DEPARTMENT OF COMPUTER SCIENCE AND DESIGN

Course Outcomes

Regulation R23

Year/Sem: II B.Tech I Sem

Course Name: DISCRETE MATHEMATICS AND GRAPH THEORY	
Course Code :CSD2101	
CSD2101.1	Build skills in solving mathematical problems (L3)
CSD2101.2	Comprehend mathematical principles and logic (L4)
CSD2101.3	Demonstrate knowledge of mathematical modeling and proficiency in using mathematical software (L6)
CSD2101.4	Manipulate and analyze data numerically and/or graphicallysing appropriate Software (L3)
CSD2101.5	How to communicate effectively mathematical ideas/results verbally or in writing (L1)

Course Name: Universal human values – understanding harmony and Ethical human conduct	
Course Code: CSD2102	
CSD2102.1	Define the terms like Natural Acceptance, Happiness and Prosperity (L1, L2)
CSD2102.2	Identify one's self, and one's surroundings (family, society nature) (L1, L2)
CSD2102.3	Apply what they have learnt to their own self in different day-to-day settings in real life (L3)
CSD2102.4	Relate human values with human relationship and human society. (L4)
CSD2102.5	Justify the need for universal human values and harmonious existence (L5)
CSD2102.6	Develop as socially and ecologically responsible engineers (L3, L6)

Course Name: Digital Logic &Computer Organization	
Course Code: CSD2103	
CSD2103.1	provide students with a comprehensive understanding of digital logic design principles and computer organization fundamentals
CSD2103.2	Describe memory hierarchy concepts
CSD2103.3	Explain input/output (I/O) systems and their interaction with the CPU.
CSD2103.4	Explain input/output (I/O) systems and their interaction with the memory.
CSD2103.5	Explain input/output (I/O) systems and their interaction with peripheral

	devices

Course Name: **Advanced Data Structures & Algorithm Analysis**	
Course Code: CSD2104	
CSD2104.1	provide knowledge on advance data structures frequently used in Computer Science domain
CSD2104.2	provide knowledge on advance data structures like Min and Max Heaps
CSD2104.3	Clique Decision Problem (CDP), Chromatic Number Decision Problem (CNDP), Traveling Salesperson Decision Problem (TSP)
CSD2104.4	Develop skills in algorithm design techniques popularly used
CSD2104.5	Understand the use of various data structures in the algorithm design

Course Name: **Object Oriented Programming Through Java**	
Course Code: CSD2105	
CSD2105.1	identify Java language components and how they work together in applications
CSD2105.2	Learn the fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries.
CSD2105.3	learn how to extend Java classes with inheritance and dynamic binding and how to use exception handling in Java applications
CSD2105.4	understand how to design applications with threads in Java
CSD2105.5	understand how to use Java APIs for program development

Course Name: **Advanced Data Structures and Algorithm Analysis Lab**	
Course Code: CSD2106	
CSD2106.1	acquire practical skills in constructing and managing Data structures
CSD2106.2	apply the popular algorithm design methods in problem-solving scenarios
CSD2106.3	Operations on AVL trees, B-Trees, Heap Trees
CSD2106.4	Graph Traversals, Sorting techniques
CSD2106.5	Minimum cost spanning trees,Shortest path algorithms

Course Name: **Object Oriented Programming Through Java Lab**	
Course Code: CSD2107	
CSD2107.1	Practice object oriented programming in the Java programming language
CSD2107.2	Implement Classes, Objects, Methods, Inheritance, Exception, Runtime Polymorphism, User defined Exception handling mechanism
CSD2107.3	Illustrate inheritance, Exception handling mechanism, JDBC connectivity
CSD2107.4	Construct Threads, Event Handling, implement packages, Java FX GUI
CSD2107.5	JDBC connectivity

Course Name: **Python Programming**	
Course Code: CSD2108	
CSD2108.1	Introduce core programming concepts of Python programming language.
CSD2108.2	Demonstrate about Python data structures like Lists, Tuples.
CSD2108.3	Demonstrate about Python data structures like Sets and dictionaries,
CSD2108.4	Implement Functions, and to create practical and contemporary applications using these.
CSD2108.5	Modules and Regular Expressions in Python Programming

