Lab (C307)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C307.1	3	2	1	1	3							2	2	
C307.2	3			1	2			2	2			2		2
C307.3	3				2						2	2	2	
C307.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C307.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C307	3.00	2.00	1.00	1.00	2.33	0.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00

Course Name: Discrete Mathematics (C308)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C308.1		1	1	1	1	1					1			
C308.2	1	1	1		1									
C308.3	1	1	1											
C308.4	1	1	1								1			
C308.5	1	1	1		1						1			
C308	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0

Course Name: Computer Graphics and Multimedia (C309)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C309.1	3	2	2	2								3		2
C309.2	3	2	3	2	3							3	2	
C309.3	3		3						1			2	2	
C309.4	3											3		2
C309.5	3		2									3	1	
C309	3	2	2.5	2	3	0	0	0	1	0	0	2.8	2	2

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C310.1	3	2											2	
C310.2	3	2		2	2				1		1	2	3	2
C310.3	3	2	2	2	2				1		1	2	3	3
C310.4	3	2	2	2	2				1		1	2	3	3
C310.5	3	2		2	2				1		1	2	2	2
C310	3	2	2	2	2	0	0	0	1	0	1	2	2.6	2.5

Course Name: Datawarehousing and Datamining(C310)

Course Name: Advanced Database Technology (C311)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO10	PO11	PO12	PSO1	PSO2
C311.1	3		2	2	2						2	2	
C311.2	3	1	2								2	2	
C311.3	3	2		2	2						2		2
C311.4	3	1	2		2	2				2	3		2
C311.5	3			2	2					3	3		2
C311	3.00	1.33	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.50	2.40	2.00	2.00

Course Name: Big Data (C312)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C312.1	3	2			2							2	1	
C312.2	3		2	2								2		2
C312.3	3	2	2	1	1							2	1	
C312.4	3		2		2							3		2
C312.5	3			2	2							3		2
C312	3	2	2	2	1.75	0	0	0	0	0	0	2.4	1	2

Course Name: Principles of Modern and Communication System(C313)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C313.1	2	1	1			2	1						1	
C313.2	1	1		1		2	1							1
C313.3	1					1	1					1		
C313.4	1	1				1	1						1	
C313.5	2					1	1							
C313	1.4	1	1	1	0	1.4	1	0	0	0	0	1	1	1

Course Name: Datawarehousing and Datamining Lab (C314)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C314.1	3	2	2	2	2							2	2	
C314.2	3	2	2	2	2							2	3	2
C314.3	3	1	1	2	1							2	3	3
C314.4	2	2			2				2					
C314.5	1	1	2								2	2		
C314	2.40	1.60	1.75	2.00	1.75	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.67	2.50

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C315.1	3	2	2		3							3		2
C315.2	3		1	1				2				3	2	
C315.3	3		2			2						3	2	
C315.4	2	1	2		1				2		2	1		
C315.5	1				2				2		2	1		
C315	2.40	1.50	1.75	1.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.20	2.00	2.00

Course Name: Computer Graphics and Multimedia Lab (C315)

Course Name: TOTAL QUALITY MANAGEMENT (C401)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C401.1	1					2	1		1		1		1	
C401.2							2		1		1			1
C401.3						1	1				1			
C401.4						1					1			
C401.5						1			1					
C401	1	0	0	0	0	1.05	1.333	0	1	0	1	0	1	1
	1	0	0	0	0	1.25	33 33	0	1	U	1	U	1	1

Course Name:Cloud Computing (C402)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C402.1	2	2	2	1	1							2		2
C402.2	2	1	2	1	2							2		2
C402.3	2	2	1		2							2		2
C402.4	2	1	2	2								2		2
C402.5	2		2	2	2							2		2
C402	2.0	1.5	1.8	1.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0

Course Name: Mobile Computing (C403)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C403.1	2	1	1	1								2	2	
C403.2	3	2	2	2	2							2	2	
C403.3	2	2	2	1	1							2	2	
C403.4	2		2	2	1							1	2	
C403.5	3	1	2	2	1							3		2
C403	2.4	1.5	1.8	1.6	1.25	0	0	0	0	0	0	2	2	2

Course Name:C# and .NET Programming (C404)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C404.1	3	2	1	1								3	2	2
C404.2	3	2		2	2							3	2	2
C404.3	3	2	3		3							3		2
C404.4	2	2	3		3							2	2	2
C404.5	2	2	3	3	2							2	2	2
C404	2.6	2	2.5	2	2.5	0	0	0	0	0	0	2.6	2	2

