RVS COLLEGE OF ENGINEERING AND TECHNOLOGY

COIMBATORE – 641 402

`DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PG-Regulation – 2021

Course ID	Semester	Course Code	Course Name	Course Outcomes	
C101	I	MA4151	APPLIED PROBABILITY AND STATISTICS FOR COMPUTER SCIENCE ENGINEERS	CO1	Apply the concepts of Linear Algebra to solve practical problems.
				CO2	Use the ideas of probability and random variables in solving engineering problems.
				CO3	Be familiar with some of the commonly encountered two dimensional random variables and be equipped for a possible extension to multivariate analysis.
				CO4	Use statistical tests in testing hypotheses on data.
				CO5	Develop critical thinking based on empirical evidence and the scientific approach to knowledge development.
C102	I	RM4151	RESEARCH METHODOLOGY AND IPR	CO1	Formulate research problem.
				CO2	Analyze literature review and find research gaps to finalize research objectives.
				CO3	Identify the need of ethics in research.
				CO4	Identify the need of IPR of research projects for economic growth and social benefits.
				CO5	Apply basic data analytics techniques: probability distribution, linear regression, ANOVA
C103	I	CP4151	ADVANCED DATA STRUCTURES AND ALGORITHMS	CO1	Design data structures and algorithms to solve computing problems.
				CO2	Choose and implement efficient data structures and apply them to solve problems.
				CO3	Design algorithms using graph structure and various string-matching algorithms to solve real-life problems.

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

				CO4	Design one's own algorithm for an unknown problem.
				CO5	Apply suitable design strategy for problem solving
C104	I	CP4152	DATABASE PRACTICES	**CO1**	Convert the ER-model to relational tables, populate relational databases and formulate SQL queries on data.
				CO2	Understand and write well-formed XML documents
				CO3	Be able to apply methods and techniques for distributed query processing.
				CO4	Design and Implement secure database systems.
				CO5	Use the data control, definition, and manipulation languages of the NoSQL databases
C105	I	CP4153	NETWORK TECHNOLOGIES	**CO1**	Explain the concepts of programming language, the general problems and methods related to syntax and semantics.
				CO2	Interpret the structured data objects, sub programs and programmer defined data type.
				CO3	Outline the sequence control and data control.
				CO4	Apply the concepts of storage management using programming languages.
				CO5	Implementing the subprogram call and return.
C106	I	CP4154	PRINCIPLES OF PROGRAMMING LANGUAGES	**CO1**	Describe syntax and semantics of programming languages
				CO2	Explain data, data types, and basic statements of programming languages
				CO3	Design and implement subprogram constructs
				CO4	Apply object-oriented, concurrency, and event handling programming constructs
				CO5	Develop programs in Scheme, ML, and Prolog
				CO6	Understand and adopt new programming language
C107	I	CP4161	ADVANCED	**CO1**	Design and implement basic and advanced data structures

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

			DATA STRUCTURES AND ALGORITHMS LABORATORY		extensively
				CO2	Design algorithms using graph structures
				CO3	Design and develop efficient algorithms with minimum complexity using design techniques
				CO4	Develop programs using various algorithms
				CO5	Choose appropriate data structures and algorithms, understand the ADT/libraries, and use it to design algorithms for a specific problem
C108	II	CP4251	INTERNET OF THINGS	**CO1**	Understand the various concept of the IoT and their technologies
				CO2	Develop the IoT application using different hardware platforms
				CO3	Implement the various IoT Protocols
				CO4	Understand the basic principles of cloud computing
				CO5	Develop and deploy the IoT application into cloud environment
C109	II	CP4253	MULTICORE ARCHITECTURE AND PROGRAMMING	**CO1**	Describe multicore architectures and identify their characteristics and challenges.
				CO2	Identify the issues in programming Parallel Processors.
				CO3	Write programs using Open MP and MPI.
				CO4	Design parallel programming solutions to common problems.
				CO5	Compare and contrast programming for serial processors and programming for parallel
C110	II	CP4252	MACHINE LEARNING	**CO1**	Understand and outline problems for each type of machine learning
				CO2	Design a Decision tree and Random forest for an application
				CO3	Implement Probabilistic Discriminative and Generative algorithms for an application and analyze the results.