Course Name: **Environmental Science**	
Course Code: CSD2109	
CSD2109.1	Grasp multidisciplinary nature of environmental studies and various renewable and non-renewable resources.
CSD2109.2	Understand flow and bio-geo-chemical cycles and ecological pyramids.
CSD2109.3	Understand various causes of pollution and solid waste management and related preventive measures.
CSD2109.4	About the rainwater harvesting, watershed management, ozone layer depletion and waste landreclamation.
CSD2109.5	Casus of population explosion, value education and welfare programmes

DEPARTMENT OF COMPUTER SCIENCE AND DESIGN

Course Outcomes

Regulation R20

Year/Sem: III B.Tech I Sem

Course Name: Compiler Design	
Course Code :CSD3101	
CSD3101.1	Demonstrate phases in the design of compiler
CSD3101.2	Organize Syntax Analysis, Top Down and LL(1) grammars
CSD3101.3	Design Bottom Up Parsing
CSD3101.4	Construction of LR parsers
CSD3101.5	Analyze synthesized, inherited attributes and syntax directed translation schemes
CSD3101.6	Determine algorithms to generate code for a target machine

Course Name: Operating Systems	
Course Code: CSD3102	
CSD2101.1	Describe various generations of Operating System and functions of Operating System
CSD3201.2	Describe the concept of program, process and thread and analyze various CPU Scheduling algorithms
CSD3201.3	Solve Inter Process Communication problems using Mathematical Equations by various methods.
CSD3201.4	Compare various Memory Management Schemes especially paging and Segmentation in
CSD3201.5	Outline File Systems in Operating System like UNIX/Linux and Windows

Course Name: Human Computer Interaction	
Course Code: CSD3103	
CSD3103.1	Analyze Human-Computer Interaction principle and designs in Information Systems.
CSD3103.2	Compare various HCI designs to gain knowledge on user-centric interfaces.
CSD3103.3	Evaluate the Internet sites considering; usability and user appreciation designs.
CSD3103.4	Construct conceptual basis to design HCI that includes: problems, goals, user interaction style,• as well as user-centric interface design.
CSD3103.5	Apply Information Systems tools to prototype the end-user design
CSD3103.6	Develop end-user interfaces incorporating problem solving solutions in HCI.

Course Name: **RENEWABLE ENERGY SOURCES**	
Course Code: CSD3104	
CSD3104.1	Analyze solar radiation data, extra-terrestrial radiation, radiation on earth's surface and solar Energy Storage.
CSD3104.2	Illustrate the components of wind energy systems.
CSD3104.3	Illustrate the working of biomass plants.
CSD3104.4	Illustrate the working of Geothermal plants.
CSD3104.5	Demonstrate the principle of Energy production from OTEC, Tidal and Waves.
CSD3104.6	Evaluate the concept and working of Fuel cells & MHD power generation.

Course Name: Software Engineering	
Course Code: CSD3105	
CSD3105.1	Ability to transform an Object-Oriented Design into high quality, executable code.
CSD3105.2	Skills to design, implement, and execute test cases at the Unit and Integration level.
CSD3105.3	Prepare SRS document, design document, test cases and software configuration management and risk management related document.
CSD3105.4	Develop function oriented and object oriented software design using tools like rational rose.
CSD3105.5	Use modern engineering tools necessary for software project management, estimations, time management and software reuse.
CSD3105.6	Generate test cases for software testing.

Course Name: Operating Systems & Compiler Design Lab	
Course Code: CSD3106	
CSD3106.1	Implement various scheduling, page replacement algorithms and algorithms related to deadlocks
CSD3106.2	Design programs for shared memory management and semaphores.
CSD3106.3	Determine predictive parsing table for a CFG .
CSD3106.4	Apply Lex tools.
CSD3106.5	Apply Yacc tools.
CSD3106.6	Examine LR parser and generating SLR Parsing table
Course Name: Human Computer Interaction Lab	
Course Code: CSD3107	
CSE3107.1	Develop UX designs
CSD3107.2	Test on mobile phones
CSD3107.3	Type Color and Icons in XD Frames
CSD3107.4	Add Strokes & copy & paste appearance in AdobeXD
CSD3107.5	Display your design on XDApp on iPhone & Android
CSD3107.6	Add auto-animations in AdobeXD

Course Name: SOC-Animation Design	
Course Code: CSD3108	
CSD3108.1	learn various tools of digital 2-D animation
CSD3108.2	understand production pipeline to create 2-D animation.
CSD3108.3	apply the tools to create 2D animation for films and videos
CSD3108.4	apply the tools to create videos
CSD3108.5	understand different styles and treatment of content in 3D model creation
CSD3108.6	apply tools to create effective 3D modelling texturing and lighting

