SIR C R REDDY COLLEGE OF ENGINEERING

DEPARTMENT OF INFORMATION TECHNOLOGY

Course Outcomes

II YEAR 1st SEMESTER

Subject: Data Structures (CSE 2.1.1)

Course Outcomes:

1. Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithm.

2. Demonstrate different methods for traversing trees.

3. Compare alternative implementations of data structures with respect to performance.

4. Discuss the computational efficiency of the principal algorithms for sorting and searching.

Subject: Elements of Electrical Engineering (CSE 2.1.2)

Course Outcomes:

1. Design simple combinational and sequential circuits.

2. Analyze the given RC and RL circuits.

3. Design simple Diode circuits like rectifiers and clipping circuits.

4. Design circuits using ideal opamp to perform mathematical operations on analog signals.

5. Appreciate the importance of some of the analog systems such as ADC, DAC.

Subject: Discrete Mathematical Structures (CSE 2.1.3)

Course Outcomes:

1. Rewrite mathematical arguments using logical connectives and quantifiers and verify the validity of logical flow of arguments using propositional, predicate logic.

2. Identify and give examples of various types of relations and describe various properties of the relations.

3. Ability to solve problems using permutations and combinations.

4. Determine isomorphism of graphs and spanning tree of a given graph using BFS/DFS algorithms. Also determine minimal spanning tree of a given graph.

Subject: Object Oriented Programming (CSE 2.1.4)

Course Outcomes:

1. Students will be able to handle I/O streams and Run time errors.

2. Students will be able to construct applications and Identify where data structures are appearing in them.

Subject: System Programming (IT 2.1.5)

Course Outcomes:

1. Able to understand the concept of system programming and able to write the programs in low level language and convert that program to machine code.

2. Able to study the design issues of assembler with flowcharts.

3. Able to understand and study the design issues of macros with flowcharts.

4. Able to study loaders with the help of flow charts and understand the concepts of all system tools along with their internal working.

Subject: Digital Logic Design (CSE 2.1.6)

Course Outcomes:

1. Able to understand Binary Systems, Boolean Functions, Logic Gates, Combinational Circuits, Sequential Circuits and different types of memories.

2. Able to apply number systems, Boolean functions and logic gates for the design of digital circuits.

3. Able to analyze different logic circuits (like combinational and sequential circuits).

4. Able to design different combinational and sequential circuits.

II YEAR 2nd SEMESTER

Subject: Operating Systems (CSE 2.2.1)

Course Outcomes:

1. The student understands OS evolution, its structure and services provided by it.

2. Learn process life cycle, process scheduling objectives, policies and mechanisms, process synchronization, inter process communication, deadlocks and other process subsystem related concepts.

3. Learn memory hierarchy, allocation and deallocation policies and mechanism for main and auxiliary memory; file system design and implementation issues.

4. Investigate UNIX/ LINUX and Windows OS platforms w.r.t similarities and differences in design philosophies.

Subject: Computer Organization (CSE 2.2.2)

Course Outcomes:

1. Knowledge about major components of a computer such as processor, memory and I/O modules along with their interconnections internally with outside world.

2. Detailed idea about architecture of central processing unit, functions of control unit, memory, I/O devices and their issues.

3. Simple and multiple processor organization and their issues.

Subject: Microprocessors (CSE 2.2.3)

Course Outcomes:

1. Understand the basic architectures of 8085 and 8086 microprocessors.

2. Ability to write ALP programs using instruction sets.

3. Understand the various interfacing concepts and micro controllers.

Subject: Data Communications (CSE 2.2.4)

Course Outcomes:

1. Student will able to understand basic concepts related communication systems.

2. Ability to understand different transmission medias.

3. Ability to understand concepts related to data communication hardware.

4. Ability to understand basic functionality of modems.

Subject: Internet Concepts & Java Programming (IT 2.2.5)

Course Outcomes:

1. Understand how object-oriented concepts are incorporated into the Java programming language.

2. Applies named structures, classes, interfaces, Exceptions, packages and various modifiers in java.

3. Examine problem-solving and programming skills using java.

4. Build efficient Java applets, event driven programming and Become familiar with the network programming using java.

Subject: Operations Research (CSE 2.2.6)

Course Outcomes:

1. Ability to solve LPP problems using various methods.

2. Ability to solve transportation and assignment problems using several methods.

3. Analyze the PERT and CPM charts.

4. Ability to solve replacement problems and game theory problems.

Subject: Environmental Studies (CSE 2.2.7)

Course Outcomes:

1. Recognize major concepts in environmental sciences and demonstrate in-depth understanding of the environment.

2. Develop analytical skills, critical thinking, and demonstrate problem-solving skills using scientific techniques.

3. Demonstrate the knowledge and training for entering graduate or professional schools, or the job market.

III YEAR 1st SEMESTER

Subject: Computer Networks (CSE 3.1.1)

Course Outcomes:

1. The student must be able to understand the design and estimate the requirements for practical setup of a given network scenario and size.

2. Realize the Operation, maintenance and management of the Internet by mapping the theoretical networking concepts to the real-time network scenarios.