Course Name:Software Testing(C405)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C405.1	2	3	2	2								2	2	
C405.2	2	3		2	2							2		1
C405.3	1	2	3	3								2	1	
C405.4	2	2		2	3							2		1
C405.5	2	2	2	2	3							2	2	1
C405	1.80	2.40	2.33	2.20	2.67	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.67	1.00

Course Name:C# and .NET Programming Lab (C406)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C406.1	2	2	2	1								3	2	2
C406.2	2	2	2	2	3					2		3	2	2
C406.3	2	2	3		3					2		3	2	2
C406.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C406.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C406	2.00	2.00	2.33	1.50	3.00	0.00	0.00	0.00	0.00	2.00	0.00	3.00	2.00	2.00

Course Name: AOS (C407)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C407.1	2	1	1	2								2		2
C407.2	2	1	2	2								2	2	
C407.3	1		2	2								2		1
C407.4	2	2		2	2							2		1
C407.5	2		2	2	2							2		1
C407	1.8	1.333 33333 3	1.75	2	2	0	0	0	0	0	0	2	2	1.25

Course Name:IOT (C408)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C408.1	2	2	1	2	1			3			2	1		2
C408.2	1	1	2	2	2	2					2	2	2	
C408.3	2	2	1	2	2			2			2	2		1
C408.4	1	1	2	2	2	2						1		1
C408.5	1	3	1		2		2	2				1		1
C408	1.4	1.8	1.4	2	1.8	2	2	2.333 33333 3	0	0	2	1.4	2	1.25

Course Name: Mini Project(409)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409.1	1	1	0	0	0	3	2	0	0	0	0	2	2	1
C409.2	2	2	1	1	0	2	0	0	1	0	1	1	1	2
C409.3	3	3	2	0	0	3	0	0	2	0	0	2	0	2
C409.4	3	3	3	0	2	0	1	0	1	0	0	2	3	3
C409.5	3	1	1	0	0	0	0	0	1	0	2	2	1	1
C409	2.40	2.00	1.75	1.00	2.00	2.67	1.50	0.00	1.25	0.00	1.50	1.80	1.75	1.80

Course Name: Project Work (410)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C410.1	1	1	0	0	0	3	2	0	0	0	0	2	2	1
C410.2	2	2	1	1	0	2	0	0	1	0	1	1	1	2
C410.3	3	3	2	0	0	3	0	0	2	0	0	2	0	2
C410.4	3	3	3	0	2	0	1	0	1	0	0	2	3	3
C410.5	3	1	1	0	0	0	0	0	1	0	2	2	1	1
C410	2.40	2.00	1.75	1.00	2.00	2.67	1.50	0.00	1.25	0.00	1.50	1.80	1.75	1.80

Table 3.1c Course Articulation Matrix

Note: 1 : Slight (Low) 2: Moderate (Medium) 3: Substantial (High)"0": No Correlation

