



# R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206

Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi

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## DEPARTMENT OF INFORMATION TECHNOLOGY

### Course Outcomes – Even Semester 2022-2023

Sl. No.	Semester	Theory/Practical/Lab Integrated	Course Code / Course Name
1)	4	Theory	20MA402 - Probability and Statistics
2)	4	Theory	20IT402 – Web Technology - Foundation
3)	4	Theory	20CS401 - Computer Architecture
4)	4	Theory	20IT403 - Database Management Systems
5)	4	Theory	20GE301 – Universal Human Values 2: Understanding Harmony
6)	4	Lab Integrated	20IT401 – Software Engineering
7)	4	Practical	20IT411 – Web Technology Laboratory
8)	4	Practical	20IT412 - Database Management Systems Laboratory
9)	4	Practical	20IT413 - Internship
10)	4	Practical	20CS414 – Aptitude and Coding Skills - II
11)	6	Theory	20CS701 – Cloud Computing
12)	6	Theory	20IT601 – Mobile Architecture and Development
13)	6	Theory	20CB005 – Design Thinking
14)	6	Lab Integrated	20IT909 – Advanced Java - JEE
15)	6	Lab Integrated	20IT602 – Artificial Intelligence and Machine Learning
16)	6	Lab Integrated	20IT603 – Cyber Security
17)	6	Practical	20CS611 – Mobile Application Development Laboratory
18)	6	Practical	20CS711– Cloud Computing Laboratory
19)	6	Practical	20IT611 – Mini Project - II
20)	6	Practical	20CS614 – Advanced Aptitude and Coding Skills - II



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### Fourth Semester B.Tech.

<b>20MA402 - Probability and Statistics</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Understand the fundamental knowledge of modern probability theory and standard distributions.
CO2	Categorize the probability models and function of random variables based on one and two dimensional random variables.
CO3	Employ the concept of testing the hypothesis in real life problems
CO4	Implement the analysis of variance for real life problems.
CO5	Apply the statistical quality control in engineering and management problems.

<b>20IT402 – Web Technology - Foundation</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Develop simple web pages using markup languages like HTML and XHTML
CO2	Build dynamic web pages using DHTML and Java script that is easy to navigate and use
CO3	Develop server side web pages that have to process request from client side web pages
CO4	Develop applications using JSP
CO5	Represent web data using XML and develop web pages using JSP
CO6	Explain various web services and how they interact

<b>20CS401 - Computer Architecture</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Explain the basic principles and operations of digital computers
CO2	Design Arithmetic and Logic Unit to perform fixed and floating point operations
CO3	Develop pipeline architectures for RISC Processors
CO4	Summarize Various Memory systems & I/O interfacing
CO5	Recognize Parallel Processor and Multi Processor Architectures.

<b>20IT403 – Database Management Systems</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Classify the modern and futuristic database applications based on size and complexity
CO2	Map ER model to Relational model to perform database design effectively
CO3	Write queries using normalization criteria and optimize queries
CO4	Summarize the properties of transaction and concurrency control mechanisms
CO5	Compare and contrast various indexing strategies in different database systems
CO6	Appraise how advanced databases differ from traditional databases



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### 20GE301-Universal Human Values-II: Understanding Harmony

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Would become more aware of themselves, and their surroundings (family, society, nature);
CO2	Would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
CO3	Would have better critical ability
CO4	Would become sensitive to their commitment towards what they have understood (human values, human relationship and human society).
CO5	Would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.

### Lab Integrated

### 20IT401 – Software Engineering

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Identify the key activities in managing a software project
CO2	Compare different process models
CO3	Summarize the concepts of requirements engineering and analysis modeling
CO4	Make use of systematic procedure for software design and deployment
CO5	Compare and contrast the various software testing and maintenance strategies
CO6	Develop project schedule, identify project costs and efforts required

### Laboratory

### 20IT411 – Web Technology Laboratory

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Design simple web pages using markup languages like HTML and XHTML.
CO2	Develop dynamic web pages using DHTML and java script that is easy to navigate and use
CO3	Implement server side web pages that have to process request from client-side web pages.
CO4	Design and develop interactive and dynamic web pages using jQuery tool.
CO5	Design and develop event driven web servers using NodeJS.

### 20IT412 - Database Management Systems Laboratory

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Apply typical data definitions and manipulation commands
CO2	Design applications to test Nested and Join Queries
CO3	Implement simple applications that use Views
CO4	Implement applications that require a Front-end Tool
CO5	Critically analyze the use of Tables, Views, Functions and Procedures.

