Department of Computer Engineering

Course Outcomes (CO)
Syllabus Pattern:-2019

Class:-SE   Semester:- I

Sr. No	Subject	Course Outcomes (CO)
1	**210241: Discrete Mathematics**	**CO1: Formulate** problems precisely, solve the problems, apply formal proof techniques, andexplain the reasoning clearly. **CO2: Apply** appropriate mathematical concepts and skills to solve problems in both familiar andunfamiliar situations including those in real-life contexts. **CO3: Design and analyze** real world engineering problems by applying set theory, propositional logic and to construct proofs using mathematical induction. **CO4: Specify, manipulate and apply** equivalence relations; construct and use functions and applythese concepts to solve new problems. **CO5: Calculate** numbers of possible outcomes using permutations and combinations; to model and analyze computational processes using combinatorics. **CO6: Model and solve** computing problem using tree and graph and solve problems usingappropriate algorithms. **CO7: Analyze** the properties of binary operations, apply abstract algebra in coding theory andevaluate the algebraic structures**.**
2	**210242: Fundamentals of Data Structures**	**CO1: Design** the algorithms to solve the programming problems, **identify** appropriate algorithmic strategy for specific application, and **analyze** the time and space complexity. **CO2: Discriminate** the usage of various structures, **Design/Program/Implement** the appropriate data structures; use them in implementations of abstract data types and Identity the appropriate data structure in approaching the problem solution. **CO3: Demonstrate** use of sequential data structures- Array and Linked lists to store and process data. **CO4: Understand** the computational efficiency of the principal algorithms for searching and sorting and choose the most efficient one for the application. **CO5: Compare** and **contrast** different implementations of data structures (dynamic and static). **CO6: Understand, Implement and apply** principles of data structures-stack and queue to solve computational problems.

3	**210243: Object Oriented Programming**	**CO1: Apply** constructs- sequence, selection and iteration; classes and objects, inheritance, useof predefined classes from libraries while developing software. **CO2: Design** object-oriented solutions for small systems involving multiple objects. **CO3: Use** virtual and pure virtual function and complex programming situations. **CO4: Apply** object-oriented software principles in problem solving. **CO5: Analyze** the strengths of object-oriented programming. **CO6: Develop** the application using object oriented programming language(C++).
4	**210244: Computer Graphics**	**CO1: Identify** the basic terminologies of Computer Graphics and interpret the mathematicalfoundation of the concepts of computer graphics. **CO2: Apply** mathematics to develop Computer programs for elementary graphic operations. **CO3: Illustrate** the concepts of windowing and clipping and **apply** various algorithms to fill and clippolygons. **CO4: Understand** and **apply** the core concepts of computer graphics, including transformation intwo and three dimensions, viewing and projection. **CO5: Understand** the concepts of color models, lighting, shading models and hidden surfaceelimination. **CO6: Create** effective programs using concepts of curves, fractals, animation and gaming.
5	**210245: Digital Electronics and Logic Design**	**CO1: Simplify** Boolean Expressions using K Map. **CO2: Design and implement** combinational circuits. **CO3: Design and implement** sequential circuits. **CO4: Develop** simple real-world application using ASM and PLD. **CO5: Differentiate and Choose** appropriate logic families IC packages as per the given designspecifications. **CO6: Explain** organization and architecture of computer system.

Department of Computer Engineering

Course Outcomes (CO)
Syllabus Pattern:-2019

Class:-SE   Semester:- II

Sr. No	Subject	Course Outcomes (CO)
1	**207003: Engineering Mathematics III**	CO1: Solve Linear differential equations, essential in modelling and design of computer-basedsystems. CO2: Apply concept of Fourier transform and Z-transform and its applications to continuous anddiscrete systems and image processing. CO3: Apply Statistical methods like correlation and regression analysis and probability theory fordata analysis and predictions in machine learning. CO4: Solve Algebraic and Transcendental equations and System of linear equations usingnumerical techniques. CO5: Obtain Interpolating polynomials, numerical differentiation and integration, numericalsolutions of ordinary differential equations used in modern scientific computing
2	**210252: Data Structures & Algorithms**	CO1: **Identify and articulate** the complexity goals and benefits of a good hashing scheme for real-world applications. CO2: **Apply** non-linear data structures for solving problems of various domain. CO3: **Design and specify** the operations of a nonlinear-based abstract data type and implement themin a high-level programming language. CO4: **Analyze** the algorithmic solutions for resource requirements and optimization. CO5: **Use** efficient indexing methods and multiway search techniques to store and maintain data. CO6: U**se** appropriate modern tools to understand and analyze the functionalities confined to thesecondary storage

3	210253: Software Engineering	CO1: **Analyze** software requirements and formulate design solution for a software.
		CO2: **Design** applicable solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal and economic concerns.
		CO3: **Apply** new software models, techniques and technologies to bring out innovative and novelistic solutions for the growth of the society in all aspects and evolving into theircontinuous professional development.
		CO4: **Model** and design User interface and component-level.
		CO5: **Identify** and handle risk management and software configuration management.
		CO6: **Utilize** knowledge of software testing approaches, approaches to verification and validation.
		CO7: **Construct** software of high quality – software that is reliable, and that is reasonably easy to understand, modify and maintain efficient, reliable, robust and cost-effective software solutions.
4	210254: Microprocessor	CO1: **E**xhibit skill of assembly language programming for the application.
		CO2: **Classify** Processor architectures.
		CO3: **Illustrate** advanced features of 80386 Microprocessor.
		CO4: **Compare** and **contrast** different processor modes.
		CO5: **Use** interrupts mechanism in applications
		CO6: **Differentiate** between Microprocessors and Microcontrollers.
		CO7: **Identify** and **analyze** the tools and techniques used to design, implement, and debug microprocessor-based systems.
5	210255: Principles of Programming Languages	CO1: **Make** use of basic principles of programming languages.
		CO2: **Develop** a program with Data representation and Computations.
		CO3: **Develop** programs using Object Oriented Programming language : Java.
		CO4: **Develop** application using inheritance, encapsulation, and polymorphism.
		CO5: **Demonstrate** Multithreading for robust application development.
		CO6: **Develop** a simple program using basic concepts of Functional and Logical programmingparadigm.