



New Prince Shri Bhavani

College of Engineering and Technology



Tambaram-Velachery Main Road, Santhosapuram, Chennai-600 073

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Department of Computer Science and Engineering

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C101

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: HS3151 PROFESSIONAL ENGLISH - I

CO	STATEMENT
C101.1	Write essays, E-mails and letters efficient ways.
C101.2	Analyse the Events, Reports, Articles and Blogs through Comprehension.
C101.3	Analyse the Process and Products through Technical Texts
C101.4	Write Recommendations and Transcoding from Non - Verbal to Verbal.
C101.5	Analyse the Vocabulary of various forms

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C102

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: MA3151 MATRICES AND CALCULUS

CO	STATEMENT
C102.1	Apply Cayley -Hamilton theorem and orthogonal transformation for different process of matrices.
C102.2	Analyse the types of functions and differentiation rules for real life engineering problems.
C102.3	Apply the concepts of partial derivatives and total derivate in Taylor's series.
C102.4	Apply the rule of integration in various function.
C102.5	Evaluate the double and triple integrals for finding area and volume of different plane surfaces.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C103

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: PH3151-ENGINEERING PHYSICS

CO	STATEMENT
C103.1	Explain the basic concepts of mechanics.
C103.2	Describe wave equations of electromagnetic waves with its applications.
C103.3	Explain the concept of oscillations, LASERs and e optics
C103.4	Comprehend the importance of quantum mechanics.
C103.5	Apply quantum mechanical principle towards the formation of energy bands.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C104

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: CY3151 ENGINEERING CHEMISTRY

CO	STATEMENT
C104.1	Summarize the method to produce soft water for industrial use and potable water at cheaper cost
C104.2	Apply basic concepts of Nano science and Nano technology in designing the synthesis of nanomaterial for engineering and technology applications.
C104.3	Apply the knowledge of phase rule and composites for material selection requirements.
C104.4	Describe the various types of fuels and the manufacture of solid, liquid and gaseous fuel to meet environmental sustainability.
C104.5	Explain the principles and generation of energy in nuclear reactor, wind energy and solar energy and batteries.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C105

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3151-PROBLEM SOLVING AND PYTHON PROGRAMMING

CO	STATEMENT
C105.1	Solve simple computational problems using Notations.
C105.2	Write Python Programs using statements and Expressions
C105.3	Apply Control flow and Functional concepts in a user define problems.
C105.4	Apply Python Data Structures Compound Data. List, Tuples and Dictionaries for Compound Data.
C105.5	Describe File handling and Exceptional Handling in Python for Solving Problems.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C106

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3152 தமிழர்மரபு /Heritage of Tamils

CO	STATEMENT
C106.1	Summarize about languages, literatures and scripts.
C106.2	Explain middle stone, modern sculptures, panchalogaidols and musical instruments.
C106.3	Explain about the folk gods, arts and heroic sports.
C106.4	Summarize the political theories of tamils.
C106.5	Summarize Indian national movement contribution of Tamils to Indian culture.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C107

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3171-PROBLEM SOLVING AND PYTHON PROGRAMMING LAB

CO	STATEMENT
C107.1	Write a python programs for simple computational problems.
C107.2	Write python programs with conditionals and loops.
C107.3	Write a python programs step-wise by defining function and calling them.
C107.4	Write a python programs using lists, tuples, and dictionaries for representing compound data.
C107.5	Write a python program for read and write data from to files in python.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C108

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: BS3171-PHYSICS & CHEMISTRY LABORATORY

CO	STATEMENT
C108.1	Calculate the young's modulus by non-uniform bending, simple harmonic oscillators by torsion pendulum
C108.2	Calculate the thickness of a thin wire by air wedge and velocity of sound compressibility of liquid using ultra sonic interferometer.
C108.3	Calculate the wavelength acceptance angle and numerical aperture using laser.
C108.4	Estimation the amount of hardness, chloride alkalinity in water samples.
C108.5	Estimate the amount of acid, iron content present in a given solution by using PH, conductivity and potentiometric titration.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C109

