

Department of MCA

Semester: 1st

Subject: OPERATING SYSTEM

Subject Code: MCA01004

Semester: 1st

Course Outcomes:

Students will able to

CO1: Explain the structure and functions of Operating system.

CO2: Illustrate the concept of concurrency.

CO3: Analyze processes, threads and scheduling algorithms.

CO4: Outline the concepts of deadlock.

CO5: Distinguish between various memory management schemes.

CO6: Explain I/O management and file system, concepts of protection and Security.

Subject: DATABASE ENGINEERING

Subject Code: MCA01005

Semester: 1st

Course Outcomes:

Students will able to

- CO1: Understand the basic concepts of data base systems and identify Different data base architecture schemas, data models.
- CO2: Illustrate the components of E R model and describe the storage Architecture.
- CO3: Apply Structured Query Language (SQL) for database manipulation.
- CO4: Design simple database systems for some application to interact with databases.
- CO5: Implement normalization algorithms using database design theory for different applications
- CO6: Analyze and implement transaction processing, concurrency control and database recovery protocols in databases.

Subject: COMPUTER SYSTEM ARCHITECTURE

Subject Code: MCA01002

Semester: 1st

Course Outcomes:

Students will able to

- CO1:** Understand the basic operations of digital computer system to learn the integrated circuits
- CO2:** Describe arithmetic logic and shift micro operations in symbolic form at a register transfer level.
- CO3:** Develop the assembly language programming and demonstrate the addressing modes used in instructions.
- CO4:** Analyze and measure clock periods, performance, and instruction throughput of single-cycle, multi-cycle, and pipelined.
- CO5:** Apply algorithms for arithmetic operations and implementation for ALU design.
- CO6:** Classify and design different memory organization.

Subject: C & DATA STRUCTURE

Subject Code: MCA01003

Semester: 1st

Course Outcomes:

Students will able to

CO1: To understand simple algorithms for arithmetic and logical problems.

CO2: To apply the algorithms to programs & execution (in C language)..

CO3: To analyse conditional branching, iteration and recursion..

CO4: To Solve the problem using functions and synthesize a complete program using divide and conquer approach..

CO5: To use arrays, pointers and structures to develop algorithms and programs.

CO6: To apply programming to solve matrix addition and multiplication problems and searching and sorting problems..

Subject: DISCRETE MATHEMATICS:

Subject Code: MCA01001

Semester: 1st

Course Outcomes:

Students will able to

- CO1:** Outline Sets and their algebra, duality, power sets and partitions, Principle of Strong Mathematical Induction and Product sets.
- CO2:** Explain Solving problems using Recurrence Relations, Pigeon-Hole Principle and Invertible Functions..
- CO3:** Solve various numeric and generating functions.
- CO4:** Analyse solution of recurrence relations by the method of generating functions, divide and conquer algorithms.
- CO5:** Evaluate problems using groups, Rings and Boolean Algebra (Lattice, Principle of duality etc.)
- CO6:** Design graphs and trees to formulate solutions for real life problems.

Semester: 2nd

Subject: COMPUTER NETWORK

Subject Code: MCA02001

Semester: 2nd

Course Outcomes:

Students will able to

- CO1:** Outline the basic concept of networking, types, networking topologies and layered architecture.
- CO2:** Explain data link layer and MAC sub-layer.
- CO3:** Demonstrate the network Layer functioning..
- CO4:** Identify the different types of network devices and their functions within a network.
- CO5:** Explain the transport layer and application layer operation.
- CO6:** Design and maintenance of individual networks.

Subject: ANALYSIS AND DESIGN ALGORITHMS

Subject Code: MCA02002

Semester: 2nd

Course Outcomes:

Students will able to

- CO1:** Analyse worst-case running times of algorithms based on asymptotic analysis and justify the correctness of algorithms.
- CO2:** Describe the greedy paradigm and explain when an algorithmic design situation calls for it. For a given problem develop the greedy algorithms.
- CO3:** Describe the divide-and-conquer paradigm and explain when an algorithmic design situation calls for it. Synthesize divide-and-conquer algorithms. Derive and solve recurrence relation.
- CO4:** Describe the dynamic-programming paradigm and explain when an algorithmic design situation calls for it. For a given problems of dynamic programming and develop the the dynamic programming algorithms, and analyse it to determine its computational complexity.
- CO5:** Solve a given model engineering problem model it using graph and write the corresponding algorithm to solve the problems.
- CO6:** Solve and analyze the NP-Completeness and Reducibility of an algorithm.

Subject: OBJECT ORIENTED PROGRAMMING USING JAVA

Subject Code: MCA02003

Semester: 2nd

Course Outcomes:

Students will able to

CO1: Recall different Object-oriented programming techniques.

CO2: Describe basic object-oriented features.

CO3: Explain the correlation between object and class.

CO4: Determine inheritance and wrapper classes to achieve code reusability.

CO5: Perform web applications using Applets and collection frame work.

CO6: Design and create GUI based event driven programs using Swing and JavaFX.

Subject: OBJECT ORIENTED ANALYSIS & DESIGN

Subject Code: MCA02004

Semester: 2nd

Course Outcomes:

Students will able to

CO1: Understand the ability to define fundamentals of OO approach.

CO2: Design OO Application using Pattern

CO3: Solve real world problems by applying OOAD principle.

CO4: Acquire expertise in Java programming.

CO5: Understanding and documenting the requirements of the system.

CO6: Gathered requirements are analyzed to identify the main objects and their relationships in the problem domain

Subject: INTERNET AND WEB PROGRAMMING

Subject Code: MCA02005

Semester: 2nd

Course Outcomes:

Students will able to

CO1: Understand & Apply practical problems to internet web technology concepts.

CO2: Design model problems using standard web technology concepts.

CO3: Apply web technology skills in real-world problem solving.

CO4: Understand scripting language concepts for developing client-side applications.

CO5: Understand fundamental tools and technologies for web design.

CO6: Design Web Different skills using different tools like PHP.

Semester: 3rd

Subject: SOFTWARE ENGINEERING

Subject Code: MCA03001

Semester: 3rd

Course Outcomes:

Students will able to

CO1: Acquire strong fundamental knowledge in science, mathematics, fundamentals of computer science, software engineering and multidisciplinary engineering to begin in practice as a software engineer.

CO2: Design applicable solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal and economic concerns.

CO3: Create quality software products by possessing the leadership skills as an individual or contributing to the team development and demonstrating effective and modern working strategies by applying both communication and negotiation management skill.

CO4: 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 their continuous professional development

CO5: Develop an awareness of the role and responsibilities of the professional software engineer.

CO6: Acquire skills to think about problems and their solutions using appropriate methods of analysis and design

Subject: COMPILER DESIGN

Subject Code: MCA03002

Semester: 3rd

Course Outcomes:

Students will able to

CO1: Define various phases of compiler, code optimization techniques and machine code generation.

CO2: Classify top down & bottom-up parsing.

CO3: Demonstrate DAG for intermediate code generation.

CO4: Analyze the knowledge of parser by parsing LL parser and LR parser.

CO5: Analyze & Design Run time environments and Syntax directed translations.

CO6: Implementing code optimization by removing redundant and unreachable Codes.