

Attainment of Course Outcomes of first year courses

Once the syllabus is approved by academic council, the relevant COs & POs are defined for a particular course. Then CO-PO attainment target levels are finalized at the department level/DQAC and are presented in articulation matrix. The procedure for calculation of CO attainment is given below.

CO Attainment Method / Process:

Theory:

1. Data is collected for **Theory courses** comprising of MSE-I, II, TA, ESE, with mapping of COs to each question.
2. The ratio of number of students scoring above 40% marks to the number of students attempted the questions, is calculated.
3. Average attainment of each CO for every course, is calculated in every semester.
4. As per the benchmark mentioned below, the attainment of each CO is determined.

Benchmark: < 55% : not attained; 55 to 64% : level 1; 65-74% : level 2 and $\geq 75\%$: level 3

Practical:

5. Data is collected for **Practical courses** comprising of MSPAs and ESE with mapping of COs to each Experiment.
6. The ratio of number of students scoring above 50% marks to the number of students attempted the experiments, is calculated.
7. As per the benchmark mentioned below the attainment of each CO is verified.

Benchmark: < 55% : not attained; 55 to 64% : level 1; 65-74% : level 2 and $\geq 75\%$: level 3

Overall Attainment:

8. Attainment of all COs of a course, is calculated by combining attainment of **TH + PR**.
9. Overall CO attainment is collected for all first-year courses by above method..

Record the attainment of Course Outcomes of all first-year courses (5)

Year 2022-23

CO-PO Articulation Matrix / Set Attainment Levels:

COURSE CODE: COURSE NAME	CO	CO STATEMENTS	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
22AML101 Calculus, Sequence and Series	CO1	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2								1		1
	CO2	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2	2							1		1
	CO3	Evaluate the improper integrals, multiple integrals and apply it to compute the area and volume of various structures.	2	2	2							1		1
	CO4	Solve higher order differential equations and its applications.	2	2	2							1		1
	Average			2.00	2.00	2.00						1.00		1.00
22AML102 Technical Communication 22AML103 Lab: Technical Communication	CO1	Apply different modes of effective communication										2		2
	CO2	Produce competently the Phonology of English Language										2		2
	CO3	Apply the nuances of LSRW Skills										2		2
	CO4	Practice communication through different channels									2	2		2
	Average										2.00	2.00		2.00

Statistics		compute probabilities.												
	CO2	Make use of probability distributions to solve real life problems.	2	2								1		1
	CO3	Apply concepts of sampling theory to find probabilities and estimate parameters of various problems solve the integrals.	2	2	2							1		1
	CO4	Inspect scientific data, use proper curve fitting and find correlation, regression of variables	2	2	2							1		1
	Average			2.0	2.0	2.0						1.0		1.0
22AML202 Engineering Physics 22AML203 Lab: Engineering Physics	CO1	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2										1
	CO2	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2										1
	CO3	Illustrate working principle of lasers and optical fibre for their use in the field of industry.	2	2										1
	CO4	Identify the requirements of sensor material for technological application.	3	3										1
	CO5	Analyze the motion of charged particle in electric and magnetic field and its applications to electron optic devices.	2	2										1
	Average			2.20	2.20									1.00
22AML204 Digital Electronics 22AML205 Lab: Digital Electronics	CO1	Understand and demonstrate the various codes and illustrate their addition subtraction	2											
	CO2	Apply the laws of Boolean algebra to simplify logical equations and combination logic circuits.	2	2										
	CO3	Solve logical functions using K- map to implement combinational logic circuits.	2	2			1							2

	C04	Design and analyze Synchronous and Asynchronous Sequential Circuits.	2	2	1		1							2
	C05	Understand the function of elementary digital circuits under real and simulated environment.					2							2
	Average		2.00	2.00	1.00		1.00							2.00
22AML206 Object Oriented Programming 22A ML207 Object Oriented Programming	C01	Demonstrate the understanding of Object oriented concepts.	2											
	C02	Analyze problem statement and identify appropriate objects and methods for problem solving.	2	2										
	C03	Make use of predefined classes and frameworks for reducing coding efforts and improving performance.	2											
	C04	Apply features of object oriented programming to write programs to solve real world problems.	2	2										
	Average		2.00	2.00										
22AML208 Web Technology Lab	C01	Understand various internet technologies	2											
	C02	To design the web pages using some basic techniques	2	2	3		2			1	1	1		2
	C03	To design and implement the interactive web pages	2	2	2		1							2
	C04	To design and develop the interactive web pages using the advanced technique	1	1	1		2							1
	Average		1.75	1.67	2.00		1.67			1.00	1.00	1.00		1.67
22AML209 Social Science	C01	Explain the basic concepts of Social Sciences						2						
	C02	Describe the development of various civilizations and their culture						2						

	C06	To understand the basics of Strings, Structures, union and File handling in 'C' language.	2		2								2
	Average		2.33	2.67	2.33		2.00			2.00		2.00	2.00
22ADS201 Probability and Statistics	C01	Identify an appropriate probability distribution for a given discrete or continuous random variable and compute probabilities.	2	2								1	1
	C02	Make use of probability distributions to solve real life problems.	2	2								1	1
	C03	Apply concepts of sampling theory to find probabilities and estimate parameters of various problems solve the integrals.	2	2	2							1	1
	C04	Inspect scientific data, use proper curve fitting and find correlation, regression of variables	2	2	2							1	1
	Average		2.00	2.00	2.00							1.00	1.00
22ADS202 Engineering Physics 22ADS203 Lab: Engineering Physics	C01	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2									1
	C02	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2									1
	C03	Illustrate working principle of lasers and optical fibres for their use in the field of industry.	2	2									1
	C04	Analyze the motion of charge particle in electric field and magnetic field and its applications to electron optic devices.	3	3									1
	C05	Develop ability to classify nanomaterials for their potential applications.	2	2									1
	Average		2.20	2.20									
22ADS204 Social Science	C01	Explain the basic concepts of Social Sciences						2					

	C02	Describe the development of various civilizations and their culture						2					
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2				2	
	C04	Explain Industrial Organization and Management.						2				2	2
	Average							2.00				2.00	2.00
22ADS205 Computer Architecture and Organization	C01	Relate & Identify the function and design of the various units of computers that process data and store the information.	3	2								3	3
	C02	Understand issues involved in the instruction and microinstructions execution and different addressing modes.	3	2								3	3
	C03	Understand the different types of Hazards and its mitigation, and working of computer peripherals.	3	2						3	2	3	3
	C04	Apply the arithmetic operations on signed/un-signed integer and floating point operands.	3				3					3	3
	C05	Apply the concept of memory circuits , organization of memory management and cache memory.	3							3	2	3	3
	Average			3.00	2.00			3.00				3.00	2.00
22ADS206 Object Oriented Programming 22ADS207 Object Oriented Programming	C01	Understand the concept of object-oriented programming and modeling.	2							2			2
	C02	Apply the knowledge of object-oriented programming to solve the given problem.	3	3	3		3	2					2
	C03	Apply the advanced programming concepts of OOP to solve the given problem		3	3		3	2					2
	C04	Design the event driven web based solution for the problem.		3	3		3	2			2	2	2

	Average		2.50	3.00	3.00		3.00	2.00		2.00	2.00	2.00		2.00
22ADS208 Data Structures 22ADS209 Lab: Data Structures	C01	Acquire the basic concepts of data structures and select appropriate data structures for solving real life problems.	2	2	1									3
	C02	Demonstrate various operations on linked list, skip list based on the requirements of real life problems.	3	3	2	2								3
	C03	Describe the hash function and concepts of collision and its resolution methods.	3	3	2	2								3
	C04	Implement different types of trees and graph data structures and use them to solve problems dealing with non-linear data.	3	2	2	2								3
	Average		2.75	2.50	1.75	2.00								
22ADS210 Software Lab	C01	Select any framework for python programming as per their understanding	3	2	2		2							
	C02	Write any python program using various data structures and control statements	3	2	2		2							
	C03	Write program where file handling and concepts of classes and objects are needed	3	2	2		2							
	C04	Develop advanced applications using functionalities provided under various packages of python	3	2	2		2							
	Average		3.00	2.00	2.00		2.00							
22ET101 Differential and Integral Calculus	C01	Apply the knowledge of differentiation to solve the Engineering problems.	2	2								1		1
	C02	Determine the derivatives of functions of several variables and develop the mathematical equation.	2	2								1		1
	C03	Apply the knowledge of Beta and Gamma functions to solve the integrals.	2	2	2							1		1

	C04	Evaluate the multiple integrals and apply it to compute the area and volume of various structures.	2	2	2							1		1
	Average		2.00	2.00	2.00							1.00		1.00
22ET102 Engineering Chemistry 22ET103 Lab: Engineering Chemistry	C01	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Identify corrosion and discuss its prevention.	1	1					1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1
	Average		1.75	1.50					1.00			1.00		1.00
22ET104 Professional Communication	C01	Apply different modes of effective communication										2		2
	C02	Produce competently the Phonology of English Language										2		2
	C03	Apply the nuances of LSRW Skills										2		2
	C04	Practice communication through different channels									2	2		2
	Average										2.00	2.00		2.00
22ET105 Engineering Mechanics 22ET106 Lab:	C01	Describe the fundamental concepts of statics and dynamics.	3	3						2	2	2	2	
	C02	Apply the basic concepts of applied mechanics for solution of problems on planar force system	3	3						2	2	2	2	

	Average		2.67	1.50	2.00								
22ET201 Differential Equation, Complex Variables & Matrices	C01	Use appropriate Methods to solve first order and higher order differential equations and apply it to find solutions of engineering problems.	2	2								1	1
	C02	Determine the various functions of complex numbers.	2	2								1	1
	C03	Evaluate the integration of function of complex variables.	2	2	2							1	1
	C04	Use Matrix method to solve system of linear equations, evaluate eigen values - eigen vectors and its applications.	2	2	2							1	1
	Average		2.00	2.00	2.00							1.00	1.00
22ET202 Engineering Physics 22ET203 Lab: Engineering Physics	C01	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2									1
	C02	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2									1
	C03	Examine the intensity variation of light due to interference, diffraction, laser and its applications.	3	3									1
	C04	Analyze the motion in electric field and magnetic field and its applications to electron optic devices.	3	3									1
	C05	Illustrate the nature and characterization of magnetic materials and superconductors for engineering applications.	2	2									1
	Average		2.40	2.40									1.00
22ET204 Social Science	C01	Explain the basic concepts of Social Sciences						2					

	C02	Describe the development of various civilizations and their culture						2					
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2				2	
	C04	Explain Industrial Organization and Management.						2				2	2
	Average							2.00				2.00	2.00
22ET205 Engineering Graphics 22ET206 Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3				2	3	3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3				2	3	3
	C03	Develop the lateral surfaces of various solids and their section.	3	2			3				2	3	3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3				2	3	3
	Average			3.00	2.00			3.00				2.00	3.00
22ET207 Elements of AIML	C01	Develop an understanding what is involved in AIML.	2							1	2		3
	C02	Understand learning algorithms of AIML.	2				3				2		3
	C03	Understand the deep learning .	2								2		3
	C04	Apply the knowledge for the selection of tool and lanuages for problem solving	3				3	3			2		3
	C05	Understand the use of AIML for real world problems	2				3	3			2		3
	Average			2.20				3.00	3.00		1.00	2.00	

22ET208 Electrical workshop	C01	Choose the electrical and electronics components/equipment for various application.	3	1	1							1		3
	C02	Implement and test small electronics and electrical circuits.	3	1	1							1		2
	C03	Build the various electrical wiring for different application.	3									1		2
	C04	Select various sensors and measuring instruments for different applications.	3									1		
	Average			3.00	1.00	1.00							1.00	
22ET209 Digital Logic Design 22ET210 Lab: Digital Logic Design	C01	Represent the data numerically and detect and correct errors.	2	2										
	C02	Develop the properties of partially ordered sets and lattices	2	2										
	C03	Simplify the logical functions using minimization techniques	3	3	3						2	2	2	2
	C04	Design and analyse combinational Circuits	3	3	3						2	2	2	2
	C05	Design and analyse sequential Circuits and sequential machines	2	2	3						2	2	2	2
	Average			2.40	2.40	3.00						2.00	2.00	2.00
22CV101 Calculus and Vector	C01	Apply the knowledge of differentiation to solve the Engineering problems.	2	2								1		1
	C02	Determine the derivatives of functions of several variables and develop the relations among the derivatives of variables.	2	2								1		1
	C03	Apply the knowledge of Beta and Gamma functions to find area, volume and mass.	2	2	2							1		1
	C04	Discuss Calculus of Scalar and vector point function and use appropriate theorems to evaluate integrals of functions of single and multiple variables.	2	2	2							1		1

	Average		2.00	2.00	2.00						1.00		1.00
22CV102 Engineering Chemistry 22CV103 Lab: Engineering Chemistry	C01	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.	2	2				1			1		1
	C02	Identify corrosion and discuss its prevention.	1	1				1			1		1
	C03	Establish insight into engineering materials.	2	2				1			1		1
	Average		1.67	1.67				1.00			1.00		1.00
22CV104 Professional Communication	C01	Apply different modes of effective communication									2		2
	C02	Produce competently the Phonology of English Language									2		2
	C03	Apply the nuances of LSRW Skills									2		2
	C04	Practice communication through different channels								2	2		2
	Average									2.00	2.00		2.00
22CV105 Engineering Mechanics 22CV106 Lab: Engineering Mechanics	C01	Describe the fundamental concepts of statics and dynamics.	3	3					2	2	2	2	
	C02	Apply the basic concepts of applied mechanics for solution of problems on planar force system	3	3					2	2	2	2	
	C03	Determine the properties of surface like centroid, moment of inertia, etc. for planar surfaces and mass moment of inertia for rigid body.	3	3					2	2	2	2	
	C04	Analyze pin jointed truss frame structure and beam structure analytically and graphically	3	3					2	2	2	2	
	C05	Evaluate the dynamic variables of kinetics of particles and simple lifting machine	3	3					2	2	2	2	

	Average		3.00	3.00						2.00	2.00	2.00	2.00	
22CV107 Basic Electrical and Electronics Engineering	CO1	Understand, define and explain the fundamental concepts of Analog Electronic and Electrical Circuits	1	1										
	CO2	Apply the concepts of Electrical and Electronic Circuits to obtain the desired parameter	3	3	2									
	CO3	Analyze Analog Electrical and Electronic Circuits to arrive at suitable Conclusions.	2	2	3									
	CO4	Design simple circuits using fundamentals of analog Electrical and Electronic circuit for given application.	2	2	3									
	Average		2.00	2.00	2.67									
22CV108 Programming for Problem Solving 22CV109 Lab: Programming for Problem Solving	CO1	Describe the basics of computer system components and operation, basics of algorithms and flowcharts	3											
	CO2	Develop programs using conditional statements and loops user defined functions, and pointers.	3											
	CO3	Analyze single and multi-dimensional arrays as a data structure and its use in problem solving.	2	2										
	CO4	Describe the basics of Strings, Structures, Unions, and File handling and its use for problem solving.		1	2									
	Average		2.67	1.50	2.00									
22CV201 Differential Equation, Matrices & Statistics	CO1	Use appropriate Methods to solve first order and higher order differential equations and apply it to find solutions of engineering problems.	2	2								1		1
	CO2	Use Matrix method to solve linear system of equations, evaluate eigen values - eigen vectors and its applications.	2	2								1		1
	CO3	Make use of probability distributions to solve real life problems.	2	2	2							1		1

