

R.M.K. ENGINEERING COLLEGE
RSM Nagar, Kavaraipettai – 601 206

Department of Information Technology

Course Outcomes – ODD Semester 2019-20

Sl. No.	Semester	Theory/Practical	Course Code / Course Name
1)	3	Theory	MA8351 – Discrete Mathematics
2)	3	Theory	CS8351 - Digital Principles and System Design
3)	3	Theory	CS8391 – Data Structures
4)	3	Theory	CS8392 – Object Oriented Programming
5)	3	Theory	EC8394– Analog and Digital Communications
6)	3	Practical	CS8381 - Data Structures Laboratory
7)	3	Practical	CS8383 - Object Oriented Programming Laboratory
8)	3	Practical	CS8382 - Digital Systems Laboratory
9)	3	Practical	HS8381 - Interpersonal Skills/Listening &Speaking
10)	5	Theory	MA8551 - Algebra and Number Theory
11)	5	Theory	CS8591 - Computer Networks
12)	5	Theory	EC8691 - Microprocessors and Microcontrollers
13)	5	Theory	IT8501 - Web Technology
14)	5	Theory	CS8494 - Software Engineering
15)	5	Theory	OCE551 - Air Pollution and Control Engineering
16)	5	Practical	EC8681 - Microprocessors and Microcontrollers Laboratory
17)	5	Practical	CS8581 - Networks Laboratory
18)	5	Practical	IT8511 - Web Technology Laboratory
19)	7	Theory	IT6701 - Information Management
20)	7	Theory	CS6701 – Cryptography and Network Security
21)	7	Theory	IT6702 - Data Ware Housing and Data Mining
22)	7	Theory	CS6703 – Grid and Cloud Computing
23)	7	Theory	IT6004 - Software Testing
24)	7	Practical	IT6711 - Data Mining Lab
25)	7	Practical	IT6712 - Security Lab
26)	7	Practical	IT6713 - Grid and Cloud Computing Lab

Third Semester B.Tech.

MA8351 – Discrete Mathematics

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Find the pcnf & pdnf, rules of inference theory and proof methods.
CO2	Understanding the mathematical Induction, pigeonhole principle, Permutations and combinations, Generating functions, Inclusion and exclusion principle and Applying its applications.
CO3	Apply the concepts and techniques of Graphs and graph models
CO4	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.
CO5	Understanding lattices and Boolean algebra
CO6	Develop knowledge in Logic, Graphs and algebraic system in engineering.

CS8351 - Digital Principles and System Design

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Simplify Boolean functions using KMap
CO2	Design and Analyze Combinational Circuits.
CO3	Design and Analyze Synchronous Sequential Circuits.
CO4	Design and Analyze Asynchronous Sequential Circuits.
CO5	Implement designs using Programmable Logic Devices.
CO6	Write HDL code for combinational and Sequential Circuits.

CS8391 – Data Structures

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Implement abstract data types using arrays and linked list and understand their applicability.
CO2	Apply the different linear data structures like stack, queue to various computing problems.
CO3	Implement different types of trees and apply them to problem solutions.
CO4	Discuss graph structure and understand various operations on graphs and their applicability.
CO5	Analyze the various sorting and searching algorithms.
CO6	Understand hash functions and open addressing and predict their applicability.

CS8392 – Object Oriented Programming

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Develop Java programs using OOP principles
CO2	Develop Java programs using the concepts of inheritance and interfaces
CO3	Build Java applications using exceptions and I/O streams
CO4	Develop Java applications with threads and generics classes
CO5	Develop interactive Java programs using swings
CO6	Develop an application based upon the concepts of Java.

EC8394 – Analog and Digital Communication

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Identify and understand analog communication technique.

CO2	Identify and understand data and pulse communication technique.
CO3	Identify and understand digital communication technique.
CO4	Apply source and error control coding
CO5	Gain knowledge on multi user radio communication.
CO6	Understand about spread spectrum and multiple spectrums.

Laboratory

CS8381 - Data Structures Laboratory

COs	Course Outcome: The students, after the completion of the course, are expected to
CO1	Write functions to implement linear and non-linear data structure operations
CO2	Suggest appropriate linear / non-linear data structure operations for solving a given problem
CO3	Appropriately use the linear / non-linear data structure operations for a given problem
CO4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval.