Program Articulation Matrix

AY 2023-2024

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	0	1.18	0
C202	2.48	1.91	1.72	2.58	2.39	0	0	0	0	0	0	2.29	2.86	2.15
C203	2.34	2.20	2.93	2.64	2.93	0	0	0	0	0	2.93	2.93	2.20	2.93
C204	2.66	2.39	1.99	2.39	2.21	0	0	0	0	0	2.43	2.30	1.99	2.66
C205	2.09	1.74	2.18	1.96	2.18	0	0	0	0	0	0	2.27	2.62	2.62
C206	2.81	2.11	2.81	2.81	2.81	0	0	0	0	0	0	0	2.81	2.81
C207	2.67	1.50	1.67	1.33	1.50	0	0	0	0	0	0	3.00	2.00	3.00
C208	2.67	2.00	2.00	1.67	2.00	0	0	0	0	0	1.00	2.67	2.00	2.00
C209	2.83	2.83	2.83	2.83	0	1.98	2.83	0	0	0	0	0	2.83	2.83
C210	2.56	1.79	2.30	1.54	0	2.56	0	0	0	2.56	0		0	0
C211	2.80	2.80	2.80	2.80	2.80	0	0	0	0	0	0	2.80	2.80	2.80
C212	2.46	2.84	2.84	2.84	2.84	0	0	0	0	0	0	2.27	2.84	2.84
C213	2.41	1.95	2.23	2.23	2.23	0	1.86	0	2.32	0	2.78	2.41	2.78	2.78
C214	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	1.18	1.18	1.18
C215	2.08	1.85	2.78	2.78	2.78	0	0	0	0	0	0	0	2.78	2.78
C216	2.00	1.50	1.67	1.67	2.00	0	0	0	0	0	0	2.00	1.00	1.50
C217	3.00	3.00	3.00	2.33	2.00	0	0	0	0	0	0	3.00	1.00	3.00
C218	2.00	1.33	1.00	1.00	1.00	0	0	0	0	0	0	0	1.00	1.00
C219	2.00	1.40	1.40	1.40	1.40	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
C220	2.30	1.92	1.92	1.73	2.30	2.30	0	2.30	0	0	0	1.92	2.30	2.30
C221	2.20	1.47	1.93	1.22	1.47	0	0	2.20	1.47	2.20	2.20	2.20	1.83	2.20
C301	2.20	1.88	1.88	1.72	1.65	2.06	0	0.00	0.00	0.00	2.35	2.35	1.72	2.20
C302	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	0	1.18	0
C303	2.48	1.91	1.72	2.58	2.39	0	0	0	0	0	0	2.29	2.86	2.15
C304	2.34	2.20	2.93	2.64	2.93	0	0	0	0	0	2.93	2.93	2.20	2.93
C305	1.67	1.67	2.23	2.23	0	0	0	0	0	0	0	0	2.23	2.23
C306	3.00	2.00	1.50	1.50	2.33	2.00	0	0	0	0	0	2.67	3.00	2.50
C307	3	2	1	1	3	0	0	0	0	0	0	2	2	
C308	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
C309	2.56	2.56	2.13	2.56	2.56	0	0	0	2.56	0	0	2.39	2.13	2.56
C310	2.68	2.68	2.68	2.68	2.68	0	0	0	2.68	0	2.68	2.68	2.32	2.23
C311	2.68	1.79	2.68	2.68	2.68	2.68	0	0	0	0	2.23	2.14	2.68	2.68
C312	2.86	2.86	2.86	2.38	2.50	0	0	0	0	0	0	2.28	2.86	2.86
C313	2.09	2.98	2.98	2.98	0	2.09	2.98	0	0	0	0	2.98	2.98	2.98
C314	2.40	1.60	1.75	2.00	1.75	0	0	0	2.00	0	2.00	2.00	2.67	2.50
C315	2.40	1.50	1.75	1.00	2.00	2.00	0	2.00	2.00	0	2.00	2.20	2.00	2.00
C401	2.47	0	0	0	0	1.55	1.65	0	2.47	0	2.47	0	2.47	2.47
C402	2.57	1.93	2.31	1.93	2.25	0	0	0	0	0	0	2.57	0	2.57
C403	2.4	1.5	1.8	1.6	1.25	0	0	0	0	0	0	2	2	2
C404	2.6	2	2.5	2	2.5	0	0	0	0	0	0	2.6	2	2
C405	1.80	2.40	2.33	2.20	2.67	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.67	1.00
C406	2.00	2.00	2.33	1.50	3.00	0	0	0	0	2.00	0	3.00	2.00	2.00
C407	1.8	1.333 33333	1.75	2	2	0	0	0	0	0	0	2	2	1.25

		3												
C408								2.333						
	1.4	1.8	1.4	2	1.8	2	2	33333	0	0	2	1.4	2	1.25
								3						
C409	2.40	2.00	1.75	3.00	3.00	2.67	2.25	0	1.88	0	2.25	2.70	1.75	1.80
C410	2.40	2.00	1.75	3.00	3.00	2.67	2.25	0	1.88	0	2.25	2.70	1.75	1.80
Average	2.31	1.93	2.03	1.97	1.93	0.67	0.35	0.20	0.43	0.15	0.76	1.82	1.97	0.64

Table: Program Articulation Matrix



Figure: Program level Course - POs and PSOs Matrix

Attainment of Course Outcomes

AY 2023-2024

Attainment of Course Outcomes

Describe the assessment processes used to gather the data upon which the

Evaluation of Course Outcome is based

In the Outcome Based Education (OBE), assessment is done through more than one processes and assessed by the course coordinator at the end of the semester.