	C04	Inspect scientific data, use proper curve fitting and find correlation, regression of variables	2	2	2							1		1
	Average		2.00	2.00	2.00							1.00		1.00
22CV202 Engineering Physics 22CV203 Lab: Engineering Physics	C01	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2										1
	C02	Justify the characteristics of semiconductor materials in terms of crystal structure, charge carriers and energy bands.	2	2										1
	C03	Assess the fundamentals of interference and their significance in optical measurements.	3	3										1
	C04	Illustrate working principle of lasers and optical fibers for their use in the field of industry.	3	3										1
	C05	Identify and analyze the fundamentals of ultrasonic and acoustic waves and their applications in technology.	2	2										1
	Average		2.40	2.40										
22CV204 Social Science	C01	Explain the basic concepts of Social Sciences						2						
	C02	Describe the development of various civilizations and their culture						2						
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2					2	
	C04	Explain Industrial Organization and Management.						2					2	2
	Average							2.00					2.00	2.00
22CV205 Engineering	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3				2	3		3

Graphics 22CV206 Lab: Engineering Graphics	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3				2	3		3
	C03	Develop the lateral surfaces of various solids and their section.	3	2			3				2	3		3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3				2	3		3
	Average			3.00	2.00			3.00				2.00	3.00	
22CV207 Elements of AIML	C01	Develop an understanding what is involved in AIML.	2							1	2			3
	C02	Understand learning algorithms of AIML.	2				3				2			3
	C03	Understand the deep learning .	2								2			3
	C04	Apply the knowledge for the selection of tool and lanuages for problem solving	3				3	3			2			3
	C05	Understand the use of AIML for real world problems	2				3	3			2			3
	Average			2.20				3.00	3.00		1.00	2.00		
22CV208 FAB Shop	C01	Discuss about various manufacturing process like smithy, carpentry, assembling, welding etc and different machines.						3			3			3
	C02	Operate the various hand tools used in the basic mechanical engineering workshop sections-smithy, carpentry, assembling, welding etc.						3			3			3
	C03	Distinguish different measuring devices according to the work.						3			3			3
	C04	Develop various shapes through different manufacturing methods.						3			3			3

	Average							3.00			3.00			3.00
22CV209 Strength of Materials 22CV210 Lab: Strength of Materials	C01	Explain the basic concept and mechanical properties of materials.	3	2		3					1			
	C02	Construct graphically the variation of shear force, bending moment and stresses.	3	2	2	3					1			
	C03	Analyze the behavior of various structural components under different types of loading.	3	2	3						1	1		
	Average		3.00	2.00	2.50	3.00					1.00	1.00		
22IT101 Calculus Sequences and Series	C01	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2							1			1
	C02	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2							1			1
	C03	Evaluate the improper integrals, multiple integrals and apply it to compute the area and volume of various structures.	2	2	2						1			1
	C04	Solve higher order differential equations and its applications.	2	2	2						1			1
	Average		2.00	2.00	2.00						1.00			1.00
22IT102 Engineering Chemistry 22IT103 Lab: Engineering Chemistry	C01	Illustrate different thermodynamic functions and chemical reaction rates.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Develop awareness about global environmental concerns.	1						1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1

Engineering Physics	C03	Illustrate working principle of lasers and optical fibers for their use in the field of industry.	2	2									1
	C04	Analyse the motion of charged particles in electric and magnetic field and its applications to electron optic devices.	3	3									1
	C05	Assess the characteristics of nano materials, synthesis methods and their applications.	2	2									1
	Average		2.20	2.20									1.00
22IT204 Social Science	C01	Explain the basic concepts of Social Sciences					2						
	C02	Describe the development of various civilizations and their culture					2						
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.					2					2	
	C04	Explain Industrial Organization and Management.					2					2	2
	Average						2.00					2.00	2.00
22IT205 Engineering Graphics 22IT206 Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3				2	3	3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3				2	3	3
	C03	Develop the lateral surfaces of various solids and their section.	3	2			3				2	3	3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3				2	3	3
	Average		3.00	2.00			3.00				2.00	3.00	3.00
22IT207 Elements of AIML	C01	Develop an understanding what is involved in AIML.	2							1	2		3

	C02	Understand learning algorithms of AIML.	2				3				2			3
	C03	Understand the deep learning .	2								2			3
	C04	Apply the knowledge for the selection of tool and lanuages for problem solving	3				3	3			2			3
	C05	Understand the use of AIML for real world problems	2				3	3			2			3
	Average		2.20				3.00	3.00		1.00	2.00			3.00
22IT208 Computer workshop	C01	Understand the fundamentals of computer hardware and working of Linux operating system	2				3							3
	C02	Use Linux commands to manage files and file systems	2				3							3
	C03	Execute Scripts and C Programs	3				3							3
	C04	Debug Programs on various IDEs	3				3							3
	Average		2.50				3.00							
22IT209 Basics of Python Programming 22IT210 Lab: Basics of Python Programming	C01	Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.	3		3	1	2				1	1		2
	C02	Express proficiency in the handling of strings and functions.	3		3	1	2				1	1		2
	C03	Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples and sets	3		3	1	2				1	1		2
	C04	Data visualization provides good, organized pictorial representation of the data which makes it easier to understand, observe, and analyze.	3		3	1	2				1	1		2

	Average		3.00		3.00	1.00	2.00				1.00	1.00		2.00
22CT101 Calculus Sequences and Series	C01	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2								1		1
	C02	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2								1		1
	C03	Apply the knowledge of Curve Tracing, Beta and Gamma functions to solve various problems.	2	2	2							1		1
	C04	Evaluate the multiple integrals and apply it to compute the area and volumes of various structures.	2	2	2							1		1
	Average		2.00	2.00	2.00							1.00		1.00
22CT102 Engineering Chemistry 22CT103 Lab: Engineering Chemistry	C01	Illustrate different thermodynamic functions and chemical reaction rates.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Develop awareness about global environmental concerns.	1						1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1
	Average		1.75	1.67					1.00			1.00		1.00
22CT104 Professional Communication	C01	Apply different modes of effective communication										2		2
	C02	Produce competently the Phonology of English Language										2		2
	C03	Apply the nuances of LSRW Skills										2		2
	C04	Practice communication through different channels								2	2			2

22CT204 Social Science	C01	Explain the basic concepts of Social Sciences						2					
	C02	Describe the development of various civilizations and their culture						2					
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2				2	
	C04	Explain Industrial Organization and Management.						2				2	2
	Average							2.00				2.00	2.00
22CT205 Engineering Graphics 22CT206 Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3			2	3		3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3			2	3		3
	C03	Develop the lateral surfaces of various solids and their section.	3	2			3			2	3		3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3			2	3		3
	Average			3.00	2.00			3.00			2.00	3.00	3.00
22CT207 Elements of AIML	C01	Develop an understanding what is involved in AIML.	2						1	2			3
	C02	Understand learning algorithms of AIML.	2				3			2			3
	C03	Understand the deep learning .	2							2			3
	C04	Apply the knowledge for the selection of tool and lanuages for problem solving	3				3	3		2			3
	C05	Understand the use of AIML for real world problems	2				3	3		2			3
	Average			2.20				3.00					3.00

22CT208 Computer workshop	C01	Understand the fundamentals of computer hardware and working of Linux operating system	2				3						3
	C02	Use Linux commands to manage files and file systems	2				3						3
	C03	Execute Scripts and C Programs	3				3						3
	C04	Debug Programs on various IDEs	3				3						3
	Average			2.50				3.00					
22CT209 Data Structures 22CT210 Lab: Data Structures	C01	Acquire the basic concepts of data structures and select appropriate data structures for solving real life problems	2	2	3								3
	C02	Demonstrate various operations on linked list, skip list based on the requirements of real life problems	1	3	3					1			3
	C03	Implement various hashing techniques.	3	3	3	2				1			3
	C04	Implement different types of trees and graph data structures and use them to solve problems dealing with non-linear data	3	3	2					1			3
	Average			2.25	2.75	2.75	2.00				1.00		
22CSD101 Probability and Statistics	C01	Identify an appropriate probability distribution for a given discrete or continuous random variable and compute probabilities.	2	2							1		1
	C02	Make use of probability distributions to solve real life problems.	2	2							1		1
	C03	Apply concepts of sampling theory to find probabilities and estimate parameters of various problems solve the integrals.	2	2	2						1		1
	C04	Inspect scientific data, use proper curve fitting and find correlation, regression of variables	2	2	2						1		1
	Average			2.00	2.00	2.00						1.00	

22CSD102 Engineering Physics 22CSD103 Lab.: Engineering Physics	C01	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2										1
	C02	Analyze crystal structures in terms of lattice parameters with identification of crystal planes.	2	2										1
	C03	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2										1
	C04	Illustrate working principle of lasers and optical fibres for their use in the field of industry.	3	3										1
	C05	Analyze the motion in electric field and magnetic field and its applications to electron optic devices.	2	2										1
	Average			2.20	2.20									1.00
22CSD104 Social Science	C01	Explain the basic concepts of Social Sciences						2						
	C02	Describe the development of various civilizations and their culture						2						
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2					2	
	C04	Explain Industrial Organization and Management.						2					2	2
	Average							2.00					2.00	2.00
22CSD105 Engineering Mechanics 22CSD106 Lab.:Engineering Mechanics	C01	Describe the fundamental concepts of statics and dynamics.	3	3						2	2	2	2	
	C02	Apply the basic concepts of applied mechanics for solution of problems on planar force system.	3	3						2	2	2	2	
	C03	Determine the properties of surface like centroid, moment of inertia, etc. for planar surfaces and mass moment of inertia for rigid body	3	3							2	2	2	2

	C04	Evaluate the dynamic variables of kinetics of particles and simple lifting machine	3	3						2	2	2	2	
	Average		3.00	3.00						2.00	2.00	2.00	2.00	
22CSD107 Introduction to Computer Programming 22CSD108 Lab.: Introduction to Computer Programming	C01	Understand computer system, basics of algorithm & flowchart, and demonstrate straight line program using basic 'C' programming language constructs.	3											
	C02	Implement basic Linux commands and simple programs using different constructs in C.	3											
	C03	Design & Develop programs using different loop control structures, user defined functions, and Pointers.	2	2										
	C04	Analyze and apply concepts of different dimensional Arrays as a data structure & development of programs using the same.		1	2									
	C05	Design and develop programs using basics of Strings, Structures, union and Files in 'C' language.	2	2	2									
	Average		2.50	1.67	2.00									
22CSD201 Calculus, Sequences and Series	C01	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2								1		1
	C02	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2								1		1
	C03	Evaluate the improper integrals, multiple integrals and apply it to compute the area and volume of various structures.	2	2	2							1		1
	C04	Solve higher order differential equations and its applications.	2	2	2							1		1
	Average		2.00	2.00	2.00								1.00	

22CSD202Engineering Chemistry 22CSD203 Lab:Engineering Chemistry	C01	Illustrate different thermodynamic functions and chemical reaction rates.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Develop awareness about global environmental concerns.	1						1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1
	Average			1.75	1.67				1.00			1.00		1.00
22CSD204 Technical Communication 22CSD205 Lab:Technical Communication	C01	Apply different modes of effective communication										2		2
	C02	Produce competently the Phonology of English Language										2		2
	C03	Apply the nuances of LSRW Skills										2		2
	C04	Practice communication through different channels									2	2		2
	Average										2.00	2.00		2.00
22CSD206 Digital Circuit Design 22CSD207 Lab:Digital Circuit Design	C01	Understand and demonstrate the various codes and illustrate their addition subtraction	2											
	C02	Apply the laws of Boolean algebra to simplify logical equations and combination logic circuits.	2	2										
	C03	Solve logical functions using K- map to implement combinational logic circuits.	2	2			1							2
	C04	Design and analyze Synchronous and Asynchronous Sequential Circuits.	2	2	1		1							2
	C05	Understand the function of elementary digital circuits under real and simulated environment.					2							2

	Average		2.00	2.00	1.00		1.33						2.00	
22CSD208 Basic Electrical Machines 22CSD209 Lab: Basic Electrical Machines	CO1	Reproduce fundamentals of dc circuits.	3	1	1	1				1	1	1	1	1
	CO2	Explain, construction, working and applications of various electrical machines.	3	1	1	1				1	1	1	1	1
	CO3	Analyze performance of various electrical machines.	3	1	1	1				1	1	1	1	1
	CO4	Perform laboratory experiments and demonstrate competency in collecting, interpreting, analyzing data, communicate and present effectively through laboratory journals.	3	1	1	1				1	1	1	1	1
	Average		3.00	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00
22CSD210 Lab.: Engineering Design	CO1	Construct orthographic drawing and isometric drawing of a given object.	3	2			3				2	3		3
	CO2	Distinguish the various CAD CAM tools and also evaluate criteria for CAD CAM systems	3	2			3				2	3		3
	CO3	Design 2D and 3D Transformation matrices Graphics representation of curves	3	2			3				2	3		3
	CO4	Calculate the parametric equations for wire frame solid modelling entities and evaluate data exchange formats	3	2			3				2	3		3
	Average		3.00	2.00			3.00				2.00	3.00		3.00
22IOT101 Calculus	CO1	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2								1		1
	CO2	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2								1		1
	CO3	Evaluate the improper integrals, multiple integrals and apply it to compute the area and volume of various structures.	2	2								1		1

		desired parameter											
	C03	Analyze Digital & Analog Electronic Circuits to arrive at suitable Conclusions	2	2	3								
	C04	Design simple circuits using fundamentals of digital and analog electronic circuit for given application	2	2	3								
	Average		2.00	2.00	2.67								
22IOT106 Basic Electrical Engineering 22IOT107 Lab.: Basic Electrical Engineering	C01	Reproduce fundamentals of dc circuits, single phase, and three phase ac circuits.	3	1	1	1	1			1	1	1	1
	C02	Calculate basic electrical quantities such as current, voltage, power etc. for dc circuits, single phase and three phase ac circuits.	3	1	1	1	1			1	1	1	1
	C03	Explain construction, working, testing, and applications of various electrical machines.	3	1	1	1	1			1	1	1	1
	C04	Determine performance of various electrical machines.	3	1	1	1	1			1	1	1	1
	C05	Perform laboratory experiments and demonstrate competency in collecting, interpreting, analyzing data, communicate and present effectively through laboratory journals.	3	1	1	1	1			1	1	1	1
	Average		3.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
22IOT108 Programming for problem solving 22IOT109 Lab.: Programming for problem solving	C01	Understand Programing Logic	2	1	1								
	C02	Write algorithm & Draw a flow chart for a given problem	<u>2</u>	<u>1</u>	<u>2</u>			<u>1</u>			<u>2</u>		
	C03	Design & Develop programs using different control Flow Statement.	<u>2</u>	<u>2</u>	<u>2</u>			<u>1</u>			2		
	C04	Design & Develop programs using basics of Arrays, functions, pointers, structures etc.	<u>2</u>	<u>2</u>	<u>2</u>			<u>1</u>			<u>2</u>		

	Average		2.00	1.50	1.75			1.00			2.00		
22IOT201 Linear Algebra	CO1	Solve systems of linear equations using rank of matrix.	2	2							1		1
	CO2	Determine eigen values and eigen vectors and solve eigen value problems.	2	2							1		1
	CO3	Explain the concepts of vector space and subspace, span and basis.	2	2							1		1
	CO4	Apply principles of matrix algebra to linear transformations and inner product.	2	2							1		1
	Average		2.00	2.00							1.00		1.00
22IOT202Engineering Chemistry 22IOT203 Lab:Engineering Chemistry	CO1	Illustrate different thermodynamic functions and chemical reaction rates.	2	2				1			1		1
	CO2	Apply concepts of electrochemistry for energy storage devices.	2	1				1			1		1
	CO3	Develop awareness about global environmental concerns.	1					1			1		1
	CO4	Establish insight into engineering materials.	2	2				1			1		1
	Average		1.75	1.67				1.00			1.00		1.00
22IOT204 Professional Communication	CO1	Apply different modes of effective communication									2		2
	CO2	Produce competently the Phonology of English Language									2		2
	CO3	Apply the nuances of LSRW Skills									2		2
	CO4	Practice communication through different channels								2	2		2

