SE Computer Course Outcomes for AY 2021-22 Term I

Course Name	DM	Course Code:210241
Subject Name	CO Number	CO statement
Discrete Mathematics	C201.1	Analyze real world engineering problems by applying set theory, propositional logic and to construct proofs using Mathematical Induction.
	C201.2	Specify, Manipulate and apply equivalence relations; construct and use functions and apply these concepts to solve new problems.
	C201.3	Solve counting problems by applying elementary counting techniques using the product and sum rules, permutations, combinations, the pigeon-hole principle, and binomial expansion
	C201.4	Model and solve computing problems using trees and graphs and solve problems using appropriate algorithms.
	C201.5	Analyze the properties of binary operations, apply abstract algebra in coding theory and evaluate algebraic structures.
Course Name	FDS	Course Code:210242
Subject Name	CO Number	CO statement
Fundamentals of Data Structures	C202.1	Analyze different data structure based on time and space complexity.
	C202.2	Implement a program using sequential Static data structure.
	C202.3	Analyze the different searching and sorting techniques based on computational efficiency of the algorithms.
	C202.4	Implement a program using sequential Dynamic data structure.
	C202.5	Apply principles of data structures-stack in approaching the problem solution.
	C202.6	Apply principles of data structures-Queue in approaching the problem solution.
Course Name	OOP	Course Code: 210243
Subject Name	CO Number	CO statement
Object Oriented Programming	C203.1	Analyze the strengths of object-oriented programming.
	C203.2	Design object-oriented solution for small system involving multiple objects by considering S/W principles.
	C203.3	Develop programming application using object-oriented programming language C++.
	C203.4	Able to understand file handling concept.
	C203.5	Design and apply to use concept of generic programming & exception handling.

	C203.6	Apply construct-sequence, selection and iteration, classes and objects, inheritance, use of predefined classes from libraries while developing software.
Course Name	CG	Course Code:210244
Subject Name	CO Number	CO statement
Computer Graphics	C204.1	Identify the basic terminologies of Computer Graphics and Apply mathematics to develop Computer programs for elementary graphic operations.
	C204.2	Illustrate the concepts of windowing and clipping and Apply various algorithms to fill and clip polygons.
	C204.3	Apply the core concepts of computer graphics, including transformation in two and three dimensions, viewing and projection.
	C204.4	Apply the concepts of color models, lighting, shading models and hidden surface elimination.
	C204.5	Create effective programs using concepts of curves, fractals.
	C204.6	Create effective programs using concepts of animation and gaming.
Course Name: DELD		Course Code : 210245
Subject Name	CO Number	CO statement
Digital Electronics and Logic Design	C205.1	Simplify Boolean Expressions using K Map.
	C205.2	Design and implement combinational circuits and sequential circuits.
	C205.3	Develop simple real-world applications using ASM and PLD.
	C205.4	Differentiate and Choose appropriate logic families IC packages as per the given design specifications.
	C205.5	Explain organization and architecture of computer system
Course Name	Data Structures Laboratory	Course Code 210246
Subject Name	CO Number	CO statement
Data Structures Laboratory	C206.1	Use algorithms on various linear data structure using sequential organization to solve real life problems.
	C206.2	Analyze problems to apply suitable searching and sorting algorithm to various applications.
	C206.3	Analyze problems to use variants of linked list and solve various real-life problems.
	C206.4	Implement stack and queue data structures and algorithms for solving different kinds of problems.
Course Name	OOPL	Course Code: 210247

Subject Name	CO Number	CO statement
Object Oriented Programming and Computer Graphics Laboratory	C207.1	Understand and apply the concepts like class, object, inheritance, polymorphism, exception handling and generic structures for implementing reusable programming codes.
	C207.2	Analyze the concept of file and apply it while storing and retrieving the data from secondary storages.
	C207.3	Analyze and apply computer graphics algorithms for line-circle drawing, scan conversion and filling with the help of object oriented programming concepts.
	C207.4	Understand the concept of windowing and clipping and apply various algorithms to fill and clip polygons.
	C207.5	Apply logic to implement, curves, fractals, animation and gaming programs
Course Name: DELD Lab		Course Code: 210248
Subject Name	CO Number	CO statement
Digital Electronics and Logic Design	C208.1	Design and implement Combinational digital circuits by applying the knowledge to appropriate ICs as per the design specifications.
	C208.2	Design and implement Sequential digital circuits by applying the knowledge to appropriate ICs as per the design specifications.
Course Name	Business Comm.skills	Course Code 210249
Subject Name	CO Number	CO statement
Business Comm.skills	C209.1	Express effectively through verbal/oral communication and improve listening skills
	C209.2	Write precise briefs or reports and technical document
	C209.3	Prepare for group discussion / meetings / interviews and presentations
	C209.4	Explore goal/target setting, self-motivation and practicing creative thinking.
	C209.5	Operate effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership qualities.
Course Name	SE	Course Code 210250
Subject Name	CO Number	CO statement
Humanity and Social Sciences	C210.1	Aware of the various issues concerning humans and society

