DEPARTMENT OF M.E (CSE)

2017 REGULATION

MA4151 APPLIED PROBABILITY AND STATISTICS FOR COMPUTER SCIENCE ENGINEERS

C101.1	Basic probability axioms and rules and the moments of discrete and continuous random variables.
C101.2	Consistency, efficiency and unbiasedness of estimators, method of maximum likelihood estimation and Central Limit Theorem.
C101.3	Address the issues and the principles of estimation theory, testing of hypothesis and multivariate analysis.
C101.4	Use statistical tests in testing hypotheses on data.
C101.5	Perform exploratory analysis of multivariate data, such as multivariate normal density, calculating descriptive statistics, testing for multivariate normality.

CP5151 ADVANCED DATA STRUCTURES AND ALGORITHMS

C102.1	Design data structures and algorithms to solve computing problems
C102.2	Design algorithms using graph structure and various string matching algorithms to solve real-life problems
C102.3	Apply suitable design strategy for problem solving
C102.4	Select and design data structures and algorithms that is appropriate for problems.
C102.5	Study about NP Completeness of problems.

CP4151 ADVANCED DATA STRUCTURES AND ALGORITHMS

C103.1	Design data structures and algorithms to solve computing problems.
C103.2	Implement efficient data structures and apply them to solve problems.
C103.3	Design algorithms using graph structure and various string-matching algorithms to solve real-life problems
C103.4	Design one's own algorithm for an unknown problem.
C103.5	Apply suitable design strategy for problem solving.

CP4152 DATABASE PRACTICES

C104.1	Explain the Conversion of ER-model to relational tables, populate relational databases and formulate SQL queries on data.

C104.2	Ability to Understand and write well-formed XML documents
C104.3	To apply methods and techniques for distributed query processing.
C104.4	Design and Implement secure database systems.
C104.5	Explain the data control, definition, and manipulation languages of the NoSQL databases

CP4153 NETWORK TECHNOLOGIES

C105.1	Explain basic networking concepts
C105.2	Compare different wireless networking protocols
C105.3	Describe the developments in each generation of mobile data networks
C105.4	Explain and develop SDN based applications
C105.5	Explain the concepts of network function virtualization

CP4154 PRINCIPLES OF PROGRAMMING LANGUAGES

C106.1	Explain syntax and semantics of programming languages
C106.2	Explain data, data types, and basic statements of programming languages
C106.3	Design and implement subprogram constructs
C106.4	Apply object-oriented, concurrency, and event handling programming constructs
C106.5	Develop programs in Scheme, ML, and Prolog and Understand and adopt new programming language

CP4161 ADVANCED DATA STRUCTURES AND ALGORITHMS LABORATORY

C107.1	Design and implement basic and advanced data structures extensively
C107.2	Design algorithms using graph structures
C107.3	Design and develop efficient algorithms with minimum complexity using design techniques
C107.4	Develop programs using various algorithms.
C107.5	Explain the appropriate data structures and algorithms, understand the ADT/libraries, and use it to design algorithms for a specific problem.

CP4291 INTERNET OF THINGS

C108.1	Ability to understand the various concept of the IoT and their technologies
C108.2	Develop the IoT application using different hardware platforms
C108.3	Implement the various IoT Protocols

C108.4	Ability to understand the basic principles of cloud computing
C108.5	Develop and deploy the IoT application into cloud environment

CP4292 MULTICORE ARCHITECTURE AND PROGRAMMING

C109.1	Explain multicore architectures and identify their characteristics and challenges.
C109.2	Ability to identify the issues in programming Parallel Processors.
C109.3	Implement simple programs using OpenMP and MPI.
C109.4	Design parallel programming solutions to common problems.
C109.5	Explain the contrast programming for serial processors and programming for parallel processors.

CP4252 MACHINE LEARNING

C110.1	Ability to understand and outline problems for each type of machine learning
C110.2	Design a Decision tree and Random forest for an application
C110.3	Implement Probabilistic Discriminative and Generative algorithms for an application and analyze the results
C110.4	Implement typical Clustering algorithms for different types of applications.
C110.5	Design and implement an HMM for a Sequence Model type of application and identify applications suitable for different types of Machine Learning with suitable justification.

SE4151 ADVANCED SOFTWARE ENGINEERING

C111.1	Identify appropriate process models based on the Project requirements
C111.2	Explain the importance of having a good Software Architecture.
C111.3	Explain the five important dimensions of dependability, namely, availability, reliability, safety, security, and resilience.
C111.4	Ability to understand the basic notions of a web service, web service standards, and service-oriented architecture.
C111.5	Explain various levels of Software testing

MP4092 HUMAN COMPUTER INTERACTION

C112.1	To Understand the basics of human computer interactions via usability engineering and cognitive modeling.
C112.2	Explain the basic design paradigms, complex interaction styles.
C112.3	Ability to understand the models and theories for user interaction
C112.4	Explain the evaluation of interaction designs and implementations.

C112.5	Elaborate the above issues for web and mobile applications

CP4096 SOFTWARE QUALITY ASSURANCE

C113.1	Explain the concepts of SQA in software development life cycle.
C113.2	Demonstrate their capability to adopt quality standards.
C113.3	Explain the quality of software products.
C113.4	Apply the concepts in preparing the quality plan & documents.
C113.5	Ensure whether the product meets company's quality standards and client's expectations and demands

CP4212 SOFTWARE ENGINEERING LABORATORY

C114.1	Ability to produce the requirements and use cases the client wants for the software being Produced.
C114.2	Ability to plan a project with work assessments of the project, the schedule, available resources, and specify the requirements of mid-range software and their architecture.
C114.3	To create and specify such a software design based on the requirement specification that the software can be implemented based on the design.
C114.4	Implement the extent and costs of a project with the help of several different assessment methods.
C114.5	Implement timeline Charts or Gantt Charts to track progress of the assigned project

CP4094 MOBILE AND PERVASIVE COMPUTING

C201.1	Design a basic architecture for a pervasive computing environment
C201.2	Design and allocate the resources on the 3G-4G wireless networks
C201.3	Analyze the role of sensors in Wireless networks
C201.4	Explain the routing in mesh network
C201.5	Deploy the location and context information for application development.

IF4073 DEVOPS AND MICROSERVICES

C202.1	Implement modern software Engineering process
C202.2	Explain the Process work with DevOps platform
C202.3	Ability to build, test and deploy code
C202.4	Ability to implement DevOps tools
C202.5	Explain the Correlate MLOps concepts with real time examples

CP4391 SECURITY PRACTICES

C203.1	To Understand the core fundamentals of system security.
C203.2	Apply the security concepts to wired and wireless networks
C203.3	Implement and Manage the security essentials in IT Sector
C203.4	Explain the concepts of Cyber Security and Cyber forensics
C203.5	Explain the privacy and Storage security Issues.

CX4016 ENVIRONMENT SUSTAINABILTY

C204.1	Ability to understand the fundamental environmental, social, and economic issues underlying sustainability.
C204.2	To apply concepts of sustainable development to address sustainability challenges in a global context.
C204.3	To demonstrate an understanding of the nature of systems.
C204.4	Designed to give a basic understanding of the Earth's life-supporting, and other pollution impacts.
C204.5	The knowledge and appreciation of interconnections among economic, environmental, and social perspectives.