	Average									2.00	2.00		2.00
22IOT205 Engineering Graphics 22IOT206 Lab:Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3			2	3		3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3			2	3		3
	C03	Develop the lateral surfaces of various solids and their section.	3	2			3			2	3		3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3			2	3		3
	Average		3.00	2.00			3.00			2.00	3.00		3.00
22IOT207 Fundamentals of Manufacturing Process 22IOT208 Fundamentals of Manufacturing Process	C01	Student will be able to Differentiate various machining processes	2						2		1		3
	C02	Student will be able to Elaborate and classify different joining processes.	2				2		2				3
	C03	Student will be able to Illustrate the basics of moulding process and compare various casting processes	3						2		1		3
	C04	Student will be able to Discuss and analyse unconventional machining processes.	2				2		2				3
	Average		2.25				2.00			2.00		1.00	
22IOT209 Lab.: Python Programming	C01	To understand syntax and semantics of language	3	2			3			2	3		3
	C02	To understand and apply the basics of the programming language	3	2			3			2	3		3
	C03	To analyse and apply special language features	3	2			3			2	3		3
	C04	To evaluate and create functions for any application	3	2			3			2	3		3

	Average		3.00	2.00			3.00				2.00	3.00		3.00	
22EL101 Differential Equation, Complex Variables and Matrices	C01	Use appropriate Methods to solve first order and higher order differential equations and apply it to find solutions of engineering problems.	2	2								1		1	
	C02	Determine the various functions of complex numbers.	2	2								1		1	
	C03	Evaluate the integration of function of complex variables.	2	2	2								1		1
	C04	Use Matrix method to solve system of linear equations, evaluate eigen values - eigen vectors and its applications.	2	2	2								1		1
	Average		2.00	2.00	2.00								1.00		1.00
22EL102 Engineering Physics 22EL103 Lab: Engineering Physics	C01	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2										1	
	C02	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2										1	
	C03	Examine the intensity variation of light due to interference, diffraction, laser and its applications.	3	3										1	
	C04	Analyze the motion in electric field and magnetic field and its applications to electron optic devices.	3	3										1	
	C05	Illustrate the nature and characterization of magnetic materials and superconductors for engineering applications.	2	2										1	
	Average		2.40	2.40											1.00
22EL104 Social Science	C01	Explain the basic concepts of Social Sciences						2							
	C02	Describe the development of various civilizations and their culture						2							

workshop	C02	Implement and test small electronics and electrical circuits.	2	1	1							1		2
	C03	Build the various electrical wiring for different application.	2									1		2
	Average			2.00	1.00	1.00						1.00		2.33
22EL109 Fundamentals of Electrical Engineering 22EL110 Lab: Fundamentals of Electrical Engineering	C01	Reproduce fundamentals of dc circuits, single phase, and three phase ac circuits.	3	1	1	1	1			1	1	1	1	1
	C02	Calculate basic electrical quantities such as current, voltage, power etc. for dc circuits, single phase and three phase ac circuits.	3	1	1	1	1			1	1	1	1	1
	C03	Explain construction, working, testing, and applications of various electrical machines.	3	1	1	1	1			1	1	1	1	1
	C04	Determine performance of various electrical machines.	3	1	1	1	1			1	1	1	1	1
	C05	Perform laboratory experiments and demonstrate competency in collecting, interpreting, analyzing data, communicate and present effectively through laboratory journals.	3	1	1	1	1			1	1	1	1	1
	Average			3.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
22EL201 Differential and Integral Calculus	C01	Apply the knowledge of differentiation to solve the Engineering problems.	2	2								1		1
	C02	Determine the derivatives of functions of several variables and develop the mathematical equation.	2	2								1		1
	C03	Apply the knowledge of Beta and Gamma functions to solve the integrals.	2	2	2							1		1
	C04	Evaluate the multiple integrals and apply it to compute the area and volume of various structures.	2	2	2							1		1
	Average			2.00	2.00	2.00							1.00	

22EL202Engineering Chemistry 22EL203 Lab:Engineering Chemistry	C01	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Identify corrosion and discuss its prevention.	1	1					1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1
	Average			1.75	1.50					1.00			1.00	
22EL204 Professional Communication	C01	Apply different modes of effective communication										2		2
	C02	Produce competently the Phonology of English Language										2		2
	C03	Apply the nuances of LSRW Skills										2		2
	C04	Practice communication through different channels									2	2		2
	Average											2.00	2.00	
22EL205 Engineering Mechanics 22EL206 Lab:Engineering Mechanics	C01	Describe the fundamental concepts of statics and dynamics.	3	3						2	2	2	2	
	C02	Apply the basic concepts of applied mechanics for solution of problems on planar force system	3	3						2	2	2	2	
	C03	Determine the properties of surface like centroid, moment of inertia, etc. for planar surfaces and mass moment of inertia for rigid body.	3	3						2	2	2	2	
	C04	Analyze pin jointed truss frame structure and beam structure analytically and graphically	3	3						2	2	2	2	
	C05	Evaluate the dynamic variables of kinetics of particles and simple lifting machine	3	3						2	2	2	2	

	Average		3.00	3.00						2.00	2.00	2.00	2.00	
22EL207 Basic Electrical and Electronics Engineering	C01	Understand, define and explain the fundamental concepts of Analog Electronic and Electrical Circuits	1	1										
	C02	Apply the concepts of Electrical and Electronic Circuits to obtain the desired parameter	3	3	2									
	C03	Analyze Analog Electrical and Electronic Circuits to arrive at suitable Conclusions.	2	2	3									
	C04	Design simple circuits using fundamentals of analog Electrical and Electronic circuit for given application.	2	2	3									
	Average		2.00	2.00	2.67									
22EL208 Programming for Problem Solving 22EL209 Lab.: Programming for Problem Solving	C01	Describe the basics of computer system components and operation, basics of algorithms and flowcharts	3											
	C02	Develop programs using conditional statements and loops user defined functions, and pointers.	3											
	C03	Analyze single and multi-dimensional arrays as a data structure and its use in problem solving.	2	2										
	C04	Describe the basics of Strings, Structures, Unions, and File handling and its use for problem solving.		1	2									
	Average		2.67	1.50	2.00									
22CSE101 Differential Equation and Complex Analysis	C01	Apply the knowledge of differentiation, sequence and series to solve engineering problems	2	2	2							1		1
	C02	Determine the derivatives of functions of several variables and develop the mathematical equation.	2	2	2							1		1
	C03	Apply the knowledge of Beta and Gamma functions to solve the integrals.	2	2								1		1
	C04	Evaluate the multiple integrals and apply it to compute the area and volume of various structures.	2	2								1		1

	Average		2.00	2.00	2.00						1.00		1.00
22CSE102 Engineering Physics 22CSE103 Lab: Engineering Physics	C01	Correlate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2									1
	C02	Justify the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2									1
	C03	Illustrate working principle of lasers and optical fibers for their use in the field of industry.	2	2									1
	C04	Analyse the motion of charged particles in electric and magnetic field and its applications to electron optic devices.	3	3									1
	C05	Assess the characteristics of nano materials, synthesis methods and their applications.	2	2									1
	Average			2.20	2.20								
22CSE104 Social Science	C01	Explain the basic concepts of Social Sciences						2					
	C02	Describe the development of various civilizations and their culture						2					
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2				2	
	C04	Explain Industrial Organization and Management.						2				2	2
	Average							2.00					2.00
22CSE105 Engineering Graphics 22CSE106 Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3				2	3	3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3				2	3	3
	C03	Develop the lateral surfaces of various solids and their section	3	2			3				2	3	3

22CSE110 Lab: Introduction to Computing with Python	CO3	Design and develop classes in Python.			2								
	CO4	Solve real world problems and develop applications using Python			2								
	Average		3.00	2.00	2.00								
22CSE201 Calculus Sequences and Series	CO1	Apply the knowledge of differentiation, sequence and series to solve engineering problems.	2	2							1		1
	CO2	Determine the expansion and derivatives of functions of several variables and use it to find extreme values of functions.	2	2							1		1
	CO3	Evaluate the improper integrals, multiple integrals and apply it to compute the area and volume of various structures.	2	2	2						1		1
	CO4	Solve higher order differential equations and its applications.	2	2	2						1		1
	Average		2.00	2.00	2.00						1.00		1.00
22CSE202Enginee ring Chemistry 22CSE203 Lab:Engineering Chemistry	CO1	Illustrate different thermodynamic functions and chemical reaction rates.	2	2				1			1		1
	CO2	Apply concepts of electrochemistry for energy storage devices.	2	1				1			1		1
	CO3	Develop awareness about global environmental concerns.	1					1			1		1
	CO4	Establish insight into engineering materials.	2	2				1			1		1
	Average		1.75	1.67				1.00			1.00		1.00
22CSE204 Professional	CO1	Apply different modes of effective communication									2		2

	C05	Identify and analyze the fundamentals of ultrasonic and acoustic waves and their applications in technology.	2	2										1
	Average		2.40	2.40										1.00
22ME104 Social Science	C01	Explain the basic concepts of Social Sciences						2						
	C02	Describe the development of various civilizations and their culture						2						
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2					2	
	C04	Explain Industrial Organization and Management.						2					2	2
	Average							2.00					2.00	2.00
22ME105 Engineering Graphics 22ME106 Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3				2	3		3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3				2	3		3
	C03	Develop the lateral surfaces of various solids and their section	3	2			3				2	3		3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3				2	3		3
	Average		3.00	2.00			3.00				2.00	3.00		3.00
22ME107 Elements of AIML	C01	Develop an understanding what is involved in AIML.	2							1	2			3
	C02	Understand learning algorithms of AIML.	2				3				2			3
	C03	Understand the deep learning .	2								2			3

	C04	Apply the knowledge for the selection of tool and lanGuages for problem solving	3				3	3			2			3
	C05	Understand the use of AIML for real world problems	2				3	3			2			3
	Average		2.20				3.00	3.00		1.00	2.00			3.00
22ME108 FAB Shop	C01	Discuss about various manufacturing process like smithy, carpentry, assembling, welding etc and different machines.						3			3			3
	C02	Operate the various hand tools used in the basic mechanical engineering workshop sections-smithy, carpentry, assembling,welding etc.						3			3			3
	C03	Distinguish different measuring devices according to the work.						3			3			3
	C04	Develop various shapes through different manufacturing methods						3			3			3
	Average							3.00			3.00			3.00
22ME109 Machining Process 22ME110 Lab: Machining Process	C01	Demonstrate the cutting tool geometry of SPCT, mechanism	3	1	3			2				1		2
	C02	Analyze the cutting tool geometry of MPCT, mechanism of chip formation, mechanism used and working principle with applications	3	3	1			1	1	1		1		2
	C03	Identify basic parts and operations of machine tools including lathe, shaper, planer	2	1	1			1	1	1				1
	C04	Categorize basic parts and operations of machine tools including drilling, boring,	2	1				1		1				2
	C05	Select a machining operation and corresponding machine tool for a specific application in real time.	3	3	3	2		1		1			1	2
	Average		2.60	1.80	2.00	2.00		1.20	1.00	1.00		1.00	1.00	1.80

22ME201 Calculus and Vector	C01	Apply the knowledge of differentiation to solve the Engineering problems.	2	2							1		1
	C02	Determine the derivatives of functions of several variables and develop the relations among the derivatives of variables.	2	2							1		1
	C03	Apply the knowledge of Beta and Gamma functions to find area, volume and mass.	2	2	2						1		1
	C04	Discuss Calculus of Scalar and vector point function and use appropriate theorems to evaluate integrals of functions of single and multiple variables.	2	2	2						1		1
	Average			2.00	2.00	2.00						1.00	
22ME202Enginee ring Chemistry 22ME203 Lab:Engineering Chemistry	C01	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.	2	2				1			1		1
	C02	Identify corrosion and discuss its prevention.	1	1				1			1		1
	C03	Establish insight into engineering materials.	2	2				1			1		1
	Average			1.67	1.67				1.00			1.00	
22ME204 Professional Communication	C01	Apply different modes of effective communication									2		2
	C02	Produce competently the Phonology of English Language									2		2
	C03	Apply the nuances of LSRW Skills									2		2
	C04	Practice communication through different channels								2	2		2
	Average										2.00	2.00	

	CO4	Describe the basics of Strings, Structures, Unions, and File handling and its use for problem solving.		1	2								
	Average		2.67	1.50	2.00								
22EE101: Differential Equation, Complex Variables & Matrices	CO1	Use appropriate Methods to solve first order and higher order differential equations and apply it to find solutions of engineering problems.	2	2							1		1
	CO2	Determine the various functions of complex numbers.	2	2							1		1
	CO3	Evaluate the integration of function of complex variables.	2	2	2						1		1
	CO4	Use Matrix method to solve system of linear equations, evaluate eigen values - eigen vectors and its applications.	2	2	2						1		1
	Average		2.00	2.00	2.00							1.00	
22EE102: Engineering Physics 22EE103: Lab: Engineering Physics	CO1	Co-relate fundamentals of quantum mechanics to solve problems dealing with quantum particle.	2	2									1
	CO2	Assess the characteristics of semiconductor materials in terms of crystal structures, charge carriers and energy bands.	2	2									1
	CO3	Examine the intensity variation of light due to interference, diffraction, laser and its applications.	3	3									1
	CO4	Analyze the motion in electric field and magnetic field and its applications to electron optic devices.	3	3									1
	CO5	Illustrate the nature and characterization of magnetic materials and superconductors for engineering applications.	2	2									1
	Average		2.40	2.40									
22EE104: Social Science	CO1	Explain the basic concepts of Social Sciences						2					

	C02	Describe the development of various civilizations and their culture						2					
	C03	Analyze the impact of industrialization on society and discuss the Fundamental Concepts of Society.						2				2	
	C04	Explain Industrial Organization and Management.						2				2	2
	Average							2.00				2.00	2.00
22EE105: Engineering Graphics 22EE106: Lab: Engineering Graphics	C01	Construct orthographic drawing and isometric drawing of a given object	3	2			3			2	3		3
	C02	Evaluate Projections of various One Dimensional, Two dimensional, Three dimensional objects	3	2			3			2	3		3
	C03	Develop the lateral surfaces of various solids and their section	3	2			3			2	3		3
	C04	Practice the use of software tools used for Two dimensional drawings.	3	2			3			2	3		3
	Average			3.00	2.00			3.00			2.00	3.00	
22EE107: Elements of AIML	C01	Develop an understanding what is involved in AIML.	2							1	2		3
	C02	Understand learning algorithms of AIML.	2				3			2			3
	C03	Understand the deep learning .	2							2			3
	C04	Apply the knowledge for the selection of tool and lanuages for problem solving	3				3	3		2			3
	C05	Understand the use of AIML for real world problems	2				3	3		2			3
	Average			2.20				3.00	3.00		1.00	2.00	

22EE108: Electrical workshop	C01	Choose the electrical and electronics components/equipment for various application.	2	1	1							1		3
	C02	Implement and test small electronics and electrical circuits.	2	1	1							1		2
	C03	Build the various electrical wiring for different application.	2									1		2
	Average			2.00	1.00	1.00						1.00		2.33
22EE109: Digital Logic Design 22EE110: Lab: Digital Logic Design	C01	Understand and demonstrate the various codes and illustrate their addition subtraction	2											
	C02	Apply the laws of Boolean algebra to simplify logical equations and combination logic circuits	2	2										
	C03	Solve logical functions using K- map to implement combinational logic circuits	2	2			1							2
	C04	Design and analyze Synchronous and Asynchronous Sequential Circuits	2	2	1		1							2
	C05	Understand the function of elementary digital circuits under real and simulated environment.					2							2
	Average			2.00	2.00	1.00		1.33						2.00
22EE201 Differential & Integral Calculus	C01	Apply the knowledge of differentiation to solve the Engineering problems.	2	2								1		1
	C02	Determine the derivatives of functions of several variables and develop the mathematical equation.	2	2								1		1
	C03	Apply the knowledge of Beta and Gamma functions to solve the integrals.	2	2	2							1		1
	C04	Evaluate the multiple integrals and apply it to compute the area and volume of various structures.	2	2	2							1		1
	Average			2.00	2.00	2.00						1.00		1.00