CO Assessment Processes

Assessment tools are categorized into two methods to assess the course outcomes as:

- (i) Direct methods
- (ii) Indirect methods
- Direct methods display the student's knowledge and skills from their performance in the continuous internal assessment examinations, end semester examinations, assignments / seminars, multiple choice questions and class tests etc. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.
- Indirect methods such as students exit feedback, Alumni and employer's surveys are reflecting on student's learning. They assess opinions or thoughts about the graduate's knowledge or skills and their valued by different stakeholders.

	Direct Assessment Methods					
S. No.	Direct Assessment	Method Description				
1	Internal Assessment for Theory Examinations	Three continuous assessment tests are conducted for the assessment of the students' performance				
2	Assignments	Outcome based quality assignments are given to the students				
3	Co-curricular activities	Students are encouraged to participate more in co-curricular activities conducted in our and other institutions and industries				
4	Internal Assessment for Laboratory Examinations	In laboratory course, the internal assessment marks shall be based on the laboratory records and model practical examination. Mini projects are introduced in the laboratory courses to improve the students' technical skills and practical exposure				
5	Recording observations	Students are asked to record the observations regarding the understating, conduction and result analysis of the experiments in the observation note books				
6	End Semester Examinations (Theory and Laboratory)	Once in semester examinations are conducted by the college at the end of each semester.				
7	Project Work Viva- Voce	Viva-Voce examination of project work shall be conducted batch- wise.				

	Indirect Assessment Methods								
S. No.	Indirect Assessment	sessment Method Description							
1	Students Exit Survey	Information is collected from the students about their satisfaction with respect to academic activities and co-curricular and extracurricular activities.							
2	Alumni Survey	Collect variety of information about program Satisfaction and service offered by the college.							
3	Employer's Survey	Survey is conducted during the placement officer visit to industry & during employer visit to the campus for campus interviews information about the graduates' skills, capabilities and Opportunities							

Table. Indirect Assessment Methods

Internal Assessment Examinations and Evaluation Process (Regulations R-2018) Theory courses:

For theory courses out of 100 marks, the internal mark is fixed as 40 and End Semester Examination carries 60 marks. The total marks obtained in three continuous assessment tests put together shall be reduced to 15 marks.5 marks are awarded to student attendance and 5 marks are awarded for assignments / seminar.5 marks are awarded to class tests and 10 marks are awarded to the multiple-choice questions.

Practical courses:

For laboratory courses out of 100 marks, the internal is fixed as 50 and End Semester Examination carries 50 marks. The assessment test and model test are conducted to award student assessment marks.

Project work:

For Project work out of 100 marks, the internal mark is fixed as 50 and the End Semester Examinations (project report evaluation and viva-voce examination) carries 50 marks.

Range of marks	Grade point	Letter grade (R 2018)
100	10	S
81-90	9	А
71-80	8	В
61-70	7	С
57-60	6	D
50-56	5	E
<50	0	U

Table. End semester Examinations Range of Marks

Record the attainment of Course Outcomes of all courses with respect toset Attainment levels

Evaluation of internal and external examination marks for setting Course attainment levels for all courses:

Academic Year	Regulation	Semesters	Internal	End Semester Examinations	Total marks
2021-2022	R- 2018	Semester – I to VIII	40	60	100

Evaluation of marks from both internal and external examinations

Table: Evaluation of marks from both internal and external examinations

Measurement of Course attainment levels for End Semester Examinations:

For Regulations R-2018, 50% of marks are considered as pass marks. The attainment level is same for all the students considered for the evaluation of course outcome.

The various attainment levels for R-2018are given below:

Attainment Level1 (Low) : 55% to 64 % of students scoring pass marks.

Attainment Level2 (Moderate): 65% to 74% of students scoring pass marks.

Attainment Level3 (High) : 75% to 100% of students scoring pass marks.

Measurement of Course attainment levels for Internal Assessment Examinations:

For Regulations R-2018, 50% of marks are considered as pass marks. The attainment level is same for all the students considered for the evaluation of course outcome.

