DEPARTMENT OF INFORMATION TECHNOLOGY

3.1.1 COURSE OUTCOME

REGULATION 2023

After successful completion of the course, student will be able to

Course Name: C101   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23EN101- TECHNICAL ENGLISH I

CO	STATEMENT
C101.1	Write Essays and E-Mails.
C101.2	Describe any process, interpretation of charts and graphs both general and technically.
C101.3	Write letters and responses to complaints.
C101.4	Write recommendations. Minutes and reports of events.
C101.5	Write job application with resume.

Course Name: C102   **Year of Study:** 2023-2024   **Semester:** I

Subject Code & Subject Name: U23MA101- ENGINEERING MATHEMATICS

CO	STATEMENT
C102.1	Apply Cayley- Hamilton theorem and orthogonal transformation for different process of matrices.
C102.2	Analyze the differentiation rules to find the extreme values of functions.
C102.3	Apply the concepts of partial derivatives and total derivatives in Taylor's series, Jacobians and maxima and minima of functions.
C102.4	Evaluate definite and improper integrals using techniques of integration.
C102.5	Evaluate area and volume using double and triple integrals.

Course Name: C103   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23PH101- ENGINEERING PHYSICS

CO	STATEMENT
C103.1	Comprehend the basic of mechanics and elastic properties of materials.
C103.2	Explain thermal physics concept, production and application of ultrasonic waves.
C103.3	Apply the basic concepts of lasers and optical fiber in various fields.
C103.4	Describe the basics of quantum mechanical phenomenon and electrons microscopes.
C103.5	Explain the fundamental of crystal structure and imperfection.

Course Name: C104   **Year of Study:** 2023-2024   **Semester:** I

Subject Code & Subject Name: U23CY101- ENGINEERING CHEMISTRY

CO	STATEMENT
C104.1	Describe the types of factors present in boilers and the method used to treat hard water.
C104.2	Apply the principles of electrochemistry to corrosion process and the applications of protective coatings to overcome the corrosion.
C104.3	Summarize the various solid, liquid and gaseous fuels manufacturing methods and basic reactions involved in combustion reactions.
C104.4	Describe the type of batteries their reactions and the significance of storage renewable energy resource.
C104.5	Apply the basic concepts of nanomaterial's and its application in various sectors.

Course Name: C105   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23TA101- □□□□□ □□□□ / HERITAGE OF TAMILS

CO	STATEMENT
C105.1	Summarize about language, literatures and scripts.
C105.2	Explain middle stone, modern sculptures, panchaloga idols and musical instruments..
C105.3	Explain about the folk gods, arts and heroic sports
C105.4	Summarize the political theories of Tamils
C105.5	Summarize Indian national movement contribution of Tamils to Indian culture.

Course Name: C106   **Year of Study:** 2023-2024   **Semester:** I

Subject Code & Subject Name U23CP101- PROGRAMMIC IN C

CO	STATEMENT
C106.1	Describe knowledge on C Programming constructs.
C106.2	Apply the simple applications in C using decision making and looping.
C106.3	Design the various applications using arrays and strings.
C106.4	Write and implement modular applications in C using functions and pointers.
C106.5	Apply the user defined concept in C using structures and unions.

Course Name: C110   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23BE104- BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

CO	STATEMENT
C110.1	Solve the circuits using basic electrical theorems.
C110.2	Explain the working principle and applications of electrical machines.
C110.3	Summarize the characteristics of Analog electronics devices.
C110.4	Explain the basic concept of digital electronics.
C110.5	Describe the operating principles of measuring instruments.

Course Name: C111 **Year of Study:** 2023-2024 **Semester:** I

Subject Code & Subject Name: U23EG101- ENGINEERING GRAPHICS

CO	STATEMENT
C111.1	Draw the curves used in engineering practices.
C111.2	Draw the projections of straight lines which are inclined to both the planes.
C111.3	Draw projection of solids inclined to one plane and parallel to other plane.
C111.4	Draw the projections of sectional solids and draw the development of lateral surface of a solid.
C111.5	Draw the isometric projections and perspective projections of simple solids.

Course Name: C112   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23EP101- ENGINEERING PRACTICES LABORATORY

CO	STATEMENT
C112.1	Apply the basic concepts of plumbing and carpentry in various residential buildings.
C112.2	Apply the concepts of arc wielding in wielding of steel plate.
C112.3	Analyze the basics of machining operations and sheet metal works.
C112.4	Apply various electrical joints in common household electrical wirework.
C112.5	Apply the basic concept of assemble and testing of simple electronics components on PCB.