	C210.2	Aware about their responsibilities towards society
	C210.3	Sensitized about broader issues regarding the social, cultural, economic and human aspects, involved in social changes
	C210.4	Able to understand the nature of the individual and the relationship between self and the community
	C210.5	Able to understand major ideas, values, beliefs, and experiences that have shaped human history and cultures

TE Computer Course Outcomes for AY 2021-22 Term I		
Course Name	DBMS	Course Code : 310241
Subject Name	CO Number	CO statement
Database Management Systems	C301.1	Design Database Management System using ER model
	C301.2	Use SQL and PLSQL for processing structured data
	C301.3	Analyze the database design using normal forms of Normalization
	C301.4	Apply transaction Management in relational database System
	C301.5	Use NoSQL databases for processing unstructured data
	C301.6	Apply emerging advance database concepts.
Course Name	TOC	Course Code:310242
Subject Name	CO Number	CO statement
Theory Of Computation	C302.1	Understand formal language, translation logic, essentials of translation, alphabets, language representation and apply it to design finite automata and its variants.
	C302.2	Construct Regular Expression to present regular language and understand pumping lemma for RE
	C302.3	Design Context Free Grammar and learn to simplify the Context Free Language.
	C302.4	Construct Pushdown Automata Model for the Context Free Language
	C302.5	Devise Turing Machine for the different requirements outlined by theoretical computers science
	C302.6	Analyze different classes of problem and study concepts of NP completeness.

Course Name	SPOS	Course Code:310243
Subject Name	CO Number	CO statement
System programming and operating systems	C303.1	To analyze basic System Software and its functionality.
	C303.2	To design various System Software using suitable data structure
	C303.3	To compare different loading schemes and analyze the performance of linker and loader
	C303.4	To analyze the performance of process scheduling algorithms
	C303.5	To Identify the mechanism to deal with deadlock and concurrency issues
	C303.6	To demonstrate memory organization and memory management policies
Course Name	CNS	Course Code:310244
Subject Name	CO Number	CO statement
Computer Networks and Security	C304.1	Summarize fundamental concepts of Computer Networks, architectures, protocols and technologies
	C304.2	Illustrate the working and functions of data link layer
	C304.3	Analyze the working of different routing protocols and mechanisms
	C304.4	Implement client-server applications using sockets
	C304.5	Illustrate role of application layer with its protocols, client-server architectures
	C304.6	Comprehend the basics of Network Security
Course Name	Human Computer Interface	Course Code:310245(B)
Subject Name	CO Number	CO statement
Human Computer Interface	C305.1	Identify the different capabilities of human and computer, interaction models to design effective interfaces.
	C305.2	Apply and analyze the user-interface with respect to golden rules of interface
	C305.3	Analyze and evaluate the different interaction styles.
	C305.4	Design interactive designs for feasible data search and retrieval.
	C305.5	Analyze the scope of HCI in various paradigms.
	C305.6	Analyze and identify user models, user support, and stakeholder requirements of HCI systems
Course Name	DBMSL	Course Code :310246
Subject Name	CO Number	CO statement

	C306.1	Design E-R Model for given requirements and convert the same into database tables
Database Management Systems Laboratory	C306.2	Design schema in appropriate normal form considering actual requirements
	C306.3	Implement SQL queries for given requirements, using different SQL concepts
	C306.4	Implement PL/SQL Code block for given requirements
	C306.5	Implement NoSQL queries using MongoDB
	C306.6	Design and develop application considering actual requirements and using database concepts
Course Name	CNL	Course Code 310247
Subject Name	CO Number	CO statement
Computer Network Laboratory	C307.1	Analyze the requirements of network types, topology and transmission media
	C307.2	Demonstrate error control, flow control techniques and protocols and analyze them
	C307.3	Survey on Flooding Detection System using Internet of Things Demonstrate the subnet formation with IP allocation mechanism and apply various routing algorithms
	C307.4	Develop Client-Server architectures and prototypes
	C307.5	Implement web applications and services using application layer protocols
	C307.6	Use network security services and mechanisms
Course Name	LP-1	Course Code:310248
Subject Name	CO Number	CO statement
LP-1	C308.1	To design various System Software using suitable data structure
	C308.2	To implement scheduling policies and memory management concepts of operating system
	C308.3	Apply the principles of HCI to design interactive user interface.
	C308.4	Apply and analyze GOMS model for suitable application.
Course Name	STC	Course Code 310249
Subject Name	CO Number	CO statement
Seminar and Technical Communication	C309.1	Analyze a latest topic of professional interest
	C309.2	Enhance technical writing skills
	C309.3	Identify an engineering problem, analyze it and propose a work plan to solve it

