NM INSTITUTE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THEORY COURSE OUTCOMES

Programming for Problem Solving using C
RPL2B001 (2nd SEMESTER)

Students will be able to:

CO1	Understand simple algorithms for arithmetic and logical problems
CO2	Apply the algorithms to programs & execution (in C language)
CO3	Analyze conditional branching, iteration and recursion
CO4	Solve the problem using functions and synthesize a complete program-using divide and conquer approach
CO5	Use arrays, pointers and structures to develop algorithms and programs
CO6	Apply programming to solve matrix addition, multiplication problems, searching and sorting problems

Object Oriented Programming Using JAVA
ROP3B001 (3rd SEMESTER)

Students will be 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 framework
CO6	Design and create GUI based event driven programs using Swing and Java FX

Data Structure

RCS3C002 (3rd SEMESTER)

Students will be able to:

CO1	Identify and implement asymptotic notations of an algorithm to analyze the consumption of resources (time/space)
CO2	Discuss the concept of linear data structure and their sequential representation in programming
CO3	Demonstrate linear data structure and their linked representation in terms of programming
CO4	Analyze various searching and sorting techniques such as linear search, binary search, bubble sort, insertion sort, quick sort and heap sort using C programming
CO5	Evaluate and compare tree traversal techniques
CO6	Design a real life application through linear data structure using dynamic memory allocation

Design and Analysis of Algorithms

RCS4C002 (4th SEMESTER)

Students will be able to:

CO1	Argue the correctness of algorithms using inductive proofs and invariants
CO2	Analyze worst-case running times of algorithms using asymptotic analysis
CO3	Describe the divide-and-conquer paradigm and explain when an algorithmic design situation calls for it. Recite algorithms that employ this paradigm. Synthesize divide-and-conquer algorithms.
CO4	Describe the dynamic-programming paradigm and explain when an algorithmic design situation calls for it. Recite algorithms that employ this paradigm. Synthesize dynamic-programming algorithms and analyze them.
CO5	Describe the greedy paradigm and explain when an algorithmic design situation calls for it. Recite algorithms that employ this paradigm. Synthesize greedy algorithms and analyze them.
CO6	Analyze randomized algorithms. Employ indicator random variables and linearity of expectation to perform the analyses. Recite analyses of algorithms that employ this method analysis.

Computer Organization and Architecture

RCS4C003 (4th SEMESTER)

Students will be able to:

CO1	Understand the functional unit of the processor such as the register file and arithmetic logic unit and with the basic of system topic.
CO2	Evaluate cost-performance & design trade-offs in designing a computer processor
CO3	Design flowchart for Concurrent access to memory and cache coherency in parallel processor
CO4	Evaluate CPU organization & a memory module and analyze its operation by interfacing with the CPU
CO5	Apply and Implement fundamental coding schemes & draw the functional block diagram and describe the function of instruction cycle.
CO6	Create organization for the control unit, ALU, Memory unit and I/O unit

Data Communication

RCS4D001 (4th SEMESTER)

Students will be able to:

CO1	Explain study of various analog and digital modulation and demodulation techniques
CO2	Understand the knowledge of various multiplexing schemes and data communication protocols
CO3	Illustrate the functionality of OSI and TCP/IP reference models
CO4	Analyze connection establishment and congestion control with respect to TCP Protocol
CO5	Implement the data communication codes & data communication equipment
CO6	Design the principles and operations behind various application layer protocols like HTTP, SMTP, FTP

Object Oriented Analysis Design
RCS5D005 (5th SEMESTER)

Students will be able to:

CO1	Understand the ability to define fundamentals of OO approach
CO2	Design OO application using patterns
CO3	Solve real world problems by applying OOAD principles
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 relationship in the problems domains.

Formal Languages and Automata Theory
RCS5C001 (5th SEMESTER)

Students will be able to:

CO1	Understand the abstract model of finite automaton
CO2	Implement the conversions of finite automaton
CO3	Design the abstract model of Push Down Automaton
CO4	Evaluate the parsing algorithm for some specific context free grammars
CO5	Analyze abstract model of turing machine and the power to recognize the language
CO6	Explain the application of machine models

Database Management Systems
RCS5C002 (5th SEMESTER)

Students will be able to:

CO1	Understand the basic concept of database system and identify the different database architecture schemas
CO2	Illustrate the components of ER model and describe the storage architecture
CO3	Demonstrate relational algebra, relational calculus and apply them in database design
CO4	Analyze and illustrate the normal forms and classify their utility in database design
CO5	Determine the properties of transaction processing, concurrency control and time stamp method
CO6	Design and create relational database from different case studies

Operating Systems
RCS5C003 (5th SEMESTER)

Students will be able to:

	At the end of this course, students will be able to:
CO-1	Explain the basic concepts and functions of Operating Systems
CO-2	Understand various threading models, process synchronization and deadlocks
CO-3	Compare the performance of various CPU scheduling algorithms
CO-4	Compare and contrast various memory management schemes
CO-5	Analyze I/O management and file systems
CO-6	Explain concepts of protection and security.

Software Engineering
RCS6C001 (6th SEMESTER)

Students will be able to:

CO1	Identify the requirement of software engineering in designing, development, testing and deployment of a real life software project
CO2	Understand software life cycle model for systematic development of a project
CO3	Develop and maintain efficient, reliable and cost effective software solutions
CO4	Illustrate and identify the minimum requirements for the development of application
CO5	Select different software testing approaches such as unit testing and integration testing
CO6	Design a prototype of a software application using SDLC concept

Compiler Design
RCS6C002 (6th SEMESTER)

Students will be 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	Implement code optimization by removing redundant and unreachable codes

Real-Time System
RCS5D002 (6th SEMESTER)

Students will be able to:

CO1	Understand concepts of real time System and their applications such as embedded system, robotics and control systems
CO2	Understand resource sharing and dependencies among real time systems
CO3	Differentiate between hardware and software aspects of real time system
CO4	Understand database used in Real time system
CO5	Design, create and manage processes that are time-critical, ensuring they meet their deadlines effectively
CO6	Gain knowledge of interrupt handling mechanisms and techniques for managing interruptions in real-time systems

Internet of Things
RIT7D001 (7th SEMESTER)

Students will be able to:

CO1	Identify the IOT networking components with respect to OSI layer
CO2	Summarize schematic for IOT solutions
CO3	Demonstrate and develop IOT based smart environment
CO4	Understand the IOT architecture, integration of sensor and device
CO5	Work with IOT data
CO6	Gain practical experience in prototyping and developing IOT devices

Software Project Management
RCS7D001 (7th SEMESTER)

Students will be able to:

CO1	Apply project management concepts and techniques to an IT project
CO2	Identify issues that could lead to IT project success or failure
CO3	Explain project management in terms of the software development process
CO4	Describe the responsibilities of IT project managers
CO5	Apply project management concepts through working in a group as team leader or active team member on an IT project
CO6	Analyze the software quality used for development