The various attainment levels for R-2018 are given below:

55% OF STUDENT ABOVE 50% - 1 (LOW)

65% OF STUDENT ABOVE 50% - 2 (MED)

75% OF STUDENT ABOVE 50% - 3 (HIGH)

Course	Internal Attainment	Internal Attainment (40%)	External Attainment	External Attainment (60%)	Total Attainment
C201	2.66	1.06	3	1.80	2.86
C202	2.66	1.06	3	1.80	2.86
C203	2.82	1.13	3.00	1.80	2.93
C204	2.24	0.90	2.93	1.76	2.66
C205	2.24	0.90	2.87	1.72	2.62
C206	2.52	1.01	3.00	1.80	2.81
C207	3	1.50	3	1.50	3.00
C208	3	1.50	3	1.50	3.00
C209	2.58	1.03	3.00	1.80	2.83
C210	2.80	1.12	2.40	1.44	2.56
C211	2.50	1.00	3.00	1.80	2.80
C212	2.60	1.04	3.00	1.80	2.84
C213	2.46	0.98	3.00	1.80	2.78
C214	2.64	1.06	0.20	0.12	1.18
C215	2.44	0.98	3.00	1.80	2.78
C216	3	1.50	3	1.50	3.00
C217	3	1.50	3	1.50	3.00
C218	3	1.50	3	1.50	3.00

Overall course attainment for second year courses:

Table: Overall course attainment for second year courses

Overall course attainment f	for third	year courses:
-----------------------------	-----------	---------------

Course	Internal Attainment	al Internal External ent (40%) External Attainment		External Attainment (60%)	Total Attainment
C301	1.12	1.68	0.89	1.76	2.20
C302	1.56	0.62	2.80	1.68	2.30
C303	1.30	0.52	2.80	1.68	2.20
C304	1.68	0.67	2.80	1.68	2.35
C305	1.38	0.55	2.80	1.68	2.23
C306	3	1.50	3	1.50	3.00
C307	3	1.50	3	1.50	3.00
C308	2.80	1.12	2.93	1.76	2.88
C309	2.20	0.88	2.80	1.68	2.56
C310	2.40	0.96	2.87	1.72	2.68

Table: Overall course attainment for Third year courses

Overall course attainment for final year courses:

Course	Internal Attainment	Internal Attainment (40%)	External Attainment	External Attainment (60%)	Total Attainment
C401	2.28	0.91	2.60	1.56	2.47
C402	2.22	0.89	2.80	1.68	2.57
C403	2.00	0.29	2.20	1.57	1.99
C404	1.98	0.89	2.10	1.18	2.17
C405	2.20	0.91	2.73	1.99	1.57
C406	2.10	0.29	1.18	2.80	2.17
C407	2.17	2.73	1.18	2.10	1.57
C408	1.57	0.29	2.73	2.17	2.80
C409	2.73	2.10	1.57	2.80	1.18
C410	3	1.50	3	1.50	3
	Table: Over	all course atta	ainment for fi	nal year cours	es

Attainment of Program Outcomes and Program Specific Outcomes

AY 2023-2024

Attainment of Program Outcomes and Program Specific Outcomes

Describe assessment tools and processes used for measuring the

attainment of each of the Program Outcomes and Program Specific Outcome

Program Outcome Assessment Weight age:

Assessment Tool	Assessment Methods	Weightage1 in %	Weightage2 in %
Direct Method	Continuous Assessment Examinations	40%	80%
	End Semester Examinations	60%	
Indirect Method	Exit Survey	5%	20%
	Employer Survey	5%	
	Alumni Survey	5%	
	Co&Extra Curicular Activities	5%	

Table: Program Outcome Assessment Weight age



Figure: Assessment Processes of POs

Assessment of the attainment of Program Outcomes

Evaluation with Indirect Assessment Tools

1. Program Exit Survey on POs & PSOs

POs/ PSOs	Questionnaire(s)	Excellent (4)	Good (3)	Average (2)	Fair (1)	Total Weightage	Percentage	Weightage for 3 Point scale
PO1	Apply knowledge of mathematics, physical sciences and Electrical and Electronics Engineering fundamentals	22	13	4	0	135	87%	2.60%
PO2	Able to identify, formulate, analyze and solve Electrical and Electronics Engineering problems	17	18	4	0	128	82%	2.46%
PO3	Able to design and realize Electrical and Electronics to meet desired needs within practical constraints such as economical, environmental, social, political, ethical, health and safety, manufacturability and sustainability	22	14	3	0	132	85%	2.54%
PO4	Able to investigate and conduct experiments, as well as to analyze and interpret data	20	17	2	0	135	87%	2.60%
PO5	Use of techniques, skills, and modern engineering tools necessary for engineering practice	18	17	4	0	131	84%	2.52%
PO6	Contextual knowledge to assess societal, health, safety, legal and cultural issues related to Engineering	19	20	0	0	136	87%	2.62%
PO7	Realize the impact of Electronics and Communication engineering solutions in a global, economic and environmental context	23	14	2	0	138	88%	2.65%
PO8	Apply ethical principles and commitment to professional ethics and responsibility	21	14	4	0	134	86%	2.58%
PO9	Function as an individual and as a member or leader in multidisciplinary teams.	20	17	2	0	135	87%	2.60%