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3172 ENGLISH LABORATORY

CO	STATEMENT
C109.1	Analyze general information as well as complex academic situations.
C109.2	Describe their personal experiences, events, documentaries and interviews in both temporary and permanent situations.
C109.3	Describe products and processes and explain their purposes clearly and accurately.
C109.4	Apply speaking skills in formal and informal communicative contexts.
C109.5	Analyze or use their opinions effectively in both formal and informal discussion.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C110

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: HS3251-PROFESSIONAL ENGLISH II

CO	STATEMENT
C110.1	Write essays and emails in different forms effectively.
C110.2	Write letters and responses to complaints for the causal relations.
C110.3	Analyze the news reports, excerpts and case studies.
C110.4	Write the reports of events and transcoding.
C110.5	Write job application with resume in the context of job search.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C111

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: MA3251 STATISTICS AND NUMERICAL METHODS

CO	STATEMENT
C111.1	Analyze the concepts of sampling, mean and variance using various tests.
C111.2	Analyze the concepts of design of experiments using ANOVA.
C111.3	Solve the algebraic and numerical equations using numerical techniques.
C111.4	Evaluate the numerical differentiation and integration using different methods.
C111.5	Solve the first order differential equations using various methods.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C112

YEAR OF STUDY: 2021 - 2022

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: PH3256-PHYSICS FOR INFORMATION SCIENCE

CO	STATEMENT
C112.1	Explain the significance of electron theories and energy band structures.
C112.2	Apply the basics of semiconductor physics and its applications in various devices
C112.3	Comprehend the different magnetic properties of materials and their applications in data storage.
C112.4	Summarize the functioning of optical materials for opto-electronic devices.
C112.5	Describe the basics of quantum structures and their applications in nano electron



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C117

YEAR OF STUDY: 2021- 22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: CS3251-PROGRAMMING IN C

CO	STATEMENT
C117.1	Describe the basic construct and syntax of C programming.
C117.2	Write Programs using arrays and strings.
C117.3	Write Programs using function and pointers.
C117.4	Apply the concept of union and structure for user defined problems
C117.5	Describe the file handling in C.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C118

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3251-ENGINEERING GRAPHICS

CO	STATEMENT
C118.1	Draw the various curves used in engineering practices.
C118.2	Draw the projections of straight lines which are inclined to both the planes.
C118.3	Draw the projections of solids inclined to one plane and parallel to others plane.
C118.4	Draw the projections of sectioned solids and draw the development of lateral surfaces of a solid.
C118.5	Draw the isometric projections and perspective projections of simple solids.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C119

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: BE3251-BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING

CO	STATEMENT
C119.1	Solve Electric Circuits using Basic Electric Laws
C119.2	Explain the construction, working principles and applications of Electrical Machines
C119.3	Describe the construction, working principles, characteristics and applications of Analog Devices
C119.4	Design the Digital Logic Circuits using Karnaugh Map
C119.5	Comprehend the Construction and Operating Principles of Measuring Instruments

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C125

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3271-ENGINEERING PRACTICES LABORATORY

CO	STATEMENT
C125.1	Summarize the plumbing and carpentry of residential and industrial building
C125.2	Design of different joints using welding work
C125.3	Demonstrate of foundry operations & fitting models
C125.4	Design of residential house wiring, lamp wiring and energy meter calibration
C125.5	Study of electronic equipment, Assembling and testing of PCB components.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C116

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3252 தமிழரும் தொழில்நுட்பமும் /TAMILS AND TECHNOLOGY

CO	STATEMENT
C116.1	Summarize the ancient history and technology of Tamil.
C116.2	Explain the lifestyle and architectural techniques of the sangam period.
C116.3	Explain the business practices and currency exchange of ancient Tamil people.
C116.4	Summarize the Agriculture and Irrigation Technology in sangam period.
C116.5	Explain the computer applications in Tamil technological development.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C124

