

Department of Information Technology
Course Outcomes [CO'S]

SUBJECT/CODE: DISCRETE STRUCTURES [214441]

1. Use set, relation and function to formulate a problem and solve it.
2. Use graph theory and trees to formulate the problems and solve them.
3. Use mathematical propositions and proof techniques to check the truthfulness of a real life situation.

SUBJECT/CODE: COMPUTER ORGANIZATION & ARCHITECTURE [214442]

1. Solve problems based on computer arithmetic.
2. Explain processor structure & its functions.
3. Obtain knowledge about micro-programming of a processor.
4. Understand concepts related to memory & IO organization.
5. Acquire knowledge about instruction level parallelism & parallel organization of multi-processors & multi core systems.

SUBJECT/CODE: DIGITAL ELECTRONICS AND LOGIC DESIGN [214443]

1. Spectacle an awareness and apply knowledge of number systems, codes, Boolean algebra and use necessary A.C, D.C Loading characteristics as well as functioning while designing with logic gates.
2. Use logic function representation for simplification with K-Maps and analyze as well as design Combinational logic circuits using SSI & MSI chips.
3. Analyze Sequential circuits like Flip-Flops (Truth Table, Excitation table), their conversion & design the applications.
4. Identify the Digital Circuits, Input/Outputs to replace by FPGA.

5. Use VHDL programming technique with different modeling styles for any digital circuits.

SUBJECT/CODE: FUNDAMENTAL OF DATA STRUCTURES [214444]

1. Apply appropriate constructs of C language, coding standards for application development.
2. Use dynamic memory allocation concepts and file handling in various application developments.
3. Perform basic analysis of algorithms with respect to time and space complexity.
4. Select appropriate searching and/or sorting techniques in the application development.
5. Select and use appropriate data structures for problem solving and programming.
6. Use algorithmic foundations for solving problems and programming.

SUBJECT/CODE: PROBLEM SOLVING AND OBJECT ORIENTED PROGRAMMING [214445]

1. Develop algorithms for solving problems by using modular programming concepts.
2. Abstract data and entities from the problem domain, build object models and design software solutions using object-oriented principles and strategies.
3. Discover, explore and apply tools and best practices in object-oriented programming.
4. Develop programs that appropriately utilize key object-oriented concepts.

SUBJECT/CODE: DIGITAL LABORATORY [214446]

1. Spectacle an awareness and apply knowledge and concepts and methods of digital system design techniques as hands-on experiments with the use of necessary A.C, D.C Loading characteristics.
2. Use logic function representation for simplification with K-Maps and analyze as well as design
3. Combinational logic circuits using SSI & MSI chips.
4. Analyze Sequential circuits like Flip-Flops (Truth Table, Excitation table) & design the applications like Asynchronous and Synchronous Counters.

5. Design Sequential Logic circuits: Sequence generators, MOD counters with registers/Counters using synchronous /asynchronous counters.
6. Understand the need of skills, techniques and learn state-of-the-art engineering tools through hands-on experimentation on the Xilinx tools for design as well as the basics of VHDL.
7. Understand and implement the design Steps, main programming technique with different modeling styles for any digital circuits with VHDL Programming.

SUBJECT/CODE: PROGRAMMING LABORATORY [214447]

1. Apply appropriate constructs of C language, coding standards for application development.
2. Use dynamic memory allocation concepts and file handling in various application developments.
3. Perform basic analysis of algorithms with respect to time and space complexity.
4. Select appropriate searching and/or sorting techniques in the application development.
5. Select and use appropriate data structures for problem solving and programming.
6. Use algorithmic foundations for solving problems and programming.