Course Name: C113   **Year of Study:** 2023-2024   **Semester:** I

Subject Code & Name: U23PC101- PHYSICS AND CHEMISTRY LABORATORY

CO	STATEMENT
C113.1	Calculate the young's modulus by non-uniform bending, simple harmonic oscillations by Torsion Pendulum.
C113.2	Calculate the thickness of a thin wire by air wedge and velocity of sound, compressibility of liquid Using ultra sonic interferometer.
C113.3	Calculate the wavelength, acceptance angle and numerical aperture using laser.
C113.4	Estimate the amount of Harness, chloride, alkalinity in water samples
C113.5	Estimate the amount of acid, iron content present in a given solution by using Ph , Conductivity and potentiometric titration.

Course Name: C114   **Year Of Study:** 2023-2024   **Semester:** I

Subject Code/Subject Name: U23EN102- PROFESSIONAL COMMUNICATION

LABORATORY

CO	STATEMENT
C114.1	Apply communication proficiency by mastering empathetic listening and speaking skills.
C114.2	Apply soft skills fostering comprehensive competence.
C114.3	Apply effective techniques to deliver presentations in all aspects.
C114.4	Apply effective strategies for active participation in group discussion.
C114.5	Apply interview etiquette to navigate various interview formats for job interviews.

Course Name: C115   **Year of Study:** 2024-2025   **Semester:** II

Subject Code & Name: U23EN201- TECHNICAL ENGLISH II

CO	STATEMENT
C115.1	Apply the concepts of writing in an effective way.
C115.2	Write concise reports in a professional context.
C115.3	Write different kinds of paragraphs and essays.
C115.4	Write Email, formal / informal letters without grammatical errors.
C115.5	Analyze collaborative work through writing process.

Course Name: C116 **Year Of Study:** 2024-2025 **Semester:** I

Subject Code/Subject Name: U23MA201- VECTOR CALCULUS AND COMPLEX FUNCTIONS

CO	STATEMENT
C116.1	Solve higher order differential equations of different types for engineerimg application.
C116.2	Explains the concepts of vector calculus.
C116.3	Evaluate line, surface and volume integrals in various vector fields using Greens, Stokes and Gauss theorems.
C116.4	Analyze the properties and mappings for constructing analytic function.
C116.5	Evaluate the complex and contour integral using cauchy's theorem.

Course Name: C117 **Year of Study:** 2024-2025 **Semester:** II

Subject Code & Name: U23EN201- PHYSICS FOR ELECTRICAL AND ELECTRONICS

ENGINEERING

CO	STATEMENT
C117.1	Explain the electrical properties of materials based on classical, quantum free electron theories.
C117.2	Describe the fundamentals of semiconductor Physics.
C117.3	Summarize the magnetic and superconducting properties of materials and its applications
C117.4	Apply the various optical phenomena in optoelectronic devices.
C117.5	Explain the various new engineering materials, nano electronic devices and its applications.

Course Name: C120   **Year Of Study:** 2024-2025   **Semester:** I

Subject Code/Subject Name: U23TA201- TAMILS AND TECHNOLOGY

CO	STATEMENT
C120.1	Summaries the ancient history and technology of Tamil.
C120.2	Explain the lifestyle and architectural techniques of the sangam period.
C120.3	Explain the business practices and currency exchange of ancient Tamil people.
C120.4	Summaries the agriculture and irrigation technology in sangam period.
C120.5	Explain the computer application in Tamil technological development.

Course Name: C121   **Year of Study:** 2024-2025   **Semester:** II

Subject Code & Name: U23PY201- PROBLEM SOLVING AND PYTHON PROGRAMMING

CO	STATEMENT
C121.1	Solve simple computational problems using notations.
C121.2	Write python programs using statements and expressions.
C121.3	Apply control flow and functional concepts in a user define problems.
C121.4	Apply python data structure – lists, tuples and dictionaries for compound data.
C121.5	Describe the handling and exceptional handling in python for problem solving.

Course Name: C122   **Year Of Study:** 2024-2025   **Semester:** I

Subject Code/Subject Name: U23CS201- DATA STRUCTURES

CO	STATEMENT
C122.1	Describe abstract data types for linear data structure.
C122.2	Explain stack, queue ADT's operations and its applications.
C122.3	Apply various algorithms of tree data structures for solving real world problem.
C122.4	Apply appropriate graph algorithm for solving a given problem.
C122.5	Analyze various searching, sorting and hashing techniques.