YEAR OF STUDY: 2021-22

SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3272 COMMUNICATION LABORATORY / FOREIGN LANGUAGE

CO	STATEMENT
C124.1	Apply various group discussion skills to take part in effective discussions in a professional context.
C124.2	Analyze concepts and problems and make effective presentations explaining them clearly
C124.3	Write essays, emails, reports and letters efficient way
C124.4	Write the short articles and instructions
C124.5	Write a job application, cover letter and recommendations.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C126

YEAR OF STUDY: 2021-22

SEMESTER:II

SUBJECT CODE & SUBJECT NAME: CS3271-PROGRAMMING IN C LABORATORY

CO	STATEMENT
C126.1	Write Programs using basic constructs.
C126.2	Write Programs using arrays and strings.
C126.3	Write Programs using function and recursive function.
C126.4	Write Programs using union and structure for user defined problems
C126.5	Write Programs using file handling methodologies in C.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C201

YEAR OF STUDY: 2022-2023

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: MA3354-DISCRETE MATHEMATICS

CO	STATEMENT
C201.1	Apply the concepts of logic theory to construct the truth tables mathematical arguments and different methods of proof.
C201.2	Apply the concepts of mathematical induction ,pigeonhole principle, permutations and combination to solve the real time problems
C201.3	Analyze the definition and different types of graph
C201.4	Analyze the concepts and properties of algebraic structures
C201.5	Analyze the algebraic properties of lattices and Boolean algebra



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C202

YEAR OF STUDY: 2022-2023

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3351-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 sequential circuits.
C202.4	Design asynchronous sequential circuits.
C202.5	Design programmable devices using logic gates.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME:

YEAR OF STUDY: 2022-2023

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3301 DATA STRUCTURES

CO	STATEMENT
C204.1	Describe linear data structures using array and linked list
C204.2	Explain Stack, Queue ADT's operations and its applications
C204.3	Apply non-linear data structures tree and its application.
C204.4	Apply various algorithms in graph
C204.5	Analyze searching, sorting and hashing techniques in data structures



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C207

YEAR OF STUDY: 2022-23

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3391OBJECT ORIENTED PROGRAMMING

CO	STATEMENT
C207.1	Comprehend OOPS concept and basic concepts of JAVA. BT2
C207.2	Apply the principles of inheritance, packages and interfaces. BT3
C207.3	Apply features of expectations handling and multi-threat reading in JAVA programming. BT3
C207.4	Develop JAVA applications with i/o, generic and string handling. BT6
C207.5	Design JAVA application using JAVA FX event handling. BT6

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C206

YEAR OF STUDY: 2022-23

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3361 DATA STRUCTURES LABORATORY

CO	STATEMENT
C206.1	Apply Stack, Queue and List ADT's operations for solving a given problem
C206.2	Solve various operations like traversal, insertion, deletion on tree data structure.
C206.3	Solve various applications using graph algorithms.
C206.4	Analyze various kinds of searching and sorting techniques
C206.5	Apply appropriate hashing techniques for the given problem



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C207

YEAR OF STUDY:2022-23

SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3381 OBJECT ORIENTED PROGRAMMING LAB

CO	STATEMENT
C207.1	Write Java applications using classes, object and interfaces. BT6
C207.2	Write Java programs to perform interfaces, abstract class and expectation handling. BT6
C207.3	Write Java programs using file and multithreading. BT6
C207.4	Write Java programs using generic functions and event driven paradigm.BT6
C207.5	Create application using Java.BT6

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C211

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3352-FOUNDATION OF DATA SCIENCE

CO	STATEMENT
C211.1	Summarize the data science process
C211.2	Explain the different types of data description for data science process.
C211.3	Explain the relationship between data.
C211.4	Explain the python libraries for data wrangling.
C211.5	Describe visualization libraries in python to interpret and explore data