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

				CO4	Use a tool to implement typical Clustering algorithms for different types of applications.
				CO5	Design and implement an HMM for a Sequence Model type of application.
				CO6	Identify applications suitable for different types of Machine Learning with suitable justification.
C111	II	SE4151	ADVANCED SOFTWARE ENGINEERING	**CO1**	Identify appropriate process models based on the Project requirements
				CO2	Understand the importance of having a good Software Architecture.
				CO3	Understand the five important dimensions of dependability, namely, availability, reliability, safety, security, and resilience.
				CO4	Understand the basic notions of a web service, web service standards, and service-oriented
				CO5	Be familiar with various levels of Software testing
C113-E2	II	CP4212	SOFTWARE ENGINEERING LAB	**CO1**	Can produce the requirements and use cases the client wants for the software being Produced.
				CO2	Participate in drawing up the project plan. The plan will include at least extent and work assessments of the project, the schedule, available resources, and risk management can model and specify the requirements of mid-range software and their architecture.
				CO3	Create and specify such a software design based on the requirement specification that the software can be implemented based on the design.
				CO4	Can assess the extent and costs of a project with the help of several different assessment methods.
C114-E2	III	CP4351	SECURITY PRACTICES	**CO1**	Understand the core fundamentals of system security
				CO2	Apply the security concepts to wired and wireless networks
				CO3	Implement and Manage the security essentials in IT Sector

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

				CO4	Explain the concepts of Cyber Security and Cyber forensics
				CO5	Be aware of Privacy and Storage security Issues.
C115-E2	II-E-1	MP4073	HUMAN COMPUTER INTERACTION	CO1	Understand the basics of human computer interactions via usability engineering and cognitive modeling.
				CO2	Understand the basic design paradigms, complex interaction styles.
				CO3	Understand the models and theories for user interaction
				CO4	Examine the evaluation of interaction designs and implementations.
				CO5	Elaborate the above issues for web and mobile applications.
C201-E	II-E-1	MP4253	CLOUD COMPUTING TECHNOLOGIES	CO1	Employ the concepts of virtualization in the cloud computing
				CO2	Identify the architecture, infrastructure and delivery models of cloud computing
				CO3	Develop the Cloud Application in AWS platform
				CO4	Apply the concepts of Windows Azure to design Cloud Application
				CO5	Develop services using various Cloud computing programming models.
C202-E	II-E-1	BD4151	FOUNDATIONS OF DATA SCIENCE	CO1	Obtain, clean/process and transform data.
				CO2	Analyze and interpret data using an ethically responsible approach.
				CO3	CO3: Use appropriate models of analysis, assess the quality of input, derive insight from results, and investigate potential issues.
				CO4	Apply computing theory, languages and algorithms, as well as mathematical and statistical models, and the principles of optimization to appropriately formulate and use data analyses.
				CO5	Formulate and use appropriate models of data analysis to solve business-related

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology * Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

					challenges.
C203-E	II-E-1	MP4152	WIRELESS COMMUNICATIONS	**CO1**	Design solutions for cellular communication
				CO2	Determine the capacity of wireless channels
				CO3	Analyze the performance of the digital modulation techniques in fading channels
				CO4	Apply various diversity techniques in wireless communication
				CO5	Design multicarrier systems in wireless communication
C204	II-E-1	SE4071	AGILE TECHNOLOGIES	**CO1**	Analyze existing problems with the team, development process and wider organization
				CO2	Apply a thorough understanding of Agile principles and specific practices
				CO3	Select the most appropriate way to improve results for a specific circumstance or need
				CO4	Judge and craft appropriate adaptations to existing practices or processes depending upon analysis of typical problems
				CO5	Evaluate likely successes and formulate plans to manage likely risks or problems
C205	II-E-1	CP4078	PERFORMANCE ANALYSIS OF COMPUTER SYSTEMS	**CO1**	Identify the need for performance evaluation and the metrics used for it
				CO2	Distinguish between open and closed queuing networks
				CO3	Apply Little'e law and other operational laws to open and closed systems
				CO4	Use discrete-time and continuous-time Markov chains to model real world systems
				CO5	Develop analytical techniques for evaluating scheduling policies
C205	II-E-1	CP4001	ADVANCED OPERATING SYSTEM	**CO1**	Understand and explore the working of Theoretical Foundations of OS.
				CO2	Analyze the working principles of Distributed Deadlock Detection and resource