Course Name: Employability Skills-I	
Course Code: CSD3109	
CSD3109.1	Be composed with positive attitude,, develop verbal and non verbal communication.
CSD3109.2	Understand the corporate etiquette. Lean to manage anger, stress and time.
CSD3109.3	Make presentation effectively with appropriate body language.
CSD3109.4	To develop good documentation and correspondence, Verbal ability
CSD3109.5	Understand the core competencies to succeed in professional and personal life through group discussions.
CSD3109.6	Understand the core competencies to succeed in professional and personal life , resume preparation, mock interviews

Year/Sem: IV B.Tech I Sem

Course Name: BLOCK CHAIN TECHNOLOGIES	
Course Code :CSD4101	
CSD4101.1	Demonstrate the block chain basics, Crypto currency
CSD4101.2	To compare and contrast the use of different private vs. public block chain and use cases
CSD4101.3	Design an innovative Bit coin Block chain and scripts, Block chain Science on varies coins
CSD4101.4	Classify Permission Block chain and use cases – Hyper ledger, Corda
CSD4101.5	Make Use of Block-chain in E-Governance.
CSD4101.6	Land Registration, Medical Information Systems and others

Course Name: CLOUD COMPUTING	
Course Code: CSD4102	
CSD4102.1	Illustrate the key dimensions of the challenge of Cloud Computing
CSD4102.2	Classify the Levels of Virtualization and mechanism of tools.
CSD4102.3	Analyze Cloud infrastructure including Google Cloud and Amazon Cloud.
CSD4102.4	Create Combinatorial Auctions for cloud resource and design scheduling algorithms for computing cloud

CSD4102.5	Assess control storage systems and cloud security.
CSD4102.6	The risks involved its impact and develop cloud application

Course Name: SOCIAL NETWORK ANALYSIS	
Course Code: CSD4103	
CSD4103.1	Know basic notation and terminology used in network science
CSD4103.2	Be able to visualize, summarize and compare networks
CSD4103.3	Illustrate basic principles behind network analysis algorithms
CSD4103.4	Develop practical skills of network analysis in R programming language
CSD4103.5	Be capable of analyzing realworld networks
CSD4103.6	Develop practical skills of R programming language

Course Name: **INTERNET OF THINGS**	
Course Code: CSD4104	
CSD4104.1	Understand internet of Things and its hardware.
CSD4104.2	Interface I/O devices,
CSD4104.3	Remotely monitor data and control devices
CSD4104.4	Design real time IoT based applications
CSD4104.5	Understand internet of Things and its software components.
CSD4104.6	sensors & communication modules

Course Name: **DATA COMMUNICATIONS**	
Course Code: CSD4105	
CSD4105.1	Know the Categories and functions of various Data communication Networks
CSD4105.2	Design various error detection techniques
CSD4105.3	analyze various error detection techniques
CSD4105.4	Demonstrate the mechanism of routing the data in network layer.
CSD4105.5	Know the significance of various Flow control.
CSD4105.6	Know the significance of various Congestion control Mechanisms.

Course Name: **Universal Human Values 2: Understanding Harmony**	
Course Code: **CSD4106**	
CSD4106.1	By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature)
CSD4106.2	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
CSD4106.3	They would have better critical ability. They would also become sensitive to their

	commitment towards
CSD4106.4	They have understood (human values, human relationship and human society).
CSD4106.5	It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.
CSD4106.6	This is only an introductory foundational input. It would be desirable to follow it up by a) faculty-student or mentor-mentee programs throughout their time with the institution b) Higher level courses on human values in every aspect of living. E.g. as a professional

Course Name: **MEAN STACK TECHNOLOGIES-MODULE II- ANGULAR JS, MONGODB**
Course Code: **CSD4107**

CSD4107.1L	Build a component-based application using Angular components and enhance their functionality using directives.
CSD4107.2L	Utilize data binding for developing Angular forms and bind them with model data.
CSD4107.3L	Apply Angular built-in or custom pipes to format the rendered data.
CSD4107.4L	Develop a single page application by using synchronous or asynchronous Angular routing.
CSD4107.5L	Make use of MongoDB queries to perform CRUD operations on document database.