PO10	Communicate effectively with the engineering community and society at large	26	10	3	0	140	90%	2.69%
PO11	Knowledge and understanding of management and business practices and their limitations	24	14	1	0	140	90%	2.69%
PO12	Recognize the need for, and have the ability to engage in life-long learning	28	9	2	0	139	89%	2.67%
PSO1	To Prepare Mechanical Engineering Graduates with an outstanding knowledge of industrial automation for a successful career	20	16	3	0	134	86%	2.58%
PSO2	To develop an ability to accept global challenges and apply engineering knowledge for solving various problem in the area of mechanical engineering using computer aided engineering.	23	14	2	0	138	88%	2.65%
Overall Percentage						1895	87%	2.60%

Table: Students Exit Survey on POs & PSOs

POs/ PSOs	Questionnaire(s)	Excellent (4)	Good (3)	Average (2)	Fair (1)	Total Weightage	Percentage	Weightage for 3 Point scale
PO1	Demonstration of Engineering knowledge and skills	15	3	2	0	73	91%	2.74%
PO2	Exhibition of Problem- so lvin g skillsin respective area of specialization	17	2	1	0	76	95%	2.85%
PO3	Demonstration of Design and development skills for complex problems	18	1	1	0	77	96%	2.89%
PO4	Display of investigations skills on complex problems	14	4	2	0	72	90%	2.70%
PO5	Implementation and usage of technologies learned, modern tools	15	3	2	0	73	91%	2.74%
PO6	Demonstration of contextual knowledge by the graduate	13	6	1	0	76	95%	2.85%
PO7	Demonstration of the impact of professional engineering solutions in societal and environmental context	17	3	0	0	77	96%	2.89%

2. Employer Survey on POs & PSOs

PO8	Follow up ethical behavior by the graduate	15	4	1	0	74	93%	2.78%
PO9	Ability of displaying managerial skills and leadership qualities	18	1	1	0	77	96%	2.89%
PO10	Effective communication to others and improve teamwork, problem solving skills	16	2	2	0	74	93%	2.78%
PO11	Involvement in the project management and financial activities	15	4	1	0	74	93%	2.78%
PO12	Aptitude shown towards lifelong learning by the graduate	12	6	2	0	70	88%	2.63%
PSO1	To Prepare Mechanical Engineering Graduates with an outstanding knowledge of industrial automation for a successful career	15	4	1	0	74	93%	2.78%
PSO2	To develop an ability to accept global challenges and apply engineering knowledge for solving various problem in the area of mechanical engineering using computer aided engineering		5	2	0	71	89%	2.66%
	Overall Percentag		1038	93%	2.78%			

Table: Employer's Survey on POs & PSOs

3. <u>Alumni Survey on POs& PSOs</u>

POs/ PSOs	Questionnaire(s)	Excellent (4)	Good (3)	Average (2)	Fair (1)	Total Weightage	Percentage	Weightage for 3 Point scale
PO1	How competent are you in the application of the Basic Engineering Knowledge?	25	19	6	0	169	85%	2.54%
PO2	How good is your ability in identifying, formulating, and solving engineering problems?	32	16	2	0	180	90%	2.70%
PO3	How do you rate your ability to apply principles of engineering design?	27	20	3	0	174	87%	2.61%
PO4	How do you rate your ability to analyze data, interpret them and make use of the data for design?	36	13	1	0	185	93%	2.78%
PO5	How do you rate your ability to use modern tools?	28	19	3	0	175	88%	2.63%