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C210

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3452-THEORY OF COMPUTATION

CO	STATEMENT
C120.1	Describe Automata Theory by using Finite Automata (FA) – Deterministic Finite Automata (DFA) – Non-deterministic Finite Automata. BT2
C210.2	Apply Regular expressions for any pattern BT3
C210.3	Design context free grammar with Derivations with parse trees and Languages Push down Automata with equivalence BT6
C210.4	Design Turing machine for computational functions of CNF, CFG and GNF BT6
C210.5	Explain Undecidable, Tractable, Intractable problems and Kruskal's algorithms BT2

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C211

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3491 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

CO	STATEMENT
C211.1	Apply problem solving through search for AI applications
C211.2	Apply the Bayesian concepts to machine learning problems
C211.3	Understand the concept of Supervised learning models
C211.4	Analyze the strategy for Ensembling and unsupervised learning.
C211.5	Examine the significant features of neural networks



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C212

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3492 DATABASE MANAGEMENT SYSTEMS

CO	STATEMENT
C212.1	Write SQL queries using SQL commands and relational algebra.
C212.2	Design database using E-R model and normalize the database.
C212.3	Summarize transaction concepts, concurrency and recovery techniques.
C212.4	Describe internal storage structures using files, indexing, hashing and query.
C212.5	Comprehend advanced data bases and database security

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C214

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3451 INTRODUCTION TO OPERATING SYSTEMS

CO	CHECK STATEMENT
C214.1	Write the basic UNIX commands, shell programming and system calls.
C214.2	Write C programs to implement various scheduling algorithms, semaphores and inter process communication.
C214.3	Write C program using bankers algorithm for deadlock detection and avoidance.
C214.4	Write C program for the implementation of memory allocation, memory management and page replacement algorithms.
C214.5	Write C program to implement various file organization and allocation strategies.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C213

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3401 ALGORITHMS

CO	STATEMENT
C213.1	Analyze search, sort and string matching algorithms to compute their efficiency.
C213.2	Apply graph algorithms to solve problems and analyze their efficiency.
C213.3	Apply algorithm design techniques like divide and conquer, dynamic programming and greedy techniques to solve problems
C213.4	Apply the state space tree method for solving problems.
C213.5	Solve problems using approximation algorithms and randomized algorithms.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C212

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3481 DATABASE MANAGEMENT SYSTEMS

LABORATORY

CO	STATEMENT
C212.1	Create database table with key constraints using SQL commands.
C212.2	Write database queries using aggregate functions and joins operations.
C212.3	Write user defined functions and stored procedures in SQL and complex transactions using TCL and DCL commands.
C212.4	Write triggers, views, index for database table using SQL.
C212.5	Create XML database, GUI based database application and real life database applications



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C216

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: CS3461 OPERATING SYSTEMS LABORATORY

CO	STATEMENT
C216.1	Write the Linux commands, shell programs, implement system calls and simulate Linux commands, implementation of processes and IPC
C216.2	Write C programs to implement various scheduling algorithms
C216.3	Write C program using Bankers Algorithm for Deadlock detection and Avoidance.
C216.4	Write C program for the implementation of memory allocation, memory management and page replacement algorithms.
C216.5	Write C program to implement various file organization and allocation strategies

COURSE OUTCOMES

REGULATION 2017

COURSE NAME: C215

YEAR OF STUDY: 2022-23

SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: GE3451-Environmental Sciences and Sustainability

CO	CHECK STATEMENT
C215.1	Describe about the Environment, Ecosystem and the importance of biodiversity.
C215.2	Summarize environmental pollution and importance of public participation in Environmental protection.
C215.3	Create awareness on the natural resources and its benefits.
C215.4	Analyze the impact of engineering solution in environmental problem, social issues and need for sustainable development.
C215.5	Analyze the concept of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C302

YEAR OF STUDY: 2023-2024

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: CS3501-Compiler Design

CO	STATEMENT
C302.1	Describe the techniques in Lexical, Syntax, Semantic, Intermediate code generation and Code optimization of a compiler. BT2
C302.2	Design a Lexical analyzer for a sample language and for Error Handling Recovering in Syntax Analyze and YACC
C302.3	Summarize the Syntax Directed Definitions, Syntax tree, Three Address codes types and declarations.
C302.4	Design a simple Code generator with Storage organisation, Stack Allocation. Heap Management and issues in Code generator.
C302.5	Apply the Code Optimization techniques with the basic blocks, DAG and Peep Hole Optimization.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C301