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

					management
				CO3	Understand the concepts of distributed shared memory and scheduling mechanisms
				CO4	Understand and analyze the working of Data security
				CO5	Apply the learning into multiprocessor system architectures.
C205	II-E-1	MU4251	DIGITAL IMAGE PROCESSING	CO1	Apply knowledge of Mathematics for image processing operations
				CO2	Apply techniques for image restoration.
				CO3	Identify and extract salient features of images.
				CO4	Apply the appropriate tools (Contemporary) for image compression and analysis.
				CO5	Apply segmentation techniques and do object recognition.
C205	II-E-2	BD4071	HIGH PERFORMANCE COMPUTING FOR BIG DATA	CO1	Understand the basics concepts of High Performance computing systems.
				CO2	Apply the concepts of network and software infrastructure for high performance computing
				CO3	Use real time analytics using high performance computing.
				CO4	Apply the security models and big data applications in high performance computing
				CO5	Understand the emerging big data applications.
C205	II-E-2	CP4076	INFORMATION RETRIEVAL TECHNIQUES	CO1	Build an Information Retrieval system using the available tools.
				CO2	Identify and design the various components of an Information Retrieval system.
				CO3	Categorize the different types of IR Models.
				CO4	Apply machine learning techniques to text classification and clustering which is used for efficient Information Retrieval.
				CO5	Design an efficient search engine and analyze the Web content structure.

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

C205	II-E-2	CP4079	SOFTWARE QUALITY ASSURANCE	**CO1**	Utilize the concepts of SQA in software development life cycle
				CO2	Demonstrate their capability to adopt quality standards.
				CO3	Assess the quality of software products.
				CO4	Apply the concepts in preparing the quality plan & documents.
				CO5	Ensure whether the product meets company's quality standards and client's
C205	II-E-2	CP4071	AUTONOMOUS SYSTEMS	**CO1**	Understand architecture and modeling of autonomous systems.
				CO2	Employ localization mapping techniques for autonomous systems
				CO3	Design solutions for autonomous systems control.
				CO4	Analyze Robot Transformations, Sensors and Cell Design
				CO5	Explain the working principles of Micro/Nano Robotic system
C205	II-E-2	CP4081	WEB ANALYTICS	**CO1**	Understand the Web analytics platform, and their evolution.
				CO2	Use the various Data Streams Data.
				CO3	Know how the survey of capturing of data will benefit.
				CO4	Understand Common metrics of web as well as KPI related concepts.
				CO5	Apply various Web analytics versions in existence.
C205	II-E-2	MP4071	COGNITIVE COMPUTING	**CO1**	Explain applications in Cognitive Computing.
				CO2	Describe Natural language processor role in Cognitive computing.
				CO3	Explain future directions of Cognitive Computing
				CO4	Evaluate the process of taking a product to market
				CO5	Comprehend the applications involved in this domain.

Dr. K. KARUPPASAMY, M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402

C205	II-E-2	AP4075	QUANTUM COMPUTING	**CO1**	Understand the basic principles of quantum computing.
				CO2	Gain knowledge of the fundamental differences between conventional computing and quantum computing.
				CO3	Understand several basic quantum computing algorithms.
				CO4	Understand the classes of problems that can be expected to be solved well by quantum
C205	II-E-2	BD4251	BIG DATA MINING AND ANALYTICS	**CO1**	Design algorithms by employing Map Reduce technique for solving Big Data problems.
				CO2	Design algorithms for Big Data by deciding on the apt Features set .
				CO3	Design algorithms for handling petabytes of datasets
				CO4	Design algorithms and propose solutions for Big Data by optimizing main memory consumption
				CO5	Design solutions for problems in Big Data by suggesting appropriate clustering techniques.
	III-E-3	CP4077	MOBILE AND PERVASIVE COMPUTING	**CO1**	Design a basic architecture for a pervasive computing environment
				CO2	Design and allocate the resources on the 3G-4G wireless networks
				CO3	Analyze the role of sensors in Wireless networks
				CO4	Work out the routing in mesh network
				CO5	Deploy the location and context information for application development
				CO6	Develop mobile computing applications based on the paradigm of context aware computing and wearable computing

Dr. K. KARUPPASAMY M.E., Ph.D.,
Professor & Head
Dept. of Computer Science & Engineering
RVS College of Engg. & Technology
Coimbatore - 641 402

RVS College of Engineering & Technology Coimbatore 641 402

PRINCIPAL
RVS College of Engineering & Technology
Coimbatore - 641 402