22EE202Engineering Chemistry 22EE203 Lab:Engineering Chemistry	C01	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.	2	2					1			1		1
	C02	Apply concepts of electrochemistry for energy storage devices.	2	1					1			1		1
	C03	Identify corrosion and discuss its prevention.	1	1					1			1		1
	C04	Establish insight into engineering materials.	2	2					1			1		1
	Average			1.75	1.50					1.00			1.00	
22EE204 Professional Communication	C01	Apply different modes of effective communication										2		2
	C02	Produce competently the Phonology of English Language										2		2
	C03	Apply the nuances of LSRW Skills										2		2
	C04	Practice communication through different channels									2	2		2
	Average											2.00	2.00	
22EE205 Engineering Mechanics 22EE206 Lab:Engineering Mechanics	C01	Describe the fundamental concepts of statics and dynamics.	3	3						2	2	2	2	
	C02	Apply the basic concepts of applied mechanics for solution of problems on planar force system	3	3						2	2	2	2	
	C03	Determine the properties of surface like centroid, moment of inertia, etc. for planar surfaces and mass moment of inertia for rigid body.	3	3						2	2	2	2	
	C04	Analyze pin jointed truss frame structure and beam structure analytically and graphically	3	3						2	2	2	2	
	C05	Evaluate the dynamic variables of kinetics of particles and simple lifting machine	3	3						2	2	2	2	

Attainment of Course Outcomes of All First-Year Courses: 2022-23

COURSE CODE: COURSE NAME	Semester	CO PARTICULAR	CO1	CO2	CO3	CO4	CO5	CO6
22AML101 Calculus, Sequence and Series	I	CO Average Percentage	86.39	82.66	87.05	78.56		
		CO Score (Out of 3)	2.59	2.48	2.61	2.36		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22AML102 Technical Communication 22AML103 Lab: Technical Communication	I	CO Average Percentage	75.28	71.23	71.47	65.38		
		CO Score (Out of 3)	2.26	2.14	2.14	1.96		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22AML104 Computer Workshop	I	CO Average Percentage	92.42	90.91	89.39			
		CO Score (Out of 3)	2.77	2.73	2.68			
		CO Attainment Level (1 / 2 /3)	3	3	3			
22AML105 Programming for Problem Solving 22AML106 Lab: Programming for Problem Solving	I	CO Average Percentage	87.11	80.04	91.05	85.78		
		CO Score (Out of 3)	2.61	2.40	2.73	2.57		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22AML107 Engineering Chemistry 22AML108 Lab.: Engineering Chemistry	I	CO Average Percentage	87.16	81.34	82.46	88.06		
		CO Score (Out of 3)	2.61	2.44	2.47	2.64		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22AML201 Probability and Statistics	II	CO Average Percentage	79.05	82.66	72.83	61.56		
		CO Score (Out of 3)	2.37	2.48	2.18	1.85		
		CO Attainment Level (1 / 2 /3)	3	3	2	1		
22AML202 Engineering Physics 22AML203 Lab: Engineering Physics	II	CO Average Percentage	87.69	85.82	81.34	92.54	81.72	
		CO Score (Out of 3)	2.63	2.57	2.44	2.78	2.45	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	3	
22AML204 Digital Electronics 22AML205 Lab: Digital Electronics	II	CO Average Percentage	75.48	80.35	77.60	68.62	96.06	
		CO Score (Out of 3)	2.26	2.41	2.33	2.06	2.88	
		CO Attainment Level (1 / 2 /3)	3	3	3	2	3	
22AML206 Object Oriented Programming 22AML207 Object Oriented Programming	II	CO Average Percentage	81.57	79.21	83.45	81.28		
		CO Score (Out of 3)	2.45	2.38	2.50	2.44		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22AML208 Web Technology Lab	II	CO Average Percentage	100	92.31	95.38	96.92		
		CO Score (Out of 3)	3.00	2.77	2.86	2.91		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22AML209 Social Science	II	CO Average Percentage	87.66	88.67	95.25	93.33		
		CO Score (Out of 3)	2.63	2.66	2.86	2.80		

		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ADS101 Calculus, Sequences & Series	I	CO Average Percentage	81.61	81.43	78.91	83.90		
		CO Score (Out of 3)	2.45	2.44	2.37	2.52		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ADS102 Engineering Chemistry 22ADS103 Lab.: Engineering Chemistry	I	CO Average Percentage	83.19	82.04	86.59	82.97		
		CO Score (Out of 3)	2.50	2.46	2.60	2.49		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ADS104 Technical Communications 22ADS105 Lab.: Technical Communications	I	CO Average Percentage	72.81	70.41	69.81	66.41		
		CO Score (Out of 3)	2.18	2.11	2.09	1.99		
		CO Attainment Level (1 / 2 /3)	2	2	2	2		
22ADS106 Foundations of Data Science 22ADS107 Lab.: Foundations of Data Science	I	CO Average Percentage	86	58	60	74	60	
		CO Score (Out of 3)	2.58	1.74	1.80	2.22	1.80	
		CO Attainment Level (1 / 2 /3)	3	1	1	2	1	
22ADS108 Computer Programing 22ADS109 Lab.: Computer Programming	I	CO Average Percentage	77	64	60	56	49	46
		CO Score (Out of 3)	2.31	1.92	1.80	1.68	1.47	1.38
		CO Attainment Level (1 / 2 /3)	3	1	1	1	0	0
22ADS201 Probability and Statistics	II	CO Average Percentage	79.84	66.76	69.86	64.15		
		CO Score (Out of 3)	2.40	2.00	2.10	1.92		
		CO Attainment Level (1 / 2 /3)	3	2	2	1		
22ADS202 Engineering Physics 22ADS203 Lab: Engineering Physics	II	CO Average Percentage	83.46	80.15	75.09	80.87	67.60	
		CO Score (Out of 3)	2.50	2.40	2.25	2.43	2.03	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	2	
22ADS204 Social Science	II	CO Average Percentage	96	93	98.25	97.66		
		CO Score (Out of 3)	2.88	2.79	2.95	2.93		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ADS205 Computer Architecture and Organization	II	CO Average Percentage	40.63	71.43	46.67	65.08	18.32	
		CO Score (Out of 3)	1.22	2.14	1.40	1.95	0.55	
		CO Attainment Level (1 / 2 /3)	0	2	0	2	0	
22ADS206 Object Oriented Programming 22ADS207 Object Oriented Programming	II	CO Average Percentage	72.81	70.41	69.81	66.41	65.08	
		CO Score (Out of 3)	2.18	2.11	2.09	1.99	1.95	
		CO Attainment Level (1 / 2 /3)	2	2	2	2	2	
22ADS208 Data Structures 22ADS209 Lab: Data Structures	II	CO Average Percentage	75.68	77.62	80.64	90.92		
		CO Score (Out of 3)	2.27	2.33	2.42	2.73		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ADS210 Software Lab	II	CO Average Percentage	77.94	73.53	61.76	83.82		

		CO Score (Out of 3)	2.34	2.21	1.85	2.51		
		CO Attainment Level (1 / 2 /3)	3	2	1	3		
22ET101 Differential and Integral Calculus	I	CO Average Percentage	72.09	58.98	84.36	58.69		
		CO Score (Out of 3)	2.16	1.77	2.53	1.76		
		CO Attainment Level (1 / 2 /3)	2	1	3	1		
22ET102 Engineering Chemistry 22ET103 Lab: Engineering Chemistry	I	CO Average Percentage	78.02	70.84	65.66	68.96		
		CO Score (Out of 3)	2.34	2.13	1.97	2.07		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22ET104 Professional Communication	I	CO Average Percentage	61.2	51	55	50		
		CO Score (Out of 3)	1.84	1.53	1.65	1.50		
		CO Attainment Level (1 / 2 /3)	1	0	1	0		
22ET105 Engineering Mechanics 22ET106 Lab: Engineering Mechanics	I	CO Average Percentage	81.21	83.21	76.91	73.7	68.22	
		CO Score (Out of 3)	2.44	2.50	2.31	2.21	2.05	
		CO Attainment Level (1 / 2 /3)	3	3	3	2	2	
22ET107 Basic Electrical and Electronics Engineering	I	CO Average Percentage	66.82	64.30	62.75	63.46		
		CO Score (Out of 3)	2.00	1.93	1.88	1.90		
		CO Attainment Level (1 / 2 /3)	2	1	1	1		
22ET108 Programming for Problem Solving 22ET109 Lab: Programming for Problem Solving	I	CO Average Percentage	68.00	70.00	65.00	70.00		
		CO Score (Out of 3)	2.04	2.10	1.95	2.10		
		CO Attainment Level (1 / 2 /3)	2	2	2	2		
22ET201 Differential Equation, Complex Variables & Matrices	II	CO Average Percentage	62.41	46.46	62.35	65.91		
		CO Score (Out of 3)	1.87	1.39	1.87	1.98		
		CO Attainment Level (1 / 2 /3)	1	0	1	2		
22ET202 Engineering Physics 22ET203 Lab: Engineering Physics	II	CO Average Percentage	69.84	69.18	61.96	60.92	61.51	
		CO Score (Out of 3)	2.10	2.08	1.86	1.83	1.85	
		CO Attainment Level (1 / 2 /3)	2	2	1	1	1	
22ET204 Social Science	II	CO Average Percentage	91.66	88.67	95.5	93.33		
		CO Score (Out of 3)	2.75	2.66	2.87	2.80		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ET205 Engineering Graphics 22ET206 Lab: Engineering Graphics	II	CO Average Percentage	88.00	78.00	70.00	91.00		
		CO Score (Out of 3)	2.64	2.34	2.10	2.73		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22ET207 Elements of AIML	II	CO Average Percentage	36.63	43.34	50.4	39.99	87.09	
		CO Score (Out of 3)	1.10	1.30	1.51	1.20	2.61	
		CO Attainment Level (1 / 2 /3)	0	0	0	0	3	

22ET208 Electrical workshop	II	CO Average Percentage	80.00	76.30	77.90	72.30		
		CO Score (Out of 3)	2.40	2.29	2.34	2.17		
		CO Attainment Level (1 / 2 /3)	3	3	3	2		
22ET209 Digital Logic Design 22ET210 Lab: Digital Logic Design	II	CO Average Percentage	54.02	53.73	53.75	50.04	52.67	
		CO Score (Out of 3)	1.62	1.61	1.61	1.50	1.58	
		CO Attainment Level (1 / 2 /3)	0	0	0	0	0	
22CV101 Calculus and Vector	I	CO Average Percentage	56.87	50.57	58.02	56.60		
		CO Score (Out of 3)	1.71	1.52	1.74	1.70		
		CO Attainment Level (1 / 2 /3)	1	0	1	1		
22CV102 Engineering Chemistry 22CV103 Lab: Engineering Chemistry	I	CO Average Percentage	77.11	56	63.91			
		CO Score (Out of 3)	2.31	1.68	1.92			
		CO Attainment Level (1 / 2 /3)	3	1	1			
22CV104 Professional Communication	I	CO Average Percentage	58.7	46	51	41		
		CO Score (Out of 3)	1.76	1.38	1.53	1.23		
		CO Attainment Level (1 / 2 /3)	1	0	0	0		
22CV105 Engineering Mechanics 22CV106 Lab: Engineering Mechanics	I	CO Average Percentage	70.72	73.62	68.38	67.16	61.34	
		CO Score (Out of 3)	2.12	2.21	2.05	2.01	1.84	
		CO Attainment Level (1 / 2 /3)	2	2	2	2	2	
22CV107 Basic Electrical and Electronics Engineering	I	CO Average Percentage	65.44	62.92	68.79	66.76		
		CO Score (Out of 3)	1.96	1.89	2.06	2.00		
		CO Attainment Level (1 / 2 /3)	2	1	2	2		
22CV108 Programming for Problem Solving 22CV109 Lab: Programming for Problem Solving	I	CO Average Percentage	65	70	65	70		
		CO Score (Out of 3)	1.95	2.10	1.95	2.10		
		CO Attainment Level (1 / 2 /3)	2	2	2	2		
22CV201 Differential Equation, Matrices & Statistics (DEMS)	II	CO Average Percentage	62.3	54.11	54.02	82.38		
		CO Score (Out of 3)	1.87	1.62	1.62	2.47		
		CO Attainment Level (1 / 2 /3)	1	0	0	3		
22CV202 Engineering Physics 22CV203 Lab: Engineering Physics	II	CO Average Percentage	64.75	68.18	56.82	74.63	64.58	
		CO Score (Out of 3)	1.94	2.05	1.70	2.24	1.94	
		CO Attainment Level (1 / 2 /3)	1	2	1	3	1	
22CV204 Social Science	II	CO Average Percentage	84.66	77.69	90	82.33		
		CO Score (Out of 3)	2.54	2.33	2.70	2.47		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CV205 Engineering Graphics 22CV206 Lab: Engineering Graphics	II	CO Average Percentage	77	72	70	78		
		CO Score (Out of 3)	2.31	2.16	2.10	2.34		

		CO Attainment Level (1 / 2 /3)	3	2	2	3		
22CV207 Elements of AIML	II	CO Average Percentage	57.61	56.72	55.87	68.13	65.93	
		CO Score (Out of 3)	1.73	1.70	1.68	2.04	1.98	
		CO Attainment Level (1 / 2 /3)	1	1	1	2	2	
22CV208 FAB Shop	II	CO Average Percentage	100	100	100	100		
		CO Score (Out of 3)	3.00	3.00	3.00	3.00		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CV209 Strength of Materials 22CV210 Lab: Strength of Materials	II	CO Average Percentage	79.29	73.95	74.04			
		CO Score (Out of 3)	2.38	2.22	2.22			
		CO Attainment Level (1 / 2 /3)	3	2	2			
22IT101 Calculus Sequences and Series	I	CO Average Percentage	77.67	78.67	72.33	53.67		
		CO Score (Out of 3)	2.33	2.36	2.17	1.61		
		CO Attainment Level (1 / 2 /3)	3	3	2	0		
22IT102 Engineering Chemistry 22IT103 Lab: Engineering Chemistry	I	CO Average Percentage	89.47	88.53	97.44	73.53		
		CO Score (Out of 3)	2.68	2.66	2.92	2.21		
		CO Attainment Level (1 / 2 /3)	3	3	3	2		
22IT104 Professional Communication	I	CO Average Percentage	66.75	66.75	60.5	62.25		
		CO Score (Out of 3)	2.00	2.00	1.82	1.87		
		CO Attainment Level (1 / 2 /3)	2	2	1	1		
22IT105 Engineering Mechanics 22IT106 Lab: Engineering Mechanics	I	CO Average Percentage	83.88	86.65	79.75	76.17	73.19	
		CO Score (Out of 3)	2.52	2.60	2.39	2.29	2.20	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	2	
22IT107 Basic Electrical and Electronics Engineering	I	CO Average Percentage	77.75	80.23	72.52	69.67		
		CO Score (Out of 3)	2.33	2.41	2.18	2.09		
		CO Attainment Level (1 / 2 /3)	3	3	2	2		
22IT108 Programming for Problem Solving 22IT109 Lab: Programming for Problem Solving	I	CO Average Percentage	79	70	65	70		
		CO Score (Out of 3)	2.37	2.10	1.95	2.10		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22IT201 Differential Equation & Complex Analysis	II	CO Average Percentage	80	61	41	24		
		CO Score (Out of 3)	2.40	1.83	1.23	0.72		
		CO Attainment Level (1 / 2 /3)	3	1	0	0		
22IT202 Engineering Physics 22IT203 Lab: Engineering Physics	II	CO Average Percentage	87.71	82.00	80.70	70.18	69.75	
		CO Score (Out of 3)	2.63	2.46	2.42	2.11	2.09	
		CO Attainment Level (1 / 2 /3)	3	3	3	2	2	
22IT204 Social Science	II	CO Average Percentage	86	92	95.5	93.33		

