ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Anna University Regulation 2017
M.E Computer Science and Engineering
List of Course Names

S.No.	Sem	Course code	Course	Course Title
1	I	17C101	MA5160	APPLIED PROBABILITY AND STATISTICS
2	I	17C102	CP5151	ADVANCED DATA STRUCTURES AND ALGORITHMS
3	I	17C103	CP5152	ADVANCED COMPUTER ARCHITECTURE
4	I	17C104	CP5153	OPERATING SYSTEM INTERNALS
5	I	17C105	CP5154	ADVANCED SOFTWARE ENGINEERING
	I	17C106	CP5191	MACHINE LEARNING TECHNIQUES
7	I	17C107	CP5161	DATA STRUCTURES LABORATORY
8	II	17C108	CP5201	NETWORK DESIGN AND TECHNOLOGIES
9	II	17C109	CP5291	SECURITY PRACTICES
10	II	17C110	CP5292	INTERNET OF THINGS
11	II	17C111	CP5293	BIG DATA ANALYTICS
12	II	17C112	CP5094(PE-I)	INFORMATION RETRIEVEL TECHNIQUE
13	II	17C113	CP5001 (PE-II)	PRINCIPLES OF PROGRAMMING LANGUAGES
14	II	17C114	CS5261	DATA ANALYTICS LABORATORY
15	II	17C115	CP5281	TERM PAPER WRITING AND SEMINAR
16	III	17C201	CP5005(PE-III)	SOFTWARE QUALITY ASSURANCE AND TESTING
17	III	17C202	CP5073 (PE-IV)	Embedded Software Development
18	III	17C203	CP5076(PE-V)	INFORMATION STORAGE MANAGEMENT
19	III	17C204	CP5311	PROJECT WORK PHASE – I
20	IV	17C206	CP5411	PROJECT PHASE - II

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Course Outcomes (CO)

S.No	Course Outcome
17C101/MA5160/ APPLIED PROBABILITY AND STATISTICS	
C101.1	Apply the concept to find moments and moment generating functions of distributions using the definition of a random variable.
C101.2	Find marginal, conditional distribution, statistical average for the standard probability function.
C101.3	Find the M.L.E. and fit curves and regression lines using the least squares principle.
C101.4	Apply the testing methods for various probability hypothesis
C101.5	The students should have the ability to use the appropriate and relevant, fundamental and applied mathematical and statistical knowledge, methodologies and modern computational tools.
17C102/CP5151/ADVANCED DATA STRUCTURES AND ALGORITHMS	
C102.1	Understand Asymptotic notations and use recurrences methods.
C102.2	Design programs for implementing trees and hierarchical data structures.
C102.3	Implement various algorithms using graph structures
C102.4	Develop programs for dynamic programming problems.
C102.5	Design programs to implement greedy algorithms and to prove NP Completeness
17C103/CP5152/ADVANCED COMPUTER ARCHITECTURE	
C103.1	Understands the concepts of parallel computing and hardware technologies.
C103.2	Analyze the various memory technologies and optimizations.
C103.3	Discuss the various techniques used for optimize the cache performance and to deal with performance issues

C103.4	Illustrate Homogeneous and heterogeneous multicore Architectures.
C103.5	Measure the performance of the Vector, SMID, and GPU architecture in terms of right parameters.
17C104/ CP5153/ OPERATING SYSTEM INTERNALS	
C104.1	Identify basic components of UNIX operating system.
C104.2	Conceptualize synchronization amongst various components of a typical operating System.
C104.3	Understand and simulate activities of various File System.
C104.4	Describe the memory management system,
C104.5	Illustrate Process communication and program Execution.
17C105/ CP5154/ ADVANCED SOFTWARE ENGINEERING	
C105.1	Understand the advantages of various Software Development Lifecycle Models
C105.2	Gain knowledge on project requirement specification methods
C105.3	Analyze various software architecture and design methodologies.
C105.4	Apply testing models to software projects.
C105.5	Understand the advantages of DevOps practices
17C106/CP5191/MACHINE LEARNING TECHNIQUES	
C106.1	Differentiate various learning approaches, and to interpret the concepts of supervised learning.
C106.2	Illustrate the working of classifier models like SVM, Neural Networks and identify classifier model for typical machine learning applications.
C106.3	Apply theoretical foundations of decision trees to identify best split and Bayesian

	classifier to label data points.
C106.4	Compare the different dimensionality reduction techniques.
C106.5	Apply various graphical models to machine learning problems
17C107/ CP5161/DATA STRUCTURES LABORATORY	
C107.1	Create programs for various sorting algorithms.
C107.2	Design programs for implementing trees structures.
C107.3	Develop programs for implementing heap structures
C107.4	Implement various programs for application of graphs.
C107.5	Develop programs for Spanning tree implementations
C107.6	Write programs for implementing Shortest path algorithms.
C107.7	Implementation of Matrix Chain Multiplication
C107.8	Design and implement Huffman Coding Techniques.
17C108/CP5201/ NETWORK DESIGN AND TECHNOLOGIES	
C108.1	Identify the components required for designing a network
C108.2	Design a network at a high-level using different Wireless networking technologies
C108.3	Analyze the various protocols of cellular networks
C108.4	Discuss the features of 4G and 5G networks
C108.5	Experiment with software defined networks
17C109/CP5291/ SECURITY PRACTICES	
C109.1	Identify with the core fundamental concepts of system security
C109.2	Apply the security concepts related to wired and wireless network scenario
C109.3	Implement and deal with the security essentials in IT Sector

