| **22MATS11** | **Mathematics - I for CSE Stream** | **(2-2-2) 4** |

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12)/ PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Apply** the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions	-	-	1,2,12
CO-2	**Analyze** the solution of linear and nonlinear ordinary differential equations	-	-	1,2,12
CO-3	**Get** acquainted and **apply** modular arithmetic to computer algorithms	-	-	1,2,12
CO-4	**Make** use of matrix theory for solving system of linear equations and **compute** eigenvalues and eigenvectors	-	1,2	12
CO-5	**Familiarize** with modern mathematical tools namely MATHEMATICA / MATLAB / PYTHON / SCILAB	-	-	1,2,12

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	1.2	1.2	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12)/ PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Identify** the terms and processes involved in scientific and engineering applications.	-	1	3
CO-2	**Explain** the phenomena of chemistry to describe the methods of engineering processes.	1	-	-
CO-3	**Solve** for the problems in chemistry that are pertinent in engineering applications.	-	2	3
CO-4	**Apply** the basic concepts of chemistry to explain the chemical properties and processes.	1	-	-
CO-5	**Analyze** properties and processes associated with chemical substances in multidisciplinary situations.	-	2	1

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	2.3	2.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-

22POP13   **Principles of Programming Using C**   **(2-0-2) 3**

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12)/ PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Design** a solution by analyzing thegiven problem scenario and **represent** it using algorithm / flowchart.	-	1,2,3	-
CO-2	**Explain** the C language primitives, language principles and use themin writing simpleprograms.	-	1,2,3	-
CO-3	**Write** a C program using proper control structures to solvesimpleproblems.	-	1,2,3	-
CO-4	**Write** a C program using arrays and strings to solve simple problems.	-	2,6	-
CO-5	**Explain** the usage and the need for writing modular programs and demonstrate its use in writing programs.	-	-	1,2,3

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	1.7	1.8	1.7	-	-	2.0	-	-	-	-	-	-	-	-	-	-

| 22ESC142 | Introduction to Electrical Engineering | (3-0-0) 3 |

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12)/ PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Understand** the concepts of various energy sources and Electric circuits.	1	2	3, 5, 6,7,8,12
CO-2	**Apply** the basic Electrical laws to solve circuits.	1,2	3	4,5,6,12
CO-3	**Discuss** the construction and operation of various Electrical Machines.	1	2	3,4,5,6,7,8,12
CO-4	**Identify** suitable Electrical machine for practical implementation.	1	2,3	4,6,7,8,12
CO-5	**Explain** the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.	1	3,6	2,5,7,8,11,12

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	3.0	2.0	1.6	1.0	1.0	1.2	1.0	1.0	-	-	1.0	1.0	-	-	-	-

| 22ETC15I | Introduction to Cyber Security | (3-0-0) 3 |

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Explain** the cybercrime terminologies.	-	1	8
CO-2	**Describe** Cyber offenses and Botnets.	-	1	8
CO-3	**Illustrate** Tools and methods used on Cybercrime.	-	5	8,14
CO-4	**Explain** Phishing and Identity Theft, encryption and decryption processes.	-	1,2	8
CO-5	**Justify** the need of computer forensics.	-	1,5	8
CO-6	**Explain** the procedure of distribution of public and private keys.	-	1,2	8,14

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	2.0	2.0	-	-	2.0	-	-	1.0	-	-	-	-	-	1.0	-	-

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Explain** and **identify** the Common Errors in Writing and Speaking.	-	10	-
CO-2	**Achieve** better Technical writing and Presentation skills.	-	10	-
CO-3	**Read** Technical proposals properly and make them to Write good technical reports.	10	-	-
CO-4	**Acquire** Employment and Workplace communication skills.	-	10	-
CO-5	**Learn** about Techniques of Information Transfer through presentation in different level.	10	-	-

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	-	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Analyze** the basic structure of Indian Constitution.	-	2	-
CO-2	**Remember** their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.	-	1	-
CO-3	**Know** about our Union Government, political structure & codes, procedures.	-	1	-
CO-4	**Understand** our State Executive & Elections system of India.	-	1	-
CO-5	**Remember** the Amendments and Emergency Provisions, other important provisions given by the constitution.	-	1	-

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	2.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

22SFH18 **Scientific Foundations of Health** **(1-0-0) 1**

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Explain** and **analyze** about Health and wellness (and its Beliefs) & its balance for positive mindset.	-	1,2	-
CO-2	**Develop** the healthy lifestyles for good health for their better future.	-	1,2	-
CO-3	**Build** a Healthy and caring relationships to meet the requirements of good/social/positive life.	-	1,2	-
CO-4	**Learn** about Avoiding risks and harmful habits in their campus and outside the campus for their bright future.	-	1,2	-
CO-5	**Prevent** and **fight** against harmful diseases for good health through positive mindset.	-	1,2	-

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	2.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

II Semester (Physics Cycle)