		CO Score (Out of 3)	2.58	2.76	2.87	2.80		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IT205 Engineering Graphics 22IT206 Lab: Engineering Graphics	II	CO Average Percentage	94	83	69	95		
		CO Score (Out of 3)	2.82	2.49	2.07	2.85		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22IT207 Elements of AIML	II	CO Average Percentage	58	65	71	59	63	
		CO Score (Out of 3)	1.74	1.95	2.13	1.77	1.89	
		CO Attainment Level (1 / 2 /3)	1	2	2	1	1	
22IT208 Computer workshop	II	CO Average Percentage	98.53	97.79	97.79	100		
		CO Score (Out of 3)	2.96	2.93	2.93	3.00		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IT209 Basics of Python Programming 22IT210 Lab: Basics of Python Programming	II	CO Average Percentage	94	89	65	87		
		CO Score (Out of 3)	2.82	2.67	1.95	2.61		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22CT101 Calculus Sequences and Series	I	CO Average Percentage	85.09	79.09	81.43	84.09		
		CO Score (Out of 3)	2.55	2.37	2.44	2.52		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CT102 Engineering Chemistry 22CT103 Lab: Engineering Chemistry	I	CO Average Percentage	85.34	85.08	90.13	69.79		
		CO Score (Out of 3)	2.56	2.55	2.70	2.09		
		CO Attainment Level (1 / 2 /3)	3	3	3	2		
22CT104 Professional Communication	I	CO Average Percentage	86.50	78.00	79.20	71.20		
		CO Score (Out of 3)	2.60	2.34	2.38	2.14		
		CO Attainment Level (1 / 2 /3)	3	3	3	2		
22CT105 Engineering Mechanics 22CT106 Lab: Engineering Mechanics	I	CO Average Percentage	87.05	91.24	81.91	78.16	76.72	
		CO Score (Out of 3)	2.61	2.74	2.46	2.34	2.30	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	3	
22CT107 Basic Electrical and Electronics Engineering	I	CO Average Percentage	74.83	72.31	73.80	73.49		
		CO Score (Out of 3)	2.24	2.17	2.21	2.20		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22CT108 Programming for Problem Solving 22CT109 Lab: Programming for Problem Solving	I	CO Average Percentage	90.00	70.00	72.00	70.00		
		CO Score (Out of 3)	2.70	2.10	2.16	2.10		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22CT201 Differential Equation and Complex Analysis	II	CO Average Percentage	75.00	61.00	29.00	24.00		
		CO Score (Out of 3)	2.25	1.83	0.87	0.72		
		CO Attainment Level (1 / 2 /3)	3	1	0	0		

22CT202 Engineering Physics 22CT203 Lab: Engineering Physics	II	CO Average Percentage	80.6	72.66	76.45	70.69	67.59	
		CO Score (Out of 3)	2.42	2.18	2.29	2.12	2.03	
		CO Attainment Level (1 / 2 /3)	3	23	3	2	2	
22CT204 Social Science	II	CO Average Percentage	81.66	91.33	95	92.33		
		CO Score (Out of 3)	2.45	2.74	2.85	2.77		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CT205 Engineering Graphics 22CT206 Lab: Engineering Graphics	II	CO Average Percentage	92.00	81.00	70.00	93.00		
		CO Score (Out of 3)	2.76	2.43	2.10	2.79		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22CT207 Elements of AIML	II	CO Average Percentage	66.7	60.38	72.08	57.09	56.97	
		CO Score (Out of 3)	2.00	1.81	2.16	1.71	1.71	
		CO Attainment Level (1 / 2 /3)	2	1	2	1	1	
22CT208 Computer workshop	II	CO Average Percentage	72.66	69.78	92.81	94.96		
		CO Score (Out of 3)	2.18	2.09	2.78	2.85		
		CO Attainment Level (1 / 2 /3)	2	2	3	3		
22CT209 Data Structures 22CT210 Lab: Data Structures	II	CO Average Percentage	78.24	66.05	63.28	73.94		
		CO Score (Out of 3)	2.35	1.98	1.90	2.22		
		CO Attainment Level (1 / 2 /3)	3	2	1	2		
22CSD101 Probability and Statistics	I	CO Average Percentage	82.40	59.48	79.33	62.14		
		CO Score (Out of 3)	2.47	1.78	2.38	1.86		
		CO Attainment Level (1 / 2 /3)	3	1	3	2		
22CSD102 Engineering Physics 22CSD103 Lab.: Engineering Physics	I	CO Average Percentage	75.97	87.93	65.29	91.67	67.75	
		CO Score (Out of 3)	2.28	2.64	1.96	2.75	2.03	
		CO Attainment Level (1 / 2 /3)	3	3	2	3	2	
22CSD104 Social Science	I	CO Average Percentage	91.80	89.47	91.20	92.77		
		CO Score (Out of 3)	2.75	2.68	2.74	2.78		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD105 Engineering Mechanics 22CSD106 Lab.:Engineering Mechanics	I	CO Average Percentage	87.66	85.79	88.59	85.34		
		CO Score (Out of 3)	2.63	2.57	2.66	2.56		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD107 Introduction to Computer Programming 22CSD108 Lab.: Introduction to Computer Programming	I	CO Average Percentage	86.00	72.00	68.00	72.00		
		CO Score (Out of 3)	2.60	2.16	2.04	2.16		
		CO Attainment Level (1 / 2 /3)	3	2	2	2		
22CSD201 Calculus, Sequences and Series	II	CO Average Percentage	80.83	78.33	79.82	78.26		
		CO Score (Out of 3)	2.42	2.35	2.39	2.35		

		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD202 Engineering Chemistry 22CSD203 Lab: Engineering Chemistry	II	CO Average Percentage	93.91	89.86	92.70	89.13		
		CO Score (Out of 3)	2.82	2.70	2.78	2.67		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD204 Technical Communication 22CSD205 Lab: Technical Communication	II	CO Average Percentage	80.60	79.20	80.00	79.00		
		CO Score (Out of 3)	2.42	2.38	2.40	2.37		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD206 Digital Circuit Design 22CSD207 Lab: Digital Circuit Design	II	CO Average Percentage	84.96	85.86	79.72	83.91		
		CO Score (Out of 3)	2.55	2.58	2.39	2.52		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSD208 Basic Electrical Machines 22CSD209 Lab: Basic Electrical Machines	II	CO Average Percentage	76.89	75.38	63.26	98.48		
		CO Score (Out of 3)	2.31	2.26	1.90	2.95		
		CO Attainment Level (1 / 2 /3)	3	3	1	3		
22CSD210 Lab.: Engineering Design	II	CO Average Percentage	95.23	95.23	95.23	95.23	95.23	
		CO Score (Out of 3)	2.86	2.86	2.86	2.86	2.86	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	3	
22IOT101 Calculus	I	CO Average Percentage	76.68	72.15	58.17	72.61		
		CO Score (Out of 3)	2.30	2.16	1.75	2.18		
		CO Attainment Level (1 / 2 /3)	3	2	1	2		
22IOT102 Semiconductor Physics 22IOT103 Lab.: Semiconductor Physics	I	CO Average Percentage	76.47	73.16	91.91	76.47	69.12	
		CO Score (Out of 3)	2.29	2.19	2.76	2.29	2.07	
		CO Attainment Level (1 / 2 /3)	3	2	3	3	2	
22IOT104 Social Science	I	CO Average Percentage	90.07	92.10	88.45	93.10		
		CO Score (Out of 3)	2.70	2.76	2.65	2.79		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT105 Basic Electronics Engineering	I	CO Average Percentage	57.96	57.96	63.61	60.3		
		CO Score (Out of 3)	1.74	1.74	1.91	1.81		
		CO Attainment Level (1 / 2 /3)	1	1	1	1		
22IOT106 Basic Electrical Engineering 22IOT107 Lab.: Basic Electrical Engineering	I	CO Average Percentage	80.84	87.86	87.82	86.89		
		CO Score (Out of 3)	2.43	2.64	2.63	2.61		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT108 Programming for problem solving 22IOT109 Lab.: Programming for problem solving	I	CO Average Percentage	89.12	86.19	87.58	87.16		
		CO Score (Out of 3)	2.67	2.59	2.63	2.61		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT201 Linear Algebra	II	CO Average Percentage	86.88	78.65	77.91	76.64		

		CO Score (Out of 3)	2.61	2.36	2.34	2.30		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT202 Engineering Chemistry 22IOT203 Lab: Engineering Chemistry	II	CO Average Percentage	88.24	82.72	87.5	86.03		
		CO Score (Out of 3)	2.65	2.48	2.63	2.58		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT204 Professional Communication	II	CO Average Percentage	66.50	53.75	54.50	53.25		
		CO Score (Out of 3)	2.00	1.61	1.64	1.60		
		CO Attainment Level (1 / 2 /3)	2	1	1	1		
22IOT205 Engineering Graphics 22IOT206 Lab: Engineering Graphics	II	CO Average Percentage	90.00	79.00	70.00	90.00		
		CO Score (Out of 3)	2.70	2.37	2.10	2.70		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22IOT207 Fundamentals of Manufacturing Process 22IOT208 Fundamentals of Manufacturing Process	II	CO Average Percentage	80.84	87.86	87.82	86.89		
		CO Score (Out of 3)	2.43	2.64	2.63	2.61		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22IOT209 Lab.: Python Programming	II	CO Average Percentage	88.22	90.11	91.54	86.78		
		CO Score (Out of 3)	2.65	2.70	2.75	2.60		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22EL101 Differential Equation, Complex Variables and Matrices	I	CO Average Percentage	68.75	52.34	47.01	64.68		
		CO Score (Out of 3)	2.06	1.57	1.41	1.94		
		CO Attainment Level (1 / 2 /3)	2	0	0	1		
22EL102 Engineering Physics 22EL103 Lab: Engineering Physics	I	CO Average Percentage	64.00	64.00	55.83	62.13	47.02	
		CO Score (Out of 3)	1.92	1.92	1.67	1.86	1.41	
		CO Attainment Level (1 / 2 /3)	1	1	1	1	0	
22EL104 Social Science	I	CO Average Percentage	90.13	85.93	79.45	75.73		
		CO Score (Out of 3)	2.70	2.58	2.38	2.27		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22EL105 Engineering Graphics 22EL106 Lab: Engineering Graphics	I	CO Average Percentage	73.00	70.00	71.00	87.00		
		CO Score (Out of 3)	2.19	2.10	2.13	2.61		
		CO Attainment Level (1 / 2 /3)	2	2	2	3		
22EL107 Elements of AIML	I	CO Average Percentage	60.95	38.38	70.87	51.11	82.41	
		CO Score (Out of 3)	1.83	1.15	2.13	1.53	2.47	
		CO Attainment Level (1 / 2 /3)	1	0	2	0	3	
22EL108/Electrical workshop	I	CO Average Percentage	76	80	78			
		CO Score (Out of 3)	2.28	2.40	2.34			
		CO Attainment Level (1 / 2 /3)	3	3	3			

22EL109 Fundamentals of Electrical Engineering 22EL110 Lab: Fundamentals of Electrical Engineering	I	CO Average Percentage	83.33	51.00	78.33	40.67	88.67	
		CO Score (Out of 3)	2.50	1.53	2.35	1.22	2.66	
		CO Attainment Level (1 / 2 /3)	3	0	3	0	3	
22EL201 Differential and Integral Calculus	II	CO Average Percentage	55.46	42.60	51.87	38.76		
		CO Score (Out of 3)	1.66	1.28	1.56	1.16		
		CO Attainment Level (1 / 2 /3)	1	0	0	0		
22EL202 Engineering Chemistry 22EL203 Lab: Engineering Chemistry	II	CO Average Percentage	75.75	80.41	78.17	77.99		
		CO Score (Out of 3)	2.27	2.41	2.35	2.34		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22EL204 Professional Communication	II	CO Average Percentage	63.75	53.71	57.00	48.50		
		CO Score (Out of 3)	1.91	1.61	1.71	1.46		
		CO Attainment Level (1 / 2 /3)	1	0	1	0		
22EL205 Engineering Mechanics 22EL206 Lab: Engineering Mechanics	II	CO Average Percentage	77.55	80.03	74.31	70.8	66.97	
		CO Score (Out of 3)	2.33	2.40	2.23	2.12	2.01	
		CO Attainment Level (1 / 2 /3)	3	3	2	2	2	
22EL207 Basic Electrical and Electronics Engineering	II	CO Average Percentage	66.53	66.53	60.39	59.81		
		CO Score (Out of 3)	2.00	2.00	1.81	1.79		
		CO Attainment Level (1 / 2 /3)	2	2	1	1		
22EL208 Programming for Problem Solving 22EL209 Lab.: Programming for Problem Solving	II	CO Average Percentage	74.00	66.00	60.00	65.00		
		CO Score (Out of 3)	2.22	1.98	1.80	1.95		
		CO Attainment Level (1 / 2 /3)	2	2	1	2		
22CSE101 Differential Equation and Complex Analysis	I	CO Average Percentage	83.74	82.42	71.74	78.77		
		CO Score (Out of 3)	2.51	2.47	2.15	2.36		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22CSE102 Engineering Physics 22CSE103 Lab: Engineering Physics	I	CO Average Percentage	72.1	65.17	76.75	72.82	83.55	
		CO Score (Out of 3)	2.16	1.96	2.30	2.18	2.51	
		CO Attainment Level (1 / 2 /3)	2	2	3	2	3	
22CSE104 Social Science	I	CO Average Percentage	93.63	93.13	80.88	77.57		
		CO Score (Out of 3)	2.81	2.79	2.43	2.33		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSE105 Engineering Graphics 22CSE106 Lab: Engineering Graphics	I	CO Average Percentage	94.00	87.00	74.00	96.00		
		CO Score (Out of 3)	2.82	2.61	2.22	2.88		
		CO Attainment Level (1 / 2 /3)	3	3	2	3		
22CSE107 Elements of AIML	I	CO Average Percentage	85.37	54.36	92.12	61.49	70.43	
		CO Score (Out of 3)	2.56	1.63	2.76	1.84	2.11	

