

Department of Computer Engineering

CLASS: SECOND YEAR

SUBJECT/CODE: DISCRETE MATHEMATICS [210241]

1. Solve real world problems logically using appropriate set, function, and relation models and interpret the associated operations and terminologies in context.
2. Analyse and synthesize the real world problems using discrete mathematics

SUBJECT/CODE: DIGITAL ELECTRONICS & LOGIC DESIGN [210242]

1. Realize and simplify Boolean Algebraic assignments for designing digital circuits using K-Maps.
2. Design and implement Sequential and Combinational digital circuits as per the specifications.
3. Apply the knowledge to appropriate IC as per the design specifications.
4. Design simple digital systems using VHDL.
5. Develop simple embedded system for simple real world application.

SUBJECT/CODE: DATA STRUCTURES AND ALGORITHMS [210243]

1. To discriminate the usage of various structures in approaching the problem solution.
2. To design the algorithms to solve the programming problems.
3. To use effective and efficient data structures in solving various Computer Engineering domain problems.
4. To analyse the problems to apply suitable algorithm and data structure.
5. To use appropriate algorithmic strategy for better efficiency.

SUBJECT/CODE: COMPUTER ORGANIZATION AND ARCHITECTURE [210244]

1. Demonstrate computer architecture concepts related to design of modern processors, memories and I/Os.
2. Analyze the principles of computer architecture using examples drawn from commercially available computers.
3. Evaluate various design alternatives in processor organization.

SUBJECT/CODE OBJECT ORIENTED PROGRAMMING[210245]

1. Analyse the strengths of object oriented programming.
2. Design and apply OOP principles for effective programming.
3. Develop programming application using object oriented programming language C++.
4. Percept the utility and applicability of OOP.

SUBJECT/CODE: ENGINEERING MATHEMATICS III [207003]

1. Solve higher order linear differential equation using appropriate techniques for modeling and analyzing electrical circuits.
2. Solve problems related to Fourier transform, Z-Transform and applications to Signal and Image processing.
3. Apply statistical methods like correlation, regression analysis and probability theory for analysis and prediction of a given data as applied to machine intelligence.
4. Perform vector differentiation and integration to analyze the vector fields and apply to compute line, surface and volume integrals.
5. Analyze conformal mappings, transformations and perform contour integration of complex functions required in Image processing, Digital filters and Computer graphics.

SUBJECT/CODE: COMPUTER GRAPHICS [210251]

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: ADVANCED DATA STRUCTURES [210252]

1. To apply appropriate advanced data structure and efficient algorithms to approach the problems of various domain.
2. To design the algorithms to solve the programming problems.

3. To use effective and efficient data structures in solving various Computer Engineering domain problems.
4. To analyze the algorithmic solutions for resource requirements and optimization
5. To use appropriate modern tools to understand and analyze the functionalities confined to the data structure usage.

SUBJECT/CODE: MICROPROCESSOR [210252]

1. To apply the assembly language programming to develop small real life embedded application.
2. To understand the architecture of the advanced processor thoroughly to use the resources for programming
3. To understand the higher processor architectures descended from 80386 architecture.

SUBJECT: PRINCIPLES OF PROGRAMMING LANGUAGES [210254]

1. To analyze the strengths and weaknesses of programming languages for effective and efficient program development.
2. To inculcate the principles underlying the programming languages enabling to learn new programming languages.
3. To grasp different programming paradigms
4. To use the programming paradigms effectively in application development.