C309.4	Communicate with professional technical presentation skill

BE Computer Course Outcomes for AY 2021-22 Term I		
Course Name	HPC	Course Code : 410241
Subject Name	CO Number	CO statement
High Performance Computing	C401.1	Design the Different parallel architectures, inter-connect networks and programming models.
	C401.2	Develop an Efficient parallel algorithm to solve given problem.
	C401.3	To Analyze and measure performance of modern parallel computing systems.
	C401.4	To Build the logic to parallelize the programming task.
Course Name	AI&R	Course Code:410242
Subject Name	CO Number	CO statement
Artificial Intelligence & Robotics	C402.1	To identify and apply suitable intelligent agents for various AI applications
	C402.2	To design smart system using different informed search / uninformed search or heuristic approaches.
	C402.3	To identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.
	C402.4	To apply the suitable algorithms to solve AI and Robotics problems .
Course Name	DA	Course Code : 410243
Subject Name	CO Number	CO statement
Data Analytics	C403.1	Acquire fundamental knowledge about data analytics.
	C403.2	Apply statistical methods for evaluation of data
	C403.3	Apply advance analytical methods for evaluation of data
	C403.4	Apply Decision tree and Naïve Bayes algorithm for classification of data
	C403.5	Design Graphical interpretation of data

	C403.6	Design problem solutions for multi-core or distributed, concurrent/Parallel environments
Course Name	DMW	Course Code:410244(D)
Subject Name	CO Number	CO statement
Data Mining & Warehousing	C404D.1	Apply Data Warehouse fundamentals, Data Mining Principles
	C404D.2	Apply basic, intermediate and advanced techniques to mine the data
	C404D.3	Analyze the output generated by the process of Measuring Data Similarity and Dissimilarity in data mining
	C404D.4	Explore the hidden patterns by different association rule mining in the data
	C404D.5	Explore data mining techniques like classification
	C404D.6	Optimize the mining process by choosing best data mining technique
Course Name	STQA	Course Code :410245(B)
Subject Name	CO Number	CO statement
Software Testing and Quality Assurance	C405B.1	Describe fundamental concepts in software testing such as manual testing, automation testing and software quality assurance.
	C405B.2	Design and develop project test plan, design test cases, test data, and conduct test operations.
	C405B.3	Apply recent automation tool for various software testing for testing software.
	C405B.4	Apply Selenium automation tool for testing web applications.
	C405B.5	Apply different approaches of quality management, assurance, and quality standard to software system.
	C405B.6	Apply and analyze effectiveness Software Quality Tools.
Course Name	LP-I	Course Code:410246
Subject Name	CO Number	CO statement
Lab Practice I	C406.1	Design and Develop different parallel algorithms using different platforms.
	C406.2	Apply different informed search /uniformed search or heuristic approaches and Design Smart systems
	C406.3	Design Applications for Business Analytic and Intelligence.
Course Name	LP- II	Course Code:410247

Subject Name	CO Number	CO statement
Lab Practice II	C407.1	Design schemas and Extract data from different data sources, apply suitable transformations and load into destination tables using rapidminer
	C407.2	Apply different clustering techniques and Visualize the clusters using Rapidminer
	C407.3	Apply a-priori algorithm to find frequently occurring items from given data and generate strong association rules using support and confidence thresholds using Rapidminer
	C407.4	Classify documents using Rapidminer by Removing stop words, applying stemming and feature selection techniques
	C407.5	Do miniproject on classification by using preprocessing steps build classifier models, analyze the confusion matrix and compare these models.
	C407.6	Design and develop project test plan, design test cases, test data, and conduct test operations ,also apply and analyze effectiveness software quality tools
Course Name	Project Stage 1	Course Code:410248
Subject Name	CO Number	CO statement
Project Stage 1	C408.1	Solve real life problem by applying knowledge and skills keeping eye on current technologies and inculcating the practice of lifelong learning
	C408.2	Analyze alternative approaches, apply and use most appropriate one for feasible solution exhibiting project management skills.
	C408.3	Demonstrate effective communication at various levels and write precise reports and technical documents in a nutshell.
	C408.4	Participate effectively in multi-disciplinary and heterogenous teams exhibiting team work,inter-personal relationships, conflict management and leadership quality
	C408.5	Provide solution to problems considering social, safety, environmental, ethical and legal issues.