		CO Attainment Level (1 / 2 /3)	3	1	3	1	2	
22CSE108 Computer workshop	I	CO Average Percentage	65.44	66.91	65.44	67.65		
		CO Score (Out of 3)	1.96	2.01	1.96	2.03		
		CO Attainment Level (1 / 2 /3)	2	2	2	2		
22CSE109 Introduction to Computing with Python 22CSE110 Lab: Introduction to Computing with Python	I	CO Average Percentage	66.21	46.11	47	51.07		
		CO Score (Out of 3)	1.98	1.38	1.41	1.53		
		CO Attainment Level (1 / 2 /3)	2	0	0	0		
22CSE201 Calculus Sequences and Series	II	CO Average Percentage	83.70	86.04	85.14	79.80		
		CO Score (Out of 3)	2.51	2.58	2.55	2.39		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSE202 Engineering Chemistry 22CSE203 Lab: Engineering Chemistry	II	CO Average Percentage	94.25	93.52	92.09	81.8		
		CO Score (Out of 3)	2.83	2.81	2.76	2.45		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22CSE204 Professional Communication	II	CO Average Percentage	78.75	74.25	78.00	73.75		
		CO Score (Out of 3)	2.36	2.23	2.34	2.21		
		CO Attainment Level (1 / 2 /3)	3	2	3	2		
22CSE205 Engineering Mechanics 22CSE206 Lab: Engineering Mechanics	II	CO Average Percentage	81.36	80.8	77.32	72.31	77.08	
		CO Score (Out of 3)	2.44	2.42	2.32	2.17	2.31	
		CO Attainment Level (1 / 2 /3)	3	3	3	2	3	
22CSE207 Basic Electrical and Electronics Engineering	II	CO Average Percentage	74.83	72.31	73.80	73.49		
		CO Score (Out of 3)	2.24	2.17	2.21	2.20		
		CO Attainment Level (1 / 2 /3)	2	2	2	2		
22CSE208 Programming for Problem Solving 22CSE209 Lab.: Programming for Problem Solving	II	CO Average Percentage	100.00	100.00	89.00	97.00		
		CO Score (Out of 3)	3.00	3.00	2.67	2.91		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ME101 Differential Equation, matrices and Statistics	I	CO Average Percentage	53.41	66.30	45.99	79.99		
		CO Score (Out of 3)	1.60	1.99	1.38	2.40		
		CO Attainment Level (1 / 2 /3)	0	2	0	3		
22ME102 Engineering Physics 22ME103 Lab: Engineering Physics	I	CO Average Percentage	60.64	55.76	53.57	80.31	61.54	
		CO Score (Out of 3)	1.82	1.67	1.61	2.41	1.85	
		CO Attainment Level (1 / 2 /3)	1	0	0	3	1	
22ME104 Social Science	I	CO Average Percentage	88.60	78.70	73.10	74.50		
		CO Score (Out of 3)	2.66	2.36	2.19	2.24		
		CO Attainment Level (1 / 2 /3)	3	3	2	2		
22ME105 Engineering Graphics	I	CO Average Percentage	74.00	71.00	70.00	89.00		

22ME106 Lab: Engineering Graphics		CO Score (Out of 3)	2.22	2.13	2.10	2.67		
		CO Attainment Level (1 / 2 /3)	2	2	2	3		
22ME107 Elements of AIML	I	CO Average Percentage	66.18	48.53	70.50	65.71	87.92	
		CO Score (Out of 3)	1.99	1.46	2.12	1.97	2.64	
		CO Attainment Level (1 / 2 /3)	1	0	2	2	3	
22ME108 FAB Shop	I	CO Average Percentage	100.00	100.00	100.00	100.00		
		CO Score (Out of 3)	3.00	3.00	3.00	3.00		
		CO Attainment Level (1 / 2 /3)	3	3	3	3		
22ME109 Machining Process 22ME110 Lab: Machining Process	I	CO Average Percentage	62.36	44.47	49.07	44.36	46.35	
		CO Score (Out of 3)	1.87	1.33	1.47	1.33	1.39	
		CO Attainment Level (1 / 2 /3)	1	0	0	0	0	
22ME201 Calculus and Vector	II	CO Average Percentage	74.62	55.99	75.29	74.46		
		CO Score (Out of 3)	2.24	1.68	2.26	2.23		
		CO Attainment Level (1 / 2 /3)	2	0	3	2		
22ME202 Engineering Chemistry 22ME203 Lab: Engineering Chemistry	II	CO Average Percentage	72.26	59.25	65.92			
		CO Score (Out of 3)	2.17	1.78	1.98			
		CO Attainment Level (1 / 2 /3)	2	1	2			
22ME204 Professional Communication	II	CO Average Percentage	59.25	50.25	49.75	45.5		
		CO Score (Out of 3)	1.78	1.51	1.49	1.37		
		CO Attainment Level (1 / 2 /3)	1	0	0	0		
22ME205 Engineering Mechanics 22ME206 Lab: Engineering Mechanics	II	CO Average Percentage	77.97	80.39	71.01	71.69	65.67	
		CO Score (Out of 3)	2.34	2.41	2.13	2.15	1.97	
		CO Attainment Level (1 / 2 /3)	3	3	2	2	2	
22ME207 Basic Electrical and Electronics Engineering	II	CO Average Percentage	65.44	62.92	68.79	66.76		
		CO Score (Out of 3)	1.96	1.89	2.06	2.00		
		CO Attainment Level (1 / 2 /3)	2	1	2	2		
22ME208 Programming for Problem Solving 22ME209 Lab.: Programming for Problem Solving	II	CO Average Percentage	65.00	65.00	60.00	65.00		
		CO Score (Out of 3)	1.95	1.95	1.80	1.95		
		CO Attainment Level (1 / 2 /3)	2	2	1	2		
22EE101: Differential Equation, Complex Variables & Matrices	I	CO Average Percentage	77.63	55.94	51.65	67.2		
		CO Score (Out of 3)	2.33	1.68	1.55	2.02		
		CO Attainment Level (1 / 2 /3)	3	0	0	2		
22EE102: Engineering Physics 22EE103: Lab: Engineering Physics	I	CO Average Percentage	65.73	62.95	57.9	65.52	56.52	
		CO Score (Out of 3)	1.97	1.89	1.74	1.97	1.70	
		CO Attainment Level (1 / 2 /3)	2	1	1	2	1	

22EE104: Social Science	I	CO Average Percentage	88.60	78.70	73.10	74.50		
		CO Score (Out of 3)	2.66	2.36	2.19	2.24		
		CO Attainment Level (1 / 2 /3)	3	3	2	2		
22EE105: Engineering Graphics 22EE106: Lab: Engineering Graphics	I	CO Average Percentage	74.00	71.00	72.00	88.00		
		CO Score (Out of 3)	2.22	2.13	2.16	2.64		
		CO Attainment Level (1 / 2 /3)	2	2	2	3		
22EE107: Elements of AIML	I	CO Average Percentage	77.42	51.67	74.67	64.00	73.00	
		CO Score (Out of 3)	2.32	1.55	2.24	1.92	2.19	
		CO Attainment Level (1 / 2 /3)	3	0	3	1	2	
22EE108: Electrical workshop	I	CO Average Percentage	83.3	72.6	78.72	77.3		
		CO Score (Out of 3)	2.50	2.18	2.36	2.32		
		CO Attainment Level (1 / 2 /3)	3	2	3	3		
22EE109: Digital Logic Design 22EE110: Lab: Digital Logic Design	I	CO Average Percentage	92.11	73.61	90.82	77.40	94.62	
		CO Score (Out of 3)	2.76	2.21	2.72	2.32	2.84	
		CO Attainment Level (1 / 2 /3)	3	2	3	3	3	
22EE201 Differential & Integral Calculus	II	CO Average Percentage	69.44	58.64	52.56	44.5		
		CO Score (Out of 3)	2.08	1.76	1.58	1.34		
		CO Attainment Level (1 / 2 /3)	2	1	0	0		
22EE202 Engineering Chemistry 22EE203 Lab: Engineering Chemistry	II	CO Average Percentage	74.77	78.55	76.21	73.23		
		CO Score (Out of 3)	2.24	2.36	2.29	2.20		
		CO Attainment Level (1 / 2 /3)	3	3	3	2		
22EE204 Professional Communication	II	CO Average Percentage	59.5	55.11	59.71	53.2		
		CO Score (Out of 3)	1.79	1.65	1.79	1.60		
		CO Attainment Level (1 / 2 /3)	1	1	1	0		
22EE205 Engineering Mechanics 22EE206 Lab: Engineering Mechanics	II	CO Average Percentage	80.64	78.86	82.07	76.44	65.74	
		CO Score (Out of 3)	2.42	2.37	2.46	2.29	1.97	
		CO Attainment Level (1 / 2 /3)	3	3	3	3	2	
22EE207 Basic Electrical and Electronics Engineering	II	CO Average Percentage	69.24	69.24	59.67	60.11		
		CO Score (Out of 3)	2.08	2.08	1.79	1.80		
		CO Attainment Level (1 / 2 /3)	2	2	1	2		
22EE208 Programming for Problem Solving 22EE209 Lab.: Programming for Problem Solving	II	CO Average Percentage	74.00	65.00	60.00	65.00		
		CO Score (Out of 3)	2.22	1.95	1.80	1.95		
		CO Attainment Level (1 / 2 /3)	2	2	1	2		

Attainment of Program Outcomes from first year courses

PO Attainment Process		
1	Assessment tools:	<p>Direct Assessment Process: (80%)</p> <ol style="list-style-type: none"> 1. Student performance of theory courses in MSE-I/MSE-II/TA/ESE 2. Student performance of practical courses in MSPA/ESE-PR <p>Indirect Assessment Process: (20%)</p> <ol style="list-style-type: none"> 1. Student Survey, Parent Survey
2	Process of Assessment:	<ol style="list-style-type: none"> 1) Develop Course outcome of the respective course. 2) Mapping of Course outcome with Program Outcomes on three correlation level (1: Low 2: Moderate 3: Substantial) 3) Calculate Average mapping level of each Program Outcome with Course Outcome of respective course on the basis of three correlation levels (1: Low 2: Moderate 3: Substantial) 4) Calculate Average mapping level of each Program Outcome with Course Outcome of all first-year courses on the basis of three correlation levels (1: Low 2: Moderate 3: Substantial) 5) The results of evaluation of each course with PO is tabulated in CO-PO attainment matrix. 6) Indirect attainment to be calculated from the analysis of Students Survey. 7) Calculate final average attainment level of each PO using following equation: $\text{Final Attainment Level} = 0.8 * \text{Direct Attainment} + 0.2 * \text{Indirect Attainment}$ 8) The estimated average PO attainment level is to be compared with the set target levels given in articulation matrix. 9) If PO attainment is less than the set target level then necessary actions to be incorporated based on the evaluation of relevant POs.
3	Frequency of Assessment of data collected:	At the end of each Semester

PO Targets: 2022-23

COURSE CODE: COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
22AML101 Calculus, Sequence and Series	2.00	2.00	2.00							1.00		1.00
22AML102 Technical Communication 22AML103 Lab: Technical Communication									2.00	2.00		2.00
22AML104 Lab: Computer Workshop	1.33		1.00		2.00				1.33	1.00		2.00
22AML105 Programming for Problem Solving 22AML106 Lab: Programming for Problem Solving	2.50	2.00										2.00
22AML107 Engineering Chemistry 22AML108 Lab.: Engineering Chemistry	1.75	1.50					1.00			1.00		1.00
22AML201 Probability and Statistics	2.00	2.00	2.00							1.00		1.00
22AML202 Engineering Physics 22AML203 Lab: Engineering Physics	2.20	2.20										1.00
22AML204 Digital Electronics 22AML205 Lab: Digital Electronics	2.00	2.00	1.00		1.33							2.00
22AML206 Object Oriented Programming 22AML207 Object Oriented Programming	2.00	2.00										
22AML208 Web Technology Lab	1.75	1.67	2.00		1.67			1.00	1.00	1.00		1.67
22AML209 Social Science						2.00					2.00	2.00
22ADS101 Calculus, Sequence and Series	2.00	2.00	2.00							1.00		1.00

22ADS102 Engineering Chemistry 22ADS103 Lab.: Engineering Chemistry	1.75	1.50					1.00			1.00		1.00
22ADS104 Technical Communications 22ADS105 Lab.: Technical Communications									2.00	2.00		2.00
22ADS106 Foundations of Data Science 22ADS107 Lab.: Foundations of Data Science	2.50	3.00		2.00			1.00					1.00
22ADS108 Computer Programing 22ADS109 Lab.: Computer Programing	2.33	2.67	2.33		2.00			2.00		2.00		2.00
22ADS201 Probability and Statistics	2.00	2.00	2.00								1.00	1.00
22ADS202 Engineering Physics 22ADS203 Lab: Engineering Physics	2.20	2.20										1.00
22ADS204 Social Science						2.00					2.00	2.00
22ADS205 Computer Architecture and Organization	3.00	2.00			3.00				3.00	2.00	3.00	3.00
22ADS206 Object Oriented Programming 22ADS207 Object Oriented Programming	2.50	3.00	3.00		3.00	2.00		2.00	2.00	2.00		2.00
22ADS208 Data Structures 22ADS209 Lab: Data Structures	2.75	2.50	1.75	2.00								3.00
22ADS210 Software Lab	3.00	2.00	2.00		2.00							
22ET101 Differential and Integral Calculus	2.00	2.00	2.00								1.00	1.00
22ET102 Engineering Chemistry 22ET103 Lab: Engineering Chemistry	1.75	1.50					1.00				1.00	1.00

22ET104 Professional Communication									2.00	2.00		2.00
22ET105 Engineering Mechanics 22ET106 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22ET107 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22ET108 Programming for Problem Solving 22ET109 Lab: Programming for Problem Solving	2.67	1.50	2.00									
22ET201 Differential Equation, Complex Variables & Matrices	2.00	2.00	2.00							1.00		1.00
22ET202 Engineering Physics 22ET203 Lab: Engineering Physics	2.40	2.40										1.00
22ET204 Social Science						2.00					2.00	2.00
22ET205 Engineering Graphics 22ET206 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22ET207 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00
22ET208 Electrical workshop	3.00	1.00	1.00							1.00		2.33
22ET209 Digital Logic Design 22ET210 Lab: Digital Logic Design	2.40	2.40	3.00						2.00	2.00	2.00	2.00
22CV101 Calculus and Vector	2.00	2.00	2.00							1.00		1.00
22CV102 Engineering Chemistry 22CV103 Lab: Engineering Chemistry	1.67	1.67					1.00			1.00		1.00

22CV104 Professional Communication									2.00	2.00		2.00
22CV105 Engineering Mechanics 22CV106 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22CV107 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22CV108 Programming for Problem Solving 22CV109 Lab: Programming for Problem Solving	2.67	1.50	2.00									
22CV201 Differential Equation, Matrices & Statistics	2.00	2.00	2.00							1.00		1.00
22CV202 Engineering Physics 22CV203 Lab: Engineering Physics	2.40	2.40										1.00
22CV204 Social Science						2.00					2.00	2.00
22CV205 Engineering Graphics 22CV206 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22CV207 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00
22CV208 FAB Shop						3.00			3.00			3.00
22CV209 Strength of Materials 22CV210 Lab: Strength of Materials	3.00	2.00	2.50	3.00					1.00	1.00		
22IT101 Calculus Sequences and Series	2.00	2.00	2.00							1.00		1.00
22IT102 Engineering Chemistry 22IT103 Lab: Engineering Chemistry	1.75	1.67					1.00			1.00		1.00

22IT104 Professional Communication									2.00	2.00		2.00
22IT105 Engineering Mechanics 22IT106 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22IT107 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22IT108 Programming for Problem Solving 22IT109 Lab: Programming for Problem Solving	2.67	1.50	2.00									
22IT201 Differential Equation & Complex Analysis	2.00	2.00	2.00							1.00		1.00
22IT202 Engineering Physics 22IT203 Lab: Engineering Physics	2.20	2.20										1.00
22IT204 Social Science						2.00					2.00	2.00
22IT205 Engineering Graphics 22IT206 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22IT207 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00
22IT208 Computer workshop	2.50				3.00							3.00
22IT209 Basics of Python Programming 22IT210 Lab: Basics of Python Programming	3.00		3.00	1.00	2.00				1.00	1.00		2.00
22CT101 Calculus Sequences and Series	2.00	2.00	2.00							1.00		1.00
22CT102 Engineering Chemistry 22CT103 Lab: Engineering Chemistry	1.75	1.67					1.00			1.00		1.00