3. Demonstrate the applications of wireless Networks and over view of advanced networking concepts.

4. Identify different networking devices and their usage and functionality.

Subject: Web Technologies (CSE 3.1.3)

Course Outcomes:

1. Students will be able to construct web based applications and Identify where data structures are appearing in them.

2. Students will be able to connect java programs to different databases.

3. Students will be able to develop EJB programs.

Subject: Formal Languages & Automata Theory (CSE 3.1.4)

Course Outcomes:

 1. Ability to think analytically and intuitively for problem-solving situations in related areas of theory in computer science.

 2. Ability to describe the language accepted by an automata or generated by a regular expression or a context-free grammar.

 3. Ability to Understand the functioning of Finite-State Machines, Deterministic FiniteState Automata, Nondeterministic Finite-State Automata and Pushdown Automata and Turing Machines

Subject: Database Management Systems (CSE 3.1.5)

Course Outcomes:

 1. The student will understand ER-modeling for conceptual database design and relational model.

 2. The student is introduced to formal and commercial query languages : Relational Algebra, calculus and SQL.

3. The student will learn schema refinement and normalization. 4. The Student understands locking protocols concurrency control, and crash recovery methods.

Subject: Computer Graphics & Multimedia – Elective I (IT 3.1.6)

Course Outcomes:

 1. Students will have an appreciation of the history and evolution of computer graphics, both hardware and software.

 2. Students will have an understanding of 2D graphics and algorithms including: line drawing, polygon filling, clipping, and transformations.

 3. Students will understand the concepts of and techniques used in 3D computer graphics, including viewing transformations, hierarchical modeling, color, lighting and texture mapping.

 4. Students will be able to use a current graphics API (OpenGL).

Subject: Data Warehousing & Data Mining (CSE 3.2.1)

Course Outcomes:

1. The student understands the differences between OLTP and OLAP.

2. The student learns how data cube technology supports summarization and querying high dimensional data.

3. The student is introduced to similarity, distance, information gain and other performance and error metrics used for evaluation of mining results.

4. The student is introduced to various approaches to association rule mining, supervised and unsupervised learning and the corresponding classification and clustering approaches involving decision trees, Bayesian approaches, model based and agglomerative approaches.

Subject: Object Oriented Software Engineering (CSE 3.2.2)

Course Outcomes:

1. Ability to define a problem and perform Requirements Engineering.

2. Ability to draw UML diagrams for the requirements gathered.

3. Ability to implement the designed problem in Object Oriented Programming Language.

4. Test whether all the requirements specified have been achieved or not.

Subject: Design & Analysis of Algorithms (CSE 3.2.4)

Course Outcomes:

1. Students will be able to justify the correctness of algorithms using inductive proofs and invariants.

2. Analyze worst-case running times of algorithms using asymptotic analysis.

3. Describe various paradigms of design use them appropriately when an algorithmic design situation calls for it.

4. Students will be able to compare between different data structures. Pick an appropriate data structure for a design situation.

Subject: E-Commerce – Elective II (IT 3.2.5)

Course Outcomes:

1. Understand the fundamental concepts of Electronic commerce environment and modes.

2. Identify the approaches and authenticate methods for safe E-Commerce.

3. Apply secure E-mail technologies for E-Commerce.

4. Use the key aspects of Internet Resources for Commerce, internet Access.

Subject: Compiler Design (CSE 3.2.6)

Course Outcomes:

1. Ability to design & conduct experiments for Intermediate Code Generation in compiler.

2. Ability to learn the new code optimization techniques to improve the performance of a program in terms of speed & space.

3. Ability to acquire the knowledge of modern compiler & its features.

Subject: Cryptography & Network Security (CSE 3.2.7)

Course Outcomes:

1. Realize the need and importance of network and data security in the Internet and in the distributed environments.

2. Identify the different types of network security issues and their remedies.

3. Application various cryptographic tools and techniques in different contexts and as per need of security levels.

4. Implementation of some Internet security protocols and standards.

IV YEAR 1ˢᵗ SEMESTER

Subject: Embedded Systems (CSE 4.1.1)

Course Outcomes:

1. Student will understand the basic architecture of 8051 micro controller.

2. Ability to write ALP programs using 8051 instruction set.

3. Ability to understand the concepts related to RTOS and its Inter Task Communication methods.

4. Ability to understand various design issues of RTOS.

5. Understand about embedded software development tools.

Subject: Artificial Intelligence – Elective III (IT 4.1.3)

Course Outcomes:

1. The Student understands AI problem characteristics, state space approach for solving AI problem, Production System framework.

2. The student learns several optimal search strategies and the use of heuristics.

3. The student learns relational, inferential, inheritable and procedural knowledge and the corresponding knowledge representation approaches.

4. The student is introduced to applying AI problem solving approaches to natural language processing, planning and expert systems.

Subject: Principles of Economic & Management (CSE 4.1.4)

Course Outcomes:

1. Understand the links between production costs and the economic models of supply.

2. Represent supply, in graphical form, including the upward slope of the supply curve and what shifts the supply curve.

3. Understand the efficiency and equity implications of market interference, including government policy.

4. Understand how different degrees of competition in a market affect pricing and output.

5. Apply economic reasoning to individual and firm behavior.

Subject: Bigdata Analytics (CSE 4.1.6)

Course Outcomes:

1. Gain conceptual understanding of analytics concepts, algorithms and statistical tests.

2. Students will be able to look at the core projects used for both batch and real time data processing such as Hadoop.

3. Students will be able to look at wider range of problems and data science based solutions.

IV YEAR 2nd SEMESTER

Subject: Project/Thesis Work (IT 4.2.1)