SUBJECT/CODE: OBJECT ORIENTED PROGRAMMING LABORATORY [214448]

1. Develop and implement algorithms for solving simple problems using modular programming concept.
2. Abstract data and entities from the problem domain, build object models and design software solutions using object-oriented principles and strategies.
3. Discover, explore and apply tools and best practices in object-oriented programming.
4. Develop programs that appropriately utilize key object-oriented concepts
5. Create a data base using files

SUBJECT/CODE: COMMUNICATION SKILLS [214449]

1. Provides an ability to understand, analyze and interpret the essentiality of grammar and its proper usage.

2. Build the students' vocabulary by means of communication via web, direct Communication and indirect communication.
3. Improves Students' Pronunciation skills and understanding between various phonetic sounds during communication.
4. Understanding the various rules and means of written communication.
5. Effective communication with active listening, facing problems while communication and how to overcome it.

SUBJECT/CODE: ENGINEERING MATHEMATICS – III [207003]

1. Linear differential equations of higher order applicable to Control systems, Computer vision, and Robotics.
2. Transform techniques such as Fourier transform, Z-transform and applications to Image processing.
3. Statistical methods such as correlation, regression analysis and probability theory to analyze data and to make predictions applicable to machine intelligence.
4. Vector calculus necessary to analyze and design complex electrical and electronic devices as appropriate to Computer engineering.
5. Complex functions, conformal mappings and contour integration applicable to Image processing,
6. Digital filters and Computer graphics.

SUBJECT/CODE: COMPUTER GRAPHICS [214450]

1. Apply mathematics and logic to develop Computer programs for elementary graphic operations.
2. Develop scientific and strategic approach to solve complex problems in the domain of Computer Graphics.
3. Develop the competency to understand the concepts related to Computer Vision and Virtual reality.

4. Apply the logic to develop animation and gaming programs.

SUBJECT/CODE: PROCESSOR ARCHITECTURE AND INTERFACING [214451]

1. Learn architectural details of 80386 microprocessor.
2. Understand memory management and multitasking of 80386 microprocessor.
3. Understand architecture and memory organization of 8051 microcontroller.
4. Explain timers and interrupts of 8051 microcontroller and its interfacing with I/O devices.

SUBJECT/CODE: DATA STRUCTURES AND FILES [214452]

1. Analyze algorithms and to determine algorithm correctness and time efficiency class.
2. Understand different advanced abstract data type (ADT) and data structures and their implementations.
3. Understand different algorithm design techniques (brute -force, divide and conquer, greedy, etc.) and their implementation
4. Apply and implement learned algorithm design techniques and data structures to solve problems.

SUBJECT/CODE: FOUNDATIONS OF COMMUNICATION AND COMPUTER NETWORK [214453]

1. Understand data/signal transmission over communication media.
2. Recognize usage of various modulation techniques in communication.
3. Analyze various spread spectrum and multiplexing techniques.
4. Use concepts of data communication to solve various related problems.
5. Understand error correction and detection techniques.
6. Acquaint with transmission media and their standards.

SUBJECT/CODE: PROCESSOR INTERFACING LABORATORY [214454]

1. Learn and apply concepts related to assembly language programming.
2. Write and execute assembly language program to perform array addition, code conversion, block transfer, sorting and string operations.
3. Learn and apply interfacing of real world input and output devices to 8051 microcontroller.

**SUBJECT/CODE: DATA STRUCTURE AND FILES LABORATORY
[214455]**

1. Apply and implement algorithm to illustrate use of linear data structures such as stack, queue.
2. Apply and implement algorithms to create/represent and traverse non-linear data structures such as trees, graphs etc.
3. Apply and implement algorithms to create and manipulate database using different file organizations.
4. Learn and apply the concept of hashing in database creation and manipulation.

SUBJECT/CODE: COMPUTER GRAPHICS LABORATORY [214456]

1. Apply and implement line drawing and circle drawing algorithms to draw specific shape given in the problem.
2. Apply and implement polygon filling algorithm for a given polygon.
3. Apply and implement 2-D and 3-D transformation algorithms for given input shape.
4. Apply and implement polygon clipping algorithm for given input polygon.
5. Apply and implement fractal generation algorithm for a given input.
6. Apply and implement animation concepts for generating simple animation without using any animation tool.