22IOT106 Basic Electrical Engineering 22IOT107 Lab.: Basic Electrical Engineering	3.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00
22IOT108 Programming for problem solving 22IOT109 Lab.: Programming for problem solving	2.00	1.50	1.75			1.00			2.00			
22IOT201 Linear Algebra	2.00	2.00								1.00		1.00
22IOT202 Engineering Chemistry 22IOT203 Lab: Engineering Chemistry	1.75	1.67					1.00			1.00		1.00
22IOT204 Professional Communication									2.00	2.00		2.00
22IOT205 Engineering Graphics 22IOT206 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22IOT207 Fundamentals of Manufacturing Process 22IOT208 Fundamentals of Manufacturing Process	2.25				2.00			2.00		1.00		3.00
22IOT209 Lab.: Python Programming	3.00	2.00			3.00				2.00	3.00		3.00
22EL101 Differential Equation, Complex Variables and Matrices	2.00	2.00	2.00							1.00		1.00
22EL102 Engineering Physics 22EL103 Lab: Engineering Physics	2.40	2.40										1.00
22EL104 Social Science						2.00					2.00	2.00
22EL105 Engineering Graphics 22EL106 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22EL107 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00

22EL108 Electrical workshop	2.00	1.00	1.00							1.00		2.33
22EL109 Fundamentals of Electrical Engineering 22EL110 Lab: Fundamentals of Electrical Engineering	3.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00
22EL201 Differential and Integral Calculus	2.00	2.00	2.00							1.00		1.00
22EL202 Engineering Chemistry 22EL203 Lab: Engineering Chemistry	1.75	1.50					1.00			1.00		1.00
22EL204 Professional Communication									2.00	2.00		2.00
22EL205 Engineering Mechanics 22EL206 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22EL207 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22EL208 Programming for Problem Solving 22EL209 Lab.: Programming for Problem Solving	2.67	1.50	2.00									
22CSE101 Differential Equation and Complex Analysis	2.00	2.00	2.00							1.00		1.00
22CSE102 Engineering Physics 22CSE103 Lab: Engineering Physics	2.20	2.20										1.00
22CSE104 Social Science						2.00					2.00	2.00
22CSE105 Engineering Graphics 22CSE106 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22CSE107 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00

22CSE108 Computer workshop	2.50				3.00							3.00
22CSE109 Introduction to Computing with Python 22CSE110 Lab: Introduction to Computing with Python	3.00	2.00	2.00									
22CSE201 Calculus Sequences and Series	2.00	2.00	2.00							1.00		1.00
22CSE202 Engineering Chemistry 22CSE203 Lab: Engineering Chemistry	1.75	1.67					1.00			1.00		1.00
22CSE204 Professional Communication									2.00	2.00		2.00
22CSE205 Engineering Mechanics 22CSE206 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22CSE207 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22CSE208 Programming for Problem Solving 22CSE209 Lab.: Programming for Problem Solving	2.67	1.50	2.00									
22ME101 Differential Equation, matrices and Statistics	2.00	2.00	2.00							1.00		1.00
22ME102 Engineering Physics 22ME103 Lab: Engineering Physics	2.40	2.40										1.00
22ME104 Social Science						2.00					2.00	2.00
22ME105 Engineering Graphics 22ME106 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22ME107 Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00

22ME108 FAB Shop						3.00			3.00			3.00
22ME109 Machining Process 22ME110 Lab: Machining Process	2.60	1.80	2.00	2.00		1.20	1.00	1.00		1.00	1.00	1.80
22ME201 Calculus and Vector	2.00	2.00	2.00							1.00		1.00
22ME202 Engineering Chemistry 22ME203 Lab: Engineering Chemistry	1.67	1.67					1.00			1.00		1.00
22ME204 Professional Communication									2.00	2.00		2.00
22ME205 Engineering Mechanics 22ME206 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22ME207 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22ME208 Programming for Problem Solving 22ME209 Lab.: Programming for Problem Solving	2.67	1.50	2.00									
22EE101: Differential Equation, Complex Variables & Matrices	2.00	2.00	2.00							1.00		1.00
22EE102: Engineering Physics 22EE103: Lab: Engineering Physics	2.40	2.40										1.00
22EE104: Social Science						2.00					2.00	2.00
22EE105: Engineering Graphics 22EE106: Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
22EE107: Elements of AIML	2.20				3.00	3.00		1.00	2.00			3.00
22EE108: Electrical workshop	2.00	1.00	1.00							1.00		2.33

22EE109: Digital Logic Design 22EE110: Lab: Digital Logic Design	2.00	2.00	1.00		1.33							2.00
22EE201 Differential & Integral Calculus	2.00	2.00	2.00							1.00		1.00
22EE202 Engineering Chemistry 22EE203 Lab: Engineering Chemistry	1.75	1.50					1.00			1.00		1.00
22EE204 Professional Communication									2.00	2.00		2.00
22EE205 Engineering Mechanics 22EE206 Lab: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
22EE207 Basic Electrical and Electronics Engineering	2.00	2.00	2.67									
22EE208 Programming for Problem Solving 22EE209 Lab.: Programming for Problem Solving	2.67	1.50	2.00									
FY PO TARGETS ALL	2.33	2.00	2.00	1.67	2.56	2.33	1.00	1.48	1.91	1.56	1.89	1.80

Direct Attainment:**PO Attainment for All First-Year Courses: 2022-23**

SEM	COURSE CODE: COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Sem-I	22AML101 Calculus, Sequence and Series	0.83	0.83	0.84							0.42		0.42
Sem-I	22AML102 Technical Communication 22AML103 Lab: Technical Communication									1.37	1.63		1.63
Sem-I	22AML104 Lab: Computer Workshop	1.31		0.98		1.95				1.31	0.98		2.00
Sem-I	22AML105 Programming for Problem Solving 22AML106 Lab: Programming for Problem Solving	2.15	1.77										1.80
Sem-I	22AML107 Engineering Chemistry 22AML108 Lab.: Engineering Chemistry	1.64	1.42					0.94			0.94		0.94
Sem-II	22AML201 Probability and Statistics	0.83	0.83	0.65							0.42		0.42
Sem-II	22AML202 Engineering Physics 22AML103 Lab: Engineering Physics	1.98	1.98										0.89
Sem-II	22AML204 Digital Electronics 22AML205 Lab: Digital Electronics	1.58	1.61	0.52		1.16							1.64
Sem-II	22AML206 Object Oriented Programming 22AML207 Object Oriented Programming	2.00	2.00										
Sem-II	22AML208 Web Technology Lab	1.75	1.67	2.00		1.67			1.00	1.00	1.00		1.67
Sem-II	22AML209 Social Science						1.80					2.00	2.00
Sem-I	22ADS101 Calculus, Sequence and Series	1.15	1.15	1.12							0.57		0.57
Sem-I	22ADS102 Engineering Chemistry 22ADS103 Lab.: Engineering Chemistry	1.60	1.39					0.92			0.92		0.92

Sem-II	22ET201 Differential Equation, Complex Variables & Matrices	0.50	0.50	0.53							0.25		0.25
Sem-II	22ET202 Engineering Physics 22ET103 Lab: Engineering Physics	1.44	1.44										0.60
Sem-II	22ET204 Social Science						1.90					2.00	2.00
Sem-II	22ET205 Engineering Graphics 22ET206 Lab: Engineering Graphics	2.79	1.86			2.79				1.86	2.79		2.79
Sem-II	22ET207 Elements of AIML	0.86				1.12	1.15		0.63	0.78			1.17
Sem-II	22ET208 Electrical workshop	2.75	1.00	1.00							0.92		2.33
Sem-II	22ET209 Digital Logic Design 22ET210 Lab: Digital Logic Design	1.61	1.61	1.92						1.28	1.28	1.28	1.28
Sem-I	22CV101 Calculus and Vector	0.50	0.50	0.47							0.25		0.25
Sem-I	22CV102 Engineering Chemistry 22CV103 Lab: Engineering Chemistry	1.13	1.13					0.67			0.67		0.67
Sem-I	22CV104 Professional Communication									0.40	0.43		0.43
Sem-I	22CV105 Engineering Mechanics 22CV106 Lab: Engineering Mechanics	1.89	1.89						1.26	1.26	1.26	1.26	
Sem-I	22CV107 Basic Electrical and Electronics Engineering	0.40	0.40	0.53									
Sem-I	22CV108 Programming for Problem Solving 22CV109 Lab: Programming for Problem Solving	1.41	0.79	1.18									
Sem-II	22CV201 Differential Equation, Matrices & Statistics	0.82	0.82	1.18							0.41		0.41
Sem-II	22CV202 Engineering Physics 22CV203 Lab: Engineering Physics	1.61	1.61										0.67
Sem-II	22CV204 Social Science						1.51					1.80	1.61

Sem-II	22CV205 Engineering Graphics 22CV206 Lab: Engineering Graphics	2.74	1.83			2.74				1.83	2.74		2.74
Sem-II	22CV207 Elements of AIML	0.71				1.02	1.18		0.24	0.62			0.93
Sem-II	22CV208 FAB Shop						3.00			3.00			3.00
Sem-II	22CV209 Strength of Materials 22CV210 Lab: Strength of Materials	1.98	1.32	1.56	2.04					0.66	0.63		
Sem-I	22IT101 Calculus Sequences and Series	1.46	1.46	1.43							0.73		0.73
Sem-I	22IT102 Engineering Chemistry 22IT103 Lab: Engineering Chemistry	1.56	1.42					0.91			0.91		0.91
Sem-I	22IT104 Professional Communication									0.50	0.70		0.70
Sem-I	22IT105 Engineering Mechanics 22IT106 Lab: Engineering Mechanics	2.33	2.33						1.55	1.55	1.55	1.55	
Sem-I	22IT107 Basic Electrical and Electronics Engineering	1.35	1.35	1.57									
Sem-I	22IT108 Programming for Problem Solving 22IT109 Lab: Programming for Problem Solving	2.02	0.92	1.30									
Sem-II	22IT201 Differential Equation & Complex Analysis	1.03	1.03	1.41							0.51		0.51
Sem-II	22IT202 Engineering Physics 22IT203 Lab: Engineering Physics	1.79	1.79										0.82
Sem-II	22IT204 Social Science						1.80					2.00	2.00
Sem-II	22IT205 Engineering Graphics 22IT206 Lab: Engineering Graphics	2.71	1.80			2.71				1.80	2.71		2.71
Sem-II	22IT207 Elements of AIML	0.69				0.82	0.88		0.29	0.64			0.96
Sem-II	22IT208 Computer workshop	2.50				3.00							3.00

Sem-I	22CSD104 Social Science							2.00				2.00	2.00
Sem-I	22CSD105 Engineering Mechanics 22CSD106 Lab.: Engineering Mechanics	3.00	3.00						2.00	2.00	2.00	2.00	
Sem-I	22CSD107 Introduction to Computer Programming 22CSD108 Lab.: Introduction to Computer Programming	1.93	1.10	1.35									
Sem-II	22CSD201 Calculus, Sequences and Series	1.59	1.59	1.49							0.79		0.79
Sem-II	22CSD202 Engineering Chemistry 22CSD203 Lab: Engineering Chemistry	1.74	1.65					1.00			0.99		0.99
Sem-II	22CSD204 Technical Communication 22CSD205 Lab: Technical Communication									1.68	1.80		1.80
Sem-II	22CSD206 Digital Circuit Design 22CSD207 Lab: Digital Circuit Design	1.89	1.86	0.83		1.26							1.86
Sem-II	22CSD208 Basic Electrical Machines 22CSD209 Lab: Basic Electrical Machines	2.48	0.83	0.83	0.83				0.83	0.83	0.83	0.83	0.83
Sem-II	22CSD210 Lab.: Engineering Design	3.00	2.00			3.00				2.00	3.00		3.00
Sem-I	22IOT101 Calculus	0.98	0.98								0.49		0.49
Sem-I	22IOT102 Semiconductor Physics 22IOT103 Lab.: Semiconductor Physics	1.71	1.71										0.77
Sem-I	22IOT104 Social Science							1.82				1.83	2.00
Sem-I	22IOT105 Basic Electronics Engineering	0.87	0.87	1.02									
Sem-I	22IOT106 Basic Electrical Engineering 22IOT107 Lab.: Basic Electrical Engineering	2.21	0.74	0.74	0.74	0.74			0.74	0.74	0.74	0.74	0.74
Sem-I	22IOT108 Programming for problem solving 22IOT109 Lab.: Programming for problem solving	1.90	1.42	1.66				0.94			1.89		
Sem-II	22IOT201 Linear Algebra	1.66	1.66								0.83		0.83

Sem-II	22IOT202 Engineering Chemistry 22IOT203 Lab: Engineering Chemistry	1.71	1.63					0.98			0.98		0.98
Sem-II	22IOT204 Professional Communication									0.50	0.63		0.63
Sem-II	22IOT205 Engineering Graphics 22IOT206 Lab: Engineering Graphics	2.79	1.86			2.79				1.86	2.79		2.79
Sem-II	22IOT207 Fundamentals of Manufacturing Process 22IOT208 Fundamentals of Manufacturing Process	2.18				1.97			1.93		0.95		2.90
Sem-II	22IOT209 Lab.: Python Programming	3.00	2.00			3.00				2.00	3.00		3.00
Sem-I	22EL101 Differential Equation, Complex Variables and Matrices	0.67	0.67	0.67							0.33		0.33
Sem-I	22EL102 Engineering Physics 22EL103 Lab: Engineering Physics	1.38	1.38										0.56
Sem-I	22EL104 Social Science						1.76					1.71	1.69
Sem-I	22EL105 Engineering Graphics 22EL106 Lab: Engineering Graphics	2.54	1.69			2.54				1.69	2.54		2.56
Sem-I	22EL107 Elements of AIML	0.91				0.94	1.06		0.43	0.85			1.27
Sem-I	22EL108 Electrical workshop	2.00	1.00	1.00							1.00		2.33
Sem-I	22EL109 Fundamentals of Electrical Engineering 22EL110 Lab: Fundamentals of Electrical Engineering	2.05	0.68	0.68	0.68	0.68			0.68	0.68	0.68	0.68	0.68
Sem-II	22EL201 Differential and Integral Calculus	0.47	0.47	0.47							0.24		0.24
Sem-II	22EL202 Engineering Chemistry 22EL203 Lab: Engineering Chemistry	1.45	1.22					0.82			0.82		0.82
Sem-II	22EL204 Professional Communication									0.40	0.43		0.43
Sem-II	22EL205 Engineering Mechanics 22EL206 Lab: Engineering Mechanics	2.28	2.28						1.52	1.52	1.52	1.52	

Sem-II	22EL207 Basic Electrical and Electronics Engineering	0.95	0.95	1.19									
Sem-II	22EL208 Programming for Problem Solving 22EL209 Lab.: Programming for Problem Solving	1.70	0.92	1.30									
Sem-I	22CSE101 Differential Equation and Complex Analysis	1.59	1.59	1.94							0.79		0.79
Sem-I	22CSE102 Engineering Physics 22CSE103 Lab: Engineering Physics	1.57	1.57										0.71
Sem-I	22CSE104 Social Science						1.85					1.71	1.69
Sem-I	22CSE105 Engineering Graphics 22CSE106 Lab: Engineering Graphics	3.00	2.00			3.00				2.00	3.00		3.00
Sem-I	22CSE107 Elements of AIML	1.12				0.88	0.97		0.80	1.07			1.61
Sem-I	22CSE108 Computer workshop	1.67				2.00							2.00
Sem-I	22CSE109 Introduction to Computing with Python 22CSE110 Lab: Introduction to Computing with Python	1.80	0.63	0.53									
Sem-II	22CSE201 Calculus Sequences and Series	1.97	1.97	1.94							0.99		0.99
Sem-II	22CSE202 Engineering Chemistry 22CSE203 Lab: Engineering Chemistry	1.65	1.53					0.95			0.95		0.95
Sem-II	22CSE204 Professional Communication									1.70	1.75		1.75
Sem-II	22CSE205 Engineering Mechanics 22CSE206 Lab: Engineering Mechanics	2.36	2.36						1.57	1.57	1.57	1.57	
Sem-II	22CSE207 Basic Electrical and Electronics Engineering	1.25	1.25	1.59									
Sem-II	22CSE208 Programming for Problem Solving 22CSE209 Lab.: Programming for Problem Solving	2.59	1.33	1.77									
Sem-I	22ME101 Differential Equation, matrices and Statistics	0.78	0.78	0.98							0.39		0.39