Course Name: C126   **Year of Study:** 2024-2025   **Semester:** II

Subject Code & Name: U23CS202- DATA STRUCTURE LABORATORY

CO	STATEMENT
C126.1	Apply stack, queue ADT's operations for solving a given problem.
C126.2	Solve various operations like traversal, insertion, deletion on tree data structure.
C126.3	Solve various applications using graph algorithm.
C126.4	Analyze various kind of searching and sorting techniques.
C126.5	Apply appropriate hashing techniques for the given problem.

Course Name: C201   **Year Of Study:** 2024-2025   **Semester:** III

Subject Code/Subject Name: U23MA302-DISCRETE MATHEMATICS

CO	STATEMENT
C201.1	Apply the concepts of logic theory to construct the truth table, mathematical arguments and different methods of proofs.
C201.2	Apply the concepts of mathematical induction, pigeonhole principle, permutation and combination to solve the real life problems.
C201.3	Analyze the definitions and different types of graphs.
C201.4	Analyze the concepts and properties of algebraic structures.
C201.5	Analyze the algebraic properties of lattices and Boolean algebra.

Course Name: C202   **Year of Study:** 2024-2025   **Semester:** III

Subject Code & Subject Name: U23EC301- DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

CO	STATEMENT
C202.1	Apply Boolean Algebra and Simplification procedures relevant to digital logic.
C202.2	Design various combinational digital circuits using logic gates.
C202.3	Design synchronous and asynchronous sequential digital circuits using logic gates.
C202.4	Summarize the basic structure and operation of a digital computer.
C202.5	Analyze the data path unit of processor and concept of various memories.

Course Name: C203   **Year of Study:** 2024-2025   **Semester:** III

Subject Code & Subject Name: U23CS301   FOUNDATIONS OF DATA SCIENCE

CO	STATEMENT
C203.1	Summarize the data science process.
C203.2	Explain the different types of data description for data science process.
C203.3	Explain the relationships between data.
C203.4	Explain the Python Libraries for Data Wrangling.
C203.5	Describe Visualization Libraries in Python to interpret and explore data.

Course Name: C204   **Year of Study:** 2024-2025   **Semester: III**

Subject Code & Subject Name: U23CS302 DATABASE MANAGEMENT SYSTEMS

CO	STATEMENT
C204.1	Write SQL Queries using SQL commands and Relational Algebra
C204.2	Design Database using E-R Model and Normalize the database
C204.3	Summarize transaction Concepts, Concurrency and Recovery Techniques
C204.4	Describe Internal Storage Structures using files, Indexing, Hashing and Query Optimization
C204.5	Comprehend Advanced Data bases and Database Security

Course Name: C205   **Year of Study:** 2024-2025   **Semester:** III

Subject Code & Subject Name: U23CS303-OBJECT ORIENTED PROGRAMMING

CO	STATEMENT
C205.1	Comprehend OOPS concept and basic concepts of JAVA.
C205.2	Apply the principles of inheritance, packages and interfaces.
C205.3	Apply features of exception handling and multithreading in Java program.
C205.4	Develop Java applications with I/O, Generic and string handling.
C205.5	Design Java application using JAVAFX Event handling.

Course Name: C206   **Year of Study:** 2024-2025   **Semester:** III

Subject Code & Subject Name: U23CS304 DATA SCIENCE LABORATORY

CO	STATEMENT
C206.1	Summarize the python libraries for data science.
C206.2	Design the basic statistical and probability measures for data Science.
C206.3	Design a descriptive analysis on the benchmark dataset.
C206.4	Design Correlation and Regression Analytics on standard data set.
C206.5	Design data using visualization packages in python.

Course Name: C207   **Year of Study:** 2024-2025   **Semester: III**

Subject Code & Subject Name: U23CS305 DATABASE MANAGEMENT SYSTEMS

LABORATORY

CO	STATEMENT
C207.1	Create databases with different types of key constraints.
C207.2	Analyze simple and complex SQL queries using DML and DCL commands.
C207.3	Apply advanced features such as stored procedures and triggers incorporate in GUI based application development
C207.4	Create an XML database and validate with meta-data(XML schema)
C207.4	Create and manipulate data using NOSQL database