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: CS3591 COMPUTER NETWORKS

CO	STATEMENT
C301.1	Summarize the basic layers and various application layer protocols.
C301.2	Comprehend the transport layer protocols , congestion control and avoidance techniques
C301.3	Describe the switching techniques and various protocols on the network layer
C301.4	Analyse various routing algorithms and protocols
C301.5	Comprehend the data flow in data link layer and physical layer.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C303

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: CB3491 - CRYPTOGRAPHY AND CYBER SECURITY

CO	STATEMENT
C303.1	Summarize the fundamentals of networks security, security Architecture, threats and vulnerabilities.
C303.2	Apply the different cryptographic operations of DES , SDES , AES and RC4 symmetric cryptographic algorithms
C303.3	Apply the different cryptographic operations by using Chinese Remainder Theorem, Euler's totient and Fermat's theorem for RSA algorithm and Key distributions in public key cryptography
C303.4	Apply the various Authentication schemes MAC , HASH , HMAC , CMAC , SHA and Digital Signature to simulate different applications
C303.5	Describe the various Security practices and Stds of Email, IP, PGP , S/MIME and Firewalls

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C313

YEAR OF STUDY: 2023-24

SEMESTER:V

SUBJECT CODE & SUBJECT NAME: CCS375-WEB TECHNOLOGIES

CO	STATEMENT
C313.1	Describe the concept of world wide web and requirements of effective web design.
C313.2	Design dynamic web page with validation using java script and event handling mechanics.
C313.3	Write server side program using servlet and JSP.
C313.4	Create simple web page in PHP and XML.
C313.5	Design interactive web application using angular JS and web services.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C317

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: CCS366-SOFTWARE TESTING AND AUTOMATION

CO	STATEMENT
C317.1	Comprehend the basic concepts of software testing and the need for software testing
C317.2	Comprehend the Test planning and different activities involved in test planning
C317.3	Summarize effective test cases that can uncover critical defects in the application
C317.4	Describe the advanced types of Testing
C317.5	Describe Automate the software testing using Selenium and Testing

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C304

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: CS3551- DISTRIBUTED COMPUTING

CO	STATEMENT
C304.1	Summarize the foundations of distributed systems, design issues and challenges and the need for global state in distributed systems
C304.2	Explain the issues related to clock Synchronization, various message ordering, group communication and snapshots recording algorithms.
C304.3	Describe the distributed mutual exclusion and deadlock detection algorithms.
C304.4	Explain the significance of agreement, fault tolerance and recovery protocols in Distributed Systems.
C304.5	Summarize the fundamentals of cloud computing.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C353

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: CCS356-OBJECT ORIENTED SOFTWARE ENGINEERING

CO	STATEMENT
C353.1	Comprehend various S/W development lifecycle models
C353.2	Apply Project Management approaches as well as cost & Schedule Estimation Strategies.
C353.3	Discuss the concept of Software Design.
C353.4	Summarize Software Testing and Maintenance.
C353.5	Comprehend the concept of Project Management.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C354

YEAR OF STUDY: 2023-2024

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: CS3691-EMBEDDED SYSTEMS AND IOT

CO	STATEMENT
C354.1	Explain the architecture of embedded processors.
C354.2	Explain the architecture of embedded processors.
C354.3	Design simple embedded applications.
C354.4	Compare the communication models in IOT
C354.5	Design IoT applications using Arduino/Raspberry Pi /open platform.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME:C361

YEAR OF STUDY:2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: OMA351 GRAPH THEORY

CO	STATEMENT
C361.1	Apply graph models for solving real world problem.
C361.2	Understand the importance the natural applications of trees and graph connectivity
C361.3	Understand the characterization study of Eulerian graphs and Hamiltonian graphs.
C361.4	Apply the graph colouring concepts in partitioning problems
C361.5	Apply the standard optimization graph algorithms in solving application problems.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C335