<u>Stream:</u> **Computer Science & Engineering**
<u>Branch:</u> **Computer Science & Engineering**

22MATS21	Mathematics - II for CSE Stream	(2-2-2) 4

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:	Mapping to POs(1-12) / PSOs (13-16)		
	Substantial Level (3)	**Moderate Level (2)**	**Slight Level (1)**
CO-1 Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume.	-	-	1,2,12
CO-2 Understand the applications of vector calculus refer to solenoidal, and irrotational vectors, Orthogonal curvilinear coordinates.	-	-	1,2,12
CO-3 Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation	-	-	1,2,12
CO-4 Apply the knowledge of numerical methods in analysing the discrete data and solving the physical and engineering problems.	-	-	1,2,12
CO-5 Get familiarize with modern mathematical tools namely MATHEMATICA / MATLAB / PYTHON / SCILAB	-	-	1,2,12

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Mapping Level	1.4	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

22PHYS22	Physics for CSE Stream	(2-2-2) 4

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Describe** the principles of LASERS and Optical fibers and their relevant applications.	1	2,12	-
CO-2	**Discuss** the basic principles of Quantum Mechanics and their application in Quantum Computing.	1,2	12	-
CO-3	**Summarize** the essential properties of superconductors and applications in Quantum Computing.	1,2	12	-
CO-4	**Illustrate** the application of physics in design and data analysis.	1	2,12	3,5
CO-5	**Practice** working in groups to conduct experiments in physics and **perform** precise and honest measurements.	1,8,9	2,5,12	3

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	3.0	2.4	1.0	-	1.5	-	-	3.0	3.0	-	-	2.0	-	-	-	-

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	Draw and communicate the objects with definite shape and dimensions	1,5,10	2,12	6,8,9
CO-2	Recognize and Draw the shape and size of objects through different views	1,5,10	2,12	6,8,9
CO-3	Develop the lateral surfaces of the object	1,5,10	2,12	6,8,9
CO-4	Create a Drawing views using CAD software	1,2,5,10	-	6,7,9,12
CO-5	Identify the interdisciplinary engineering components or systems through its graphical representation.	1,5,10	2,12	9

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	3.0	2.6	-	-	3.0	1.0	1.0	1.0	1.0	3.0	-	1.7	-	-	-	-

22ESC243   Introduction to Electronics Engineering   (3-0-0) 3

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Develop** the basic knowledge on construction and operation of rectifiers and amplifiers.	-	3	1
CO-2	**Apply** the acquired knowledge to construct small scale circuits consisting of oscillators and operational amplifiers.	-	1	-
CO-3	**Develop** the competence knowledge to construct basic digital circuit by making use of basic gates and its function.	-	1	3
CO-4	**Apply** the acquired knowledge to construct small scale embedded circuits.	-	1	12
CO-5	**Study** the conceptual blocks of basic communication system and **acquire** the knowledge of analog and digital communication schemes.	-	1	12

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	1.8	-	1.5	-	-	-	-	-	-	-	-	1.0	-	-	-	-

| 22PLC25E | Advanced C Programming | (2-0-2) 3 |

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Explain** the usage and the need for writing programs using structures, unions and pointers.	-	1,2,3	-
CO-2	**Solve** real time problems using concepts of dynamic memory allocation and storage classes.	-	1,2,3	-
CO-3	**Construct** Programming solutions using user defined functions and files for storage.	-	1,2,3	-
CO-4	**Demonstrate** sorting and searching algorithms.	-	1,2,3	-
CO-5	**Select** appropriate programming constructs and data structures to build solutions to variety of problems.	-	1,2,3	12,14

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	2.0	2.0	2.0	-	-	-	-	-	-	-	-	1.0	-	1.0	-	-

22ENG26	Communicative English	(1-0-0) 1

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Explain** and **apply** the Fundamentals of Communication Skills in their communication skills.	-	10	-
CO-2	**Identify** the nuances of phonetics, intonation and **enhance** pronunciation skills.	-	10	-
CO-3	**Impart** basic English grammar and essentials of language skills as per present requirement.	10	-	-
CO-4	**Explain** and **use** all types of English vocabulary and language proficiency.	-	10	-
CO-5	**Adopt** the Techniques of Information Transfer through presentation.	10	-	-

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	-	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-

22IDT28   **Innovation and Design Thinking**   **(1-0-0) 1**

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		Mapping to POs(1-12) / PSOs (13-16)		
		Substantial Level (3)	Moderate Level (2)	Slight Level (1)
CO-1	**Appreciate** various design process procedure.	-	-	3
CO-2	**Generate** and **develop** design ideas through different technique	-	-	3
CO-3	**Identify** the significance of reverse Engineering to Understand products.	-	-	6
CO-4	**Draw** technical drawing for design ideas.	-	-	1

POs/PSOs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mapping Level	1.0	-	1.0	-	-	1.0	-	-	-	-	-	-	-	-	-	-