Sem-I	22ME102 Engineering Physics 22ME103 Lab: Engineering Physics	1.64	1.64										0.68
Sem-I	22ME104 Social Science						1.60					1.66	1.69
Sem-I	22ME105 Engineering Graphics 22ME106 Lab: Engineering Graphics	2.54	1.69			2.54				1.69	2.54		2.54
Sem-I	22ME107 Elements of AIML	1.13				1.14	1.35		0.63	1.04			1.55
Sem-I	22ME108 FAB Shop						3.00			3.00			3.00
Sem-I	22ME109 Machining Process 22ME110 Lab: Machining Process	1.74	1.19	1.36	1.30		0.81	0.65	0.65		0.69	0.65	1.20
Sem-II	22ME201 Calculus and Vector	0.94	0.94	0.96							0.47		0.47
Sem-II	22ME202 Engineering Chemistry 22ME203 Lab: Engineering Chemistry	1.13	1.13					0.67			0.67		0.67
Sem-II	22ME204 Professional Communication									0.40	0.48		0.48
Sem-II	22ME205 Engineering Mechanics 22ME206 Lab: Engineering Mechanics	2.20	2.20						1.47	1.47	1.47	1.47	
Sem-II	22ME207 Basic Electrical and Electronics Engineering	0.74	0.74	1.15									
Sem-II	22ME208 Programming for Problem Solving 22ME209 Lab.: Programming for Problem Solving	1.70	0.92	1.30									
Sem-I	22EE101: Differential Equation, Complex Variables & Matrices	0.79	0.79	0.67							0.40		0.40
Sem-I	22EE102: Engineering Physics 22EE103 : Engineering Physics Lab	1.36	1.36										0.56
Sem-I	22EE104: Social Science						1.85					1.71	1.69
Sem-I	22EE105: Engineering Graphics 22EE106: Lab: Engineering Graphics	2.92	1.95			2.92				1.95	2.92		2.92

Sem-I	22EE107: Elements of AIML	1.06				0.82	0.88		0.88	1.01			1.52
Sem-I	22EE108: Electrical workshop	2.00	1.00	1.00							1.00		2.33
Sem-I	22EE109: Digital Logic Design 22EE110: Lab: Digital Logic Design	1.44	1.45	0.65		1.11							1.55
Sem-II	22EE201 Differential & Integral Calculus	0.53	0.53	0.47							0.26		0.26
Sem-II	22EE202 Engineering Chemistry 22EE203 Lab: Engineering Chemistry	1.31	1.11					0.74			0.74		0.74
Sem-II	22EE204 Professional Communication									0.50	0.60		0.60
Sem-II	22EE205 Engineering Mechanics 22EE206 Lab: Engineering Mechanics	2.55	2.55						1.70	1.70	1.70	1.70	
Sem-II	22EE207 Basic Electrical and Electronics Engineering	0.75	0.75	0.88									
Sem-II	22EE208 Programming for Problem Solving 22EE209 Lab.: Programming for Problem Solving	1.79	0.92	1.30									
FY OVERALL DIRECT ATTAINMENT		1.64	1.38	1.18	1.26	1.85	1.58	0.81	1.10	1.30	1.12	1.56	1.32

Indirect Attainment: 2022-23

PO	Surveys	Weight	Total No. of Feedbacks received	No. of Feedbacks Satisfying PO's	% Attainment Through Individual Surveys	% Weighted Attainment	Overall Attainment (%)		
PO -1	Students Feedback	33.33%	921	917	1.00	0.33	0.99	3	2.99
	Parents feedback	33.33%	358	353	0.99	0.33		2.97	
	Senior Student Feedback	33.33%	51	51	1.00	0.33		3	
PO -2	Students Feedback	33.33%	921	898	0.98	0.33	0.99	2.94	2.97
	Parents feedback	33.33%	358	353	0.99	0.33		2.97	
	Senior Student Feedback	33.33%	51	51	1.00	0.33		3	
PO -3	Students Feedback	33.33%	921	897	0.97	0.32	0.98	2.91	2.93
	Parents feedback	33.33%	358	351	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -4	Students Feedback	33.33%	921	910	0.99	0.33	0.98	2.97	2.96
	Parents feedback	33.33%	358	353	0.99	0.33		2.97	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -5	Students Feedback	33.33%	921	894	0.97	0.32	0.98	2.91	2.92
	Parents feedback	33.33%	358	349	0.97	0.32		2.91	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -6	Students Feedback	33.33%	921	900	0.98	0.33	0.98	2.94	2.94
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -7	Students Feedback	33.33%	921	900	0.98	0.33	0.98	2.94	2.94
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	

	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -8	Students Feedback	33.33%	921	894	0.97	0.32	0.98	2.91	2.93
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	
PO -9	Students Feedback	33.33%	921	894	0.97	0.32	0.98	2.91	2.95
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	51	1.00	0.33		3	
PO -10	Students Feedback	33.33%	921	894	0.97	0.32	0.97	2.91	2.91
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	49	0.96	0.32		2.88	
PO -11	Students Feedback	33.33%	921	894	0.97	0.32	0.97	2.91	2.9
	Parents feedback	33.33%	358	349	0.97	0.32		2.91	
	Senior Student Feedback	33.33%	51	49	0.96	0.32		2.88	
PO -12	Students Feedback	33.33%	921	894	0.97	0.32	0.98	2.91	2.93
	Parents feedback	33.33%	358	352	0.98	0.33		2.94	
	Senior Student Feedback	33.33%	51	50	0.98	0.33		2.94	

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Student Feedback	3	2.94	2.91	2.97	2.91	2.94	2.94	2.91	2.91	2.91	2.91	2.91
Parents feedback	2.97	2.97	2.94	2.97	2.91	2.94	2.94	2.94	2.94	2.94	2.91	2.94
Senior Student Feedback	3	3	2.94	2.94	2.94	2.94	2.94	2.94	3	2.88	2.88	2.94
In Direct Attainment	2.99	2.97	2.93	2.96	2.92	2.94	2.94	2.93	2.95	2.91	2.90	2.93

FY Attainment Summary: 2022-23

Weightage	Attainment Parameters	PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8		PO9		PO10		PO11		PO12	
		T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A
80%	TH+PR	2.33	1.64	2.00	1.38	2.00	1.18	1.67	1.26	2.56	1.85	2.33	1.58	1.00	0.81	1.48	1.10	1.91	1.30	1.56	1.12	1.89	1.56	1.80	1.32
		70.29%		68.84%		58.96%		75.60%		72.21%		67.87%		81.00%		74.32%		67.94%		71.82%		82.59%		73.31%	
20%	Indirect (Surveys)	3.00	2.99	3.00	2.97	3.00	2.93	3.00	2.96	3.00	2.92	3.00	2.94	3.00	2.94	3.00	2.93	3.00	2.95	3.00	2.91	3.00	2.90	3.00	2.93
		99.67%		99.00%		97.67%		98.67%		97.33%		98.00%		98.00%		97.67%		98.33%		97.00%		96.67%		97.67%	
Total Overall Attainment		2.47	1.91	2.20	1.70	2.20	1.53	1.93	1.60	2.65	2.06	2.46	1.85	1.40	1.24	1.78	1.47	2.13	1.63	1.85	1.48	2.11	1.83	2.04	1.64
		77.43%		77.05%		69.51%		82.76%		77.90%		75.21%		88.29%		82.17%		76.49%		79.99%		86.59%		80.47%	

8.4.1 Actions taken based on the results of evaluation of relevant POs and PSOs (10)

POs Attainment Levels of 2022-23 and Actions taken for improvement in 2023-24

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, Science, Engineering fundamentals and an Engineering specialization to the solution of complex Engineering problems.			
PO1	2.47	1.91	Attainment is 77.43% so it is achieved.
Attainment of PO1 is above 75% hence for continuous improvement the following actions were taken:			
Action 1: Additional learning materials has been provided on topic Partial Differential Equations. (Differential Equations and Complex Analysis)			
Action 2: Extra classes conducted on topics complex variable. (Differential Equations and Complex Analysis)			
Action 3: Additional Assignment has been given on successive differentiation. (Calculus and Vector)			
Action 4: Assignments given on the topic semiconductor physics, geometrical optic, magnetic materials and superconductors. (Engineering Physics)			
Action 5: Assignments given on the topic band theory of solids. (Applied Physics)			
Action 6: Assignment given on mechanism of corrosion. (Engineering Chemistry)			
Action 7: Program on algorithm and Flowchart has been given as assignment. (Programming for Problem Solving)			
Action 8: Assignments was given on the topic Resultant and friction. (Engineering Mechanics)			
Action 9: K-map solving practice was taken. (Digital Logic Design)			
Action 10: Assignment was given on Boolean algebra. (Digital Logic Design)			
Action 11: More problems were solved based on measures of central tendency, Probability distribution and approximations (FDS)			
Action 12: More practice of numerical on circuit elements and analysis of network was taken. (Basic Electrical & Electronics Engineering)			
Action 13: Students were advised and completed also, the online certification course on C-Programming offered by Infosys springboard (C-Programming)			
PO2: Problem Analysis: Identify, formulate, review research literature and analyse complex Engineering problems reaching substantiate conclusions using first principle of mathematics, natural sciences and Engineering sciences.			
PO2	2.20	1.70	Attainment is 77.05% so it is achieved.
Attainment of PO2 is above 75% hence for continuous improvement the following actions were taken:			
Action 1: Practice problems have been given on topic Partial Differential Equations. (Differential Equations and Complex Analysis)			
Action 2: Additional assignment was given on topic complex numbers. (Differential Equations and Complex Analysis)			
Action 3: Additional material has been given on the topic successive differentiation. (Calculus and Vector)			
Action 4: Assignments given on the topic semiconductor physics, geometrical optic, magnetic materials and superconductors. (Engineering Physics)			
Action 5: Assignments given on the topic band theory of solids. (Applied Physics)			

Action 6: Assignment given on nanomaterials. (Engineering Chemistry)
 Action 7: Program on algorithm and Flowchart has been given as assignment. (Programming for Problem Solving)
 Action 8: Assignments given on the topic planer force system. (Engineering Mechanics)
 Action 9: K-map solving practice was taken. (Digital Logic Design)
 Action 10: Assignment was given on Boolean algebra. (Digital Logic Design)
 Action 11: Case study of healthcare, transportation, retail domain taken for explaining data science concepts (FDS)
 Action 12: Game based learning was incorporated on the topic Electrical wiring. (Basic Electrical & Electronics Engineering)

PO3: Design/development of solutions: Design solution for complex Engineering problems and design system components or process that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal and environmental considerations.

PO3	2.20	1.53	Attainment is 69.51% which is below the set target level hence needs improvement.
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Attainment of PO3 is below 75% hence for improvement the following actions were taken:

Action 1: More problems discussed on topic Partial Differential Equations. (Differential Equations and Complex Analysis)
 Action 2: Practice Program on Loop, function and array has been given as assignment. (Programming for Problem Solving)
 Action 3: More problems were solved based on Boolean algebra. (Digital Logic Design)
 Action 4: K-map solving practice was taken. (Digital Logic Design)
 Action 5: Project based learning was incorporated on the topic Solar, wind, DC generator, electronic circuit and devices. (Basic Electrical & Electronics Engineering)

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO4	1.93	1.60	Attainment is 82.76% so it is achieved.
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Attainment of PO4 is above 75% hence for continuous improvement the following actions were taken:

Action 1: Assignment given on mechanism of corrosion. (Engineering Chemistry)
 Action 2: Assignment given on three phase AC circuits. (FOEE)
 Action 3: More problems were solved based on approximations (FDS)

PO5: Modern tool usage: Create, select and apply appropriate techniques, resources and modern Engineering and IT tools including prediction and modelling to complex Engineering activities with an understanding of the limitations.

PO5	2.65	2.06	Attainment is 77.90% so it is achieved.
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Attainment of PO5 is above 75% hence for continuous improvement the following actions were taken:			
Action 1: Assignment was given on DC circuit and three phase AC circuit. (FOEE)			
Action 2: K-map solving practice was taken. (Digital Logic Design)			
Action 3: Assignment was given on Combinational circuits and sequential circuit. (Digital Logic Design)			
PO6: 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.			
PO6	2.46	1.85	Attainment is 75.21% so it is achieved.
PO7: Environment and sustainability: Understand the impact of the professional Engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.			
PO7	1.40	1.24	Attainment is 88.29% so it is achieved.
Attainment of PO7 is above 75% hence for continuous improvement the following actions were taken:			
Action 1: Assignment given on mechanism of corrosion. (Engineering Chemistry)			
Action 2: More problems were solved based on measures of central tendency, Probability distribution and approximations (FDS)			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.			
PO8	1.78	1.47	Attainment is 82.17% so it is achieved.
Attainment of PO8 is above 75% hence for continuous improvement the following actions were taken:			
Action 1: Assignment was given on the topic truss. (Engineering Mechanics)			
Action 2: Assignment given on AC fundamentals. (FOEE)			
PO9: Individual and team work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.			
PO9	2.13	1.63	Attainment is 76.49% so it is achieved.
Attainment of PO9 is above 75% hence for continuous improvement the following actions are planned:			
Action 1: Role play was conducted to understand communication barrier. (Professional Communication)			
Action 2: Assignment on enhancing nuances of vocal skills and presentation was given. (Professional Communication)			
Action 3: Assignment was given on the topic AC fundamentals. (FOEE)			
Action 4: More problems were solved based on Boolean algebra. (Digital Logic Design)			

PO10: Communication: Communicate effectively on complex Engineering activities with the Engineering community and with society at large such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

PO10	1.85	1.48	Attainment is 79.99% so it is achieved.
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Attainment of PO10 is above 75% hence, for continuous improvement the following actions were taken:

Action 1: Role play was conducted to understand communication barrier. (Professional Communication)

Action 2: Assignment on enhancing nuances of vocal skills and presentation was given. (Professional Communication)

Action 3: Assignment given on liquid crystal polymers. (Engineering Chemistry)

Action 4: Assignment was given on the topic truss. (Engineering Mechanics)

Action 5: Additional learning materials has been provided on topic Partial Differential Equations. (Differential Equations and Complex Analysis)

Action 6: Additional Assignment has been given on successive differentiation. (Calculus and Vector)

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work as a member and leader in a team to manage projects and in multidisciplinary environments.

PO11	2.11	1.83	Attainment is 86.59% so it is achieved.
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Attainment of PO11 is above 75%, hence for continuous improvement the following actions were taken:

Action 1: Assignments was given on the topic centroid and moment of inertia. (Engineering Mechanics)

Action 2: Assignment was given on DC circuit and three phase AC circuit. (FOEE)

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

PO12	2.04	1.64	Attainment is 80.47% so it is achieved.
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Attainment of PO12 is above 75% ,hence for continuous improvement the following actions were taken:

Action 1: Role play was conducted to understand communication barrier. (Professional Communication)

Action 2: Assignment on enhancing nuances of vocal skills and presentation was given (Professional Communication)

Action 3: Mindmap activity was conducted for Engineering & Applied Physics.

Action 4: Video based learning on the topics such as desalination of water, corrosion, batteries, polymers, spectroscopic techniques, fuels and cements. (Engineering Chemistry)

Action 5: Case study of healthcare, transportation, retail domain was taken for explaining data science concepts. (FDS)

Action 6: Examples on real life problems such as Newton's law of cooling and electrical circuits were discussed in class. (Differential Equations and Complex Analysis)