YEAR OF STUDY: 2025-2026

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: CCS354-NETWORK SECURITY

CO	STATEMENT
C335.1	Summarize the fundamentals of cryptography and authentication approaches
C335.2	Describe key management and Authentication techniques
C335.3	Comprehend network access control and security attacks
C335.4	Summarize application layer security services
C335.5	Comprehend Intrusion Detection System, Network monitoring tools



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C324: **YEAR OF STUDY:** 2023-24 **SEMESTER:** VI

SUBJECT CODE & SUBJECT NAME: CCS341 DATA WAREHOUSING

CO	STATEMENT
C324.1	Describe the Data warehouse components and architecture.
C324.2	Discuss the types of data warehouse, OLAP, OLTP.
C324.3	Discuss categories of metadata, Data Mart, Partitioning Strategy.
C324.4	Describe the Multi-Dimensional Data Modelling and various schema.
C324.5	Explain the various Data warehousing system managers and process managers.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C321 **YEAR OF STUDY:** 2023-24 **SEMESTER:** VI

SUBJECT CODE & SUBJECT NAME: CCS335-Cloud Computing

CO	STATEMENT
C321.1	Describe the basic concept of Cloud Computing.
C321.2	Comprehend the Cloud Existing Technology.
C321.3	Summarize the various Cloud Architecture.
C321.4	Comprehend the cloud Resource Management and Security.
C321.5	Describe Cloud advanced technologies.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C333

YEAR OF STUDY: 2023-24

SEMESTER:VI

SUBJECT CODE & SUBJECT NAME: CB3591-ENGINEERING SECURE SOFTWARE SYSTEM

CO	STATEMENT
C333.1	Summarize the various vulnerabilities related to memory attacks
C333.2	Explain the security principles in software development
C333.3	Describe the risk management in secure software development
C333.4	Explain the testing techniques related to software security in the testing phase of software development.
C333.5	Summarize the working of tools related to software security.

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C402

YEAR OF STUDY: 2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: GE3751-PRINCIPLES OF MANAGEMENT

CO	STATEMENT
C402.1	Explain the basics of management and organizations.
C402.2	Describe the concept of planning and setting objectives with their types and process.
C402.3	Comprehend the organization types and structure, Human resource management and departmentalization.
C402.4	Summarize the concept of directing with motivational and leadership theories, process of communication and IT.
C402.5	Describe the basics of controlling process & IT management control.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C409

YEAR OF STUDY: 2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: OIE352- RESOURCE MANAGEMENT TECHNIQUES

CO	STATEMENT
C409.1	Apply the basic concepts of operation research techniques for analysis and modelling in computer applications
C409.2	Solve the problems on Transportation and assignment model in computer engineers.
C409.3	Evaluate and formulate Gomory's IPP and mixed integer method for computer science and engineering
C409.4	Solve replacement and sequencing problems in computer engineers.
C409.5	Identify the various queuing models to minimize the time of service in a queuing system

COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C429

YEAR OF STUDY: 2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: OMR351-MECHATRONICS

CO	STATEMENT
C429.1	Explain about the various sensors used to develop mechatronics systems.
C429.2	Explain the architecture and timing diagram of microprocessor, and also interpret and develop programs.
C429.3	Design appropriate interfacing circuits to connect I/O devices with microprocessor.
C429.4	Explain PLC based controllers in mechatronics system.
C429.5	Explain the Actuators used to design mechatronics systems.



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COURSE OUTCOMES

REGULATION 2021

COURSE NAME: C488

YEAR OF STUDY: 2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: OGI352- GEOGRAPHIC INFORMATION SYSTEM

CO	STATEMENT
C488.1	Explain the components and architecture of GIS.
C488.2	Apply spatial analysis techniques to geological problems.
C488.3	Describe the fundamental concepts of spatial topology
C488.4	Evaluate and ensure the accuracy and reliability of field data.
C488.5	Create application of GIS to geological research and projects.