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### 20IT414 – Aptitude and Coding Skills - II

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Develop advanced vocabulary for effective communication and reading skills
CO2	Build an enhanced level of logical reasoning and quantitative skills.
CO3	Develop error correction and debugging skills in programming
CO4	Apply data structures and algorithms in problem solving.

### Sixth Semester B.Tech.

#### 20CS701– Cloud Computing

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	To understand the basic concept of cloud computing.
CO2	To discuss the different types of cloud virtualization techniques.
CO3	To understand the cloud platform architecture and its challenges.
CO4	To discuss about cloud resource management and cloud security.
CO5	To analyze the various cloud service providers and emerging cloud technologies.

#### 20IT601– Mobile Architecture and Development

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Explain the Android Architecture and various mobile platforms
CO2	Develop simple Android application with basic building blocks
CO3	Familiarize in the Graphics and Multimedia used for Android application development
CO4	Test the developed app and publishing for users
CO5	Hands on experience on industry facing frameworks such as Xamarin and NativeScript
CO6	Develop an app for iOS and Windows platform

#### 20CB005 – Design Thinking

COs	Course Outcome: The students, after the completion of the course, are expected to ....
CO1	Understand the phases of design thinking process
CO2	Conduct an immersion activity to create an empathy map
CO3	Define the key problems of the person as created
CO4	Apply the ideation phase steps to present the prototype ideas
CO5	Create a prototype with value propositions and test the prototype



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### Lab Integrated

<b>20IT909 – Advanced Java – JEE</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Understand the concepts of JEE and build tools like maven
CO2	Apply core Technologies in real world application
CO3	Demonstrate real world application in different frameworks like spring and spring MVC
CO4	Apply logging process and spring security in real world applications

<b>20IT602 – Artificial Intelligence and Machine Learning</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Provide a basic exposition to the goals and methods of Computational Intelligence
CO2	Study of the design of intelligent computational techniques
CO3	Apply the Intelligent techniques for problem solving
CO4	Improve problem solving skills using the acquired knowledge in the areas of reasoning, natural language understanding
CO5	Improve problem solving skills using the acquired knowledge in the areas of computer vision, automatic programming and machine learning
CO6	Use different machine learning techniques to design AI machine and enveloping applications for real world problems.

<b>20IT603 – Cyber Security</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
CO1	Explain simplified DES with example Understand
CO2	Explain classical Encryption techniques in detail
CO3	Differentiate public key and conventional encryption
CO4	List four general characteristics of schema for the distribution of the public key
CO5	State and explain the principles of public key cryptography
CO6	Explain RSA algorithm in detail with an example



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<b>20CS611 – Mobile Application Development Laboratory</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
<b>CO1</b>	Develop mobile applications using GUI and Layouts.
<b>CO2</b>	Develop mobile applications using Event Listener.
<b>CO3</b>	Develop mobile applications using Databases.
<b>CO4</b>	Create mobile applications using RSS Feed, Internal/External Storage, SMS, Multi- threading and GPS.
<b>CO5</b>	Analyze and discover own mobile app for simple needs.

<b>20CS711 – Cloud Computing Laboratory</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
<b>CO1</b>	Configure various virtualization tools such as Virtual Box, VMware workstation
<b>CO2</b>	Design and deploy a web application in a PaaS environment
<b>CO3</b>	Learn how to simulate a cloud environment to implement new schedulers.
<b>CO4</b>	Install and use a generic cloud environment that can be used as a private cloud
<b>CO5</b>	Manipulate large data sets in a parallel environment.

<b>20IT611 – Mini Project - II</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
<b>CO1</b>	Define the problem statement, study of requirements; study related Literature and the possible feasibilities.
<b>CO2</b>	Demonstrate a sound technical knowledge of their selected project domain.
<b>CO3</b>	Analyze the problem statement and design the architecture and modules for the proposed system
<b>CO4</b>	Implement the problem and test the project with various test cases
<b>CO5</b>	Demonstrate the knowledge, skills and attitudes of a software professional
<b>CO6</b>	To take up challenging real world problems and find solution using appropriate methodology.

<b>20CS614 – Advanced Aptitude and Coding Skills - II</b>	
<b>COs</b>	<b>Course Outcome: The students, after the completion of the course, are expected to ....</b>
<b>CO1</b>	Develop advanced vocabulary for effective communication and reading skills
<b>CO2</b>	Build an enhanced level of logical reasoning and quantitative skills.
<b>CO3</b>	Develop error correction and debugging skills in programming
<b>CO4</b>	Apply data structures and algorithms in problem solving.