PO6	How do you apply of the society issues that have to be considered while providing engineering solutions?	39	10	1	0	188	94%	2.82%
PO7	How do you rate your understanding of the social and global issues that have to be considered while providing engineering problems?	24	25	1	0	173	87%	2.60%
PO8	How do you rate your understanding of the ethical and professional responsibilities?	28	17	5	0	173	87%	2.60%
PO9	How do you rate your ability to function on teams?	30	16	4	0	176	88%	2.64%
PO10	How can you rate your oral communication and presentation skills?	36	14	0	0	186	93%	2.79%
PO11	How effective is your management skills and finance oriented?	33	15	2	0	181	91%	2.72%
PO12	How do you rate your understanding of the need for and the ability to engage in life-long learning?	28	18	4	0	174	87%	2.61%
PSO1	To Prepare Mechanical Engineering Graduates with an outstanding knowledge of industrial automation for a successful career	29	17	4	0	175	88%	2.63%
PSO2	To develop an ability to accept global challenges and apply engineering knowledge for solving various problem in the area of mechanical engineering using computer aided		16	2	0	180	90%	2.70%
	Overall Percentag	e				2489	89%	2.67%

Table: Alumni Survey on POs & PSOs

Indirect	PO	PSO	PSO											
Attainment	1	2	3	4	5	6	7	8	9	10	11	12	1	2
Students Exit Survey	2.5	2.46	2.54	2.6	2.52	2.62	2.65	2.58	2.6	2.69	2.69	2.67	2.58	2.65
Employer Survey	2.74	2.85	2.89	2.7	2.74	2.85	2.89	2.78	2.89	2.78	2.78	2.63	2.78	266
Alumni Survey	2.54	2.7	2.61	2.78	2.63	2.82	2.6	2.6	2.64	2.79	2.72	2.61	2.63	2.7
Total (3)	2.59	2.67	2.68	2.69	2.63	2.76	2.71	2.65	2.71	2.75	2.73	2.64	2.66	2.67
Table: Indirect Attainment Level with POs & PSOs														



Figure Mapping of Indirect Attainment Level with POs & PSOs

Provide results of evaluation of each PO &PSO

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course-PO&PSO matrices as indicated).

POs Attainment

POs attainment level will be 80% of direct assessment + 20% of indirect assessment

Overall POs & PSOs attainment calculation

Overall attainment = 80% of Direct attainment + 20% of Indirect attainment

= (0.8 x Direct attainment) + (0.2 x Indirect attainment)

Direct attainment = (0.2 x Internal exam attainment level) + (0.8 x End semester exam attainment level)

Direct attainment calculation

Actual attainment = 20% of Internal exam attainment + 80% of End Semester Exam attainment

Average CO of corresponding PO is 3, A = Actual attainment * 3/3

Average CO of corresponding PO is 2, A = Actual attainment * 2/3

Average CO of corresponding PO is 1, A = Actual attainment * 1/3

Direct attainment = 80% of A = 0.8 * A

Indirect attainment, IDA = 0.2 * Exit Survey on PO attainment

Overall attainment = 0.8% Direct attainment + 0.2 % Indirect attainment

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	0	1.18	0
C202	2.48	1.91	1.72	2.58	2.39	0	0	0	0	0	0	2.29	2.86	2.15
C203	2.34	2.20	2.93	2.64	2.93	0	0	0	0	0	2.93	2.93	2.20	2.93
C204	2.66	2.39	1.99	2.39	2.21	0	0	0	0	0	2.43	2.30	1.99	2.66
C205	2.09	1.74	2.18	1.96	2.18	0	0	0	0	0	0	2.27	2.62	2.62
C206	2.81	2.11	2.81	2.81	2.81	0	0	0	0	0	0	0	2.81	2.81
C207	2.67	1.50	1.67	1.33	1.50	0	0	0	0	0	0	3.00	2.00	3.00
C208	2.67	2.00	2.00	1.67	2.00	0	0	0	0	0	1.00	2.67	2.00	2.00
C209	2.83	2.83	2.83	2.83	0	1.98	2.83	0	0	0	0	0	2.83	2.83
C210	2.56	1.79	2.30	1.54	0	2.56	0	0	0	2.56	0		0	0
C211	2.80	2.80	2.80	2.80	2.80	0	0	0	0	0	0	2.80	2.80	2.80
C212	2.46	2.84	2.84	2.84	2.84	0	0	0	0	0	0	2.27	2.84	2.84
C213	2.41	1.95	2.23	2.23	2.23	0	1.86	0	2.32	0	2.78	2.41	2.78	2.78
C214	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	1.18	1.18	1.18
C215	2.08	1.85	2.78	2.78	2.78	0	0	0	0	0	0	0	2.78	2.78
C216	2.00	1.50	1.67	1.67	2.00	0	0	0	0	0	0	2.00	1.00	1.50
C217	3.00	3.00	3.00	2.33	2.00	0	0	0	0	0	0	3.00	1.00	3.00
C218	2.00	1.33	1.00	1.00	1.00	0	0	0	0	0	0	0	1.00	1.00
C219	2.00	1.40	1.40	1.40	1.40	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
C220	2.30	1.92	1.92	1.73	2.30	2.30	0	2.30	0	0	0	1.92	2.30	2.30
C221	2.20	1.47	1.93	1.22	1.47	0	0	2.20	1.47	2.20	2.20	2.20	1.83	2.20
C301	2.20	1.88	1.88	1.72	1.65	2.06	0	0.00	0.00	0.00	2.35	2.35	1.72	2.20
C302	1.18	1.18	1.18	0.82	1.18	0	0	0	0	0	0	0	1.18	0
C303	2.48	1.91	1.72	2.58	2.39	0	0	0	0	0	0	2.29	2.86	2.15
C304	2.34	2.20	2.93	2.64	2.93	0	0	0	0	0	2.93	2.93	2.20	2.93