C109.4	Competent to explain the concepts of Cyber Security and encryption Concepts
C109.5	Able to attain a thorough knowledge in the area of privacy and storage security and related issues.
17C110/CP5292/ INTERNET OF THINGS	
C110.1	Analyze various protocols for IoT
C110.2	Design various IoT Architectures.
C110.3	Analyze IoT network layer and security Protocols.
C110.4	Design a portable IoT using Rasperry Pi
C110.5	Analyze applications of IoT in real time scenario, Deploy an IoT application and connect to the cloud.
17C111/ CP5293/ BIG DATA ANALYTICS	
C111.1	Understand the impact of data analytics for business decisions and strategy
C111.2	Analyze Hadoop framework technologies.
C111.3	Carry out data analysis/statistical analysis
C111.4	Design Stream data models and Data Architectures.
C111.5	Understand the various NoSql alternative database models
17C112/ CP5094/INFORMATION RETRIEVEL TECHNIQUE	
C112.1	Build an information retrieval system using the available tools
C112.2	Identify and design the various components of an information retrieval system
C112.3	Illustrate the efficient technique for Indexing and query processing.
C112.4	Apply machine learning techniques to text classification and clustering which is used for efficient information retrieval
C112.5	Design an efficient search engine and analyses the web content structure
17C113/CP5001 /PRINCIPLES OF PROGRAMMING LANGUAGES	
C113.1	Summarize syntax and semantics of programming languages.

C113.2	Explain the attributes of data types, abstraction and encapsulation.
C113.3	Examine functional programming features and design subprogram constructs
C113.4	Design and develop logic programming using various constructs
C113.5	Demonstrate concurrency through shared data and semantics
17C114/ CS5261/DATA ANALYTICS LABORATORY	
C114.1	Process big data using Hadoop framework
C114.2	Build linear and logistic regression models
C114.3	Apply SVM/ Decision tree classification techniques of machine learning methods
C114.4	Implement clustering techniques.
C114.5	Perform graphical data analysis
C114.6	Implement real world big data applications
17C115/CP5281/ TERM PAPER WRITING AND SEMINAR	
C115.1	Collection of Journal papers in the topic in the context of the objective – collect 20 & then filter
C115.2	To Develop the Reading and notes for first 5 papers.
C115.3	Write the sections of your paper based on the classification / categorization diagram in keeping with the goals of your survey
C115.4	Illustrate the Collecting the relevant bibliography
C115.5	Studying the papers and understanding the author's contributions and critically analyzing each paper.
C115.6	Illustrate and Writing the Final Paper and giving the final Presentation.
17C201/CP5005/SOFTWARE QUALITY ASSURANCE AND TESTING	
C201.1	Perform functional and nonfunctional tests in the life cycle of the software product.
C201.2	Understand system testing and test execution process.

C201.3	Identify system testing models and metrics.
C201.4	Understand the software quality standards and frameworks.
C201.5	Apply techniques of quality assurance for typical applications.
17C202/ CP5073 / Embedded Software Development	
C202.1	Explain the different Embedded Processors
C202.2	Summarize the Embedded computing platform
C202.3	Explain the embedded Architecture and its networking systems.
C202.4	Illustrate the Characteristics of the embedded system in the real time environment.
C202.5	Can able to analyze and design the embedded system for different real time applications.
17C203/CP5076/INFORMATION STORAGE MANAGEMENT	
C203.1	To Understand the Concept of Information Storage and Data center Environment.
C203.2	To understand about Storage system architectures.
C203.3	Analyze the Evolution of networked storage, Architecture, components, and topologies.
C203.4	To deal with the information availability, monitoring and managing data centers.
C203.5	Apply the security concepts to the information's and adopt storage virtualization.
17C204/CP5311/ PROJECT WORK PHASE – I	
C204.1	Identify and finalize problem statement by surveying variety of domains
C204.2	Perform requirement analysis and identify design methodologies
C204.3	Apply advanced programming techniques
C204.4	Present technical report by applying different visualization tools and Evaluation metrics
C204.5	Able to know the importance of collection framework in developing effective programs
17C205/CP5411-PROJECT PHASE - II	
C205.1	Plan and construct improved methods for an identified problem by applying acquired knowledge
C205.2	Experiment and Develop effective solutions through proper designing

C205.3	Analyze and categorize the outcomes of the implementation and derive inferences. Assess the acquired outcomes based on evaluation metrics
C205.4	Examine the completed task and compile the project report
C205.5	Identify the problem by applying acquired knowledge
C205.6	Plan and construct improved methods for an identified problem by applying acquired knowledge

HOD **PRINCIPAL**