C305	1.67	1.67	2.23	2.23	0	0	0	0	0	0	0	0	2.23	2.23
C306	3.00	2.00	1.50	1.50	2.33	2.00	0	0	0	0	0	2.67	3.00	2.50
C307	3	2	1	1	3	0	0	0	0	0	0	2	2	
C308	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
C309	2.56	2.56	2.13	2.56	2.56	0	0	0	2.56	0	0	2.39	2.13	2.56
C310	2.68	2.68	2.68	2.68	2.68	0	0	0	2.68	0	2.68	2.68	2.32	2.23
C311	2.68	1.79	2.68	2.68	2.68	2.68	0	0	0	0	2.23	2.14	2.68	2.68
C312	2.86	2.86	2.86	2.38	2.50	0	0	0	0	0	0	2.28	2.86	2.86
C313	2.09	2.98	2.98	2.98	0	2.09	2.98	0	0	0	0	2.98	2.98	2.98
C314	2.40	1.60	1.75	2.00	1.75	0	0	0	2.00	0	2.00	2.00	2.67	2.50
C315	2.40	1.50	1.75	1.00	2.00	2.00	0	2.00	2.00	0	2.00	2.20	2.00	2.00
C401	2.47	0	0	0	0	1.55	1.65	0	2.47	0	2.47	0	2.47	2.47
C402	2.57	1.93	2.31	1.93	2.25	0	0	2.00	0	2.00	0	2.57	0	2.57
C403	2.4	1.5	1.8	1.6	1.25	0	0	2.00	0	2.00	0	2	2	2
C404	2.6	2	2.5	2	2.5	0	0	2.00	0	2.00	0	2.6	2	2
C405	1.80	2.40	2.33	2.20	2.67	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.67	1.00
C406	2.00	2.00	2.33	1.50	3.00	0	2.20	0	0	2.00	0	3.00	2.00	2.00
C407	1.8	1.333 33333 3	1.75	2	2	1.25	1.25	1.75	2.20	1.75	2.20	2	2	1.25
C408	1.4	1.8	1.4	2	1.8	2	2	2.333 33333 3	0	1.25	2	1.4	2	1.25
C409	2.40	2.00	1.75	3.00	3.00	2.67	2.25	0	1.88	0	2.25	2.70	1.75	1.80
C410	2.40	2.00	1.75	3.00	3.00	2.67	2.25	-	-	1.25	-	1.80	1.00	1.00
Direct Attainme nt	2.5	2.25	2.7	2.14	2.44	2.61	2.79	2.45	2.70	2.27	2.85	2.45	2.37	2.73
Indirect Attainme nt	2.74	2.58	2.53	2.61	2.50	2.54	2.48	2.57	2.45	2.45	2.60	2.48	2.37	2.46
Direct Attainm ent 80%	2.00	1.80	2.16	1.71	2.02	2.09	2.14	1.94	2.16	1.81	2.27	1.98	1.80	2.26
Indirect Attainm ent 20%	0.51	0.51	0.46	0.50	0.50	0.53	0.47	0.52	0.43	0.55	0.56	0.49	0.48	0.48
OVERA														

Table: Overall Attainment Rating of POs & PSOs



Figure: Mapping of Overall attainment Rating of POs & PSOs



PSN COLLEGE OF ENGINEERING & TECHNOLOGY MELATHEDIYOOR, PALAYAMKOTTAI TALUK TIRUNELVELI DIST. - 627 152.