CS8383 - Object Oriented Programming Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Develop and implement Java programs for simple applications that make use of classes Packages and interfaces.
CO2	Develop and implement Java programs with array list, exception handling and multithreading.
CO3	Design applications using file processing, generic programming and event handling.

CS8382 - Digital Systems Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Implement simplified combinational circuits using basic logic gates.
CO2	Implement combinational circuits using MSI devices.
CO3	Implement sequential circuits like registers and counters.
CO4	Simulate combinational and sequential circuits using HDL.

HS8381 - Interpersonal Skills / Listening & Speaking

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Listen and respond appropriately.
CO2	Participate in group discussions.
CO3	Make effective presentations.
CO4	Participate confidently and appropriately in conversations both formal and informal.

Fifth Semester B.Tech

MA8551 - Algebra and Number Theory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Apply the basic notions of groups, rings, fields which will then be used to solve related problems.
CO2	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
CO3	Demonstrate accurate and efficient use of advanced algebraic techniques.
CO4	Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text.
CO5	Apply integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.

CS8591 - Computer Networks

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Understand the basic layers and its functions in computer networks
CO2	Evaluate the performance of a network
CO3	Understand the basics of how data flows from one node to another
CO4	Analyze and design routing algorithm and protocols for various functions in the network
CO5	Analyze functionalities and protocols at the Transport Layer
CO6	Understand the working of various application layer protocols

EC8691 - Microprocessors and Microcontrollers

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Explain the basic architecture of 8086 microprocessor
CO2	Explain the 8086 configuration and design a system.
CO3	Analyze I/O circuits.
CO4	Analyze Memory Interfacing circuits.
CO5	Explain the basic architecture of 8051 microcontroller.
CO6	Design and implement 8051 microcontroller based systems.

IT8501 - Web Technology

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	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
CO3	Program server side web pages that have to process request from client side web pages.
CO4	Represent web data using XML and develop web pages using JSP.
CO5	Understand various web services and how these web services interact.

CS8494 - 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	Concepts of requirements engineering and Analysis Modeling.
CO4	Apply systematic procedure for software design and deployment.
CO5	Compare and contrast the various testing and maintenance.
CO6	Manage project schedule, estimate project cost and effort required.

OCE551 - Air Pollution and Control Engineering

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Understand the atmospheric process and pollutant transport mechanism
CO2	Apply modeling techniques and to determine the fate of air pollutant with respect to time and space
CO3	Prevent and control air pollution by suitable air pollution control measures
CO4	Control and Monitoring of gaseous contaminants in air pollution
CO5	Prevent, control and measure of Indoor air quality management

Laboratory

EC8681 - Microprocessors and Microcontrollers Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Write ALP Programmes for fixed and Floating Point and Arithmetic operations
CO2	Interface different I/Os with processor
CO3	Generate waveforms using Microprocessors
CO4	Execute Programs in 8051
CO5	Explain the difference between simulator and Emulator

CS8581 - Networks Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Implement various protocols using TCP and UDP.
CO2	Compare the performance of different transport layer protocols.
CO3	Use simulation tools to analyze the performance of various network protocols.
CO4	Analyze various routing algorithms.
CO5	Implement error correction codes.

IT8511 - 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	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
CO3	Program server side web pages that have to process request from client side web pages.
CO4	Represent web data using XML and develop web pages using JSP.
CO5	Understand various web services and how these web services interact.

Seventh Semester B.Tech.
CS6701 – Cryptography and Network Security

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Illustrate the principles of number theory and compare various cryptographic techniques.
CO2	Demonstrate how Block Ciphers such as DES, AES, Triple DES, RC5 and public key crypto-systems are implemented.
CO3	Apply hash function and digital signatures to implement authentication protocols
CO4	Illustrate the role of firewall in implementing trusted systems
CO5	Analyze how applications can be secured
CO6	Illustrate secure coding in the developed applications

IT6701 – Information Management

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Understand core relational database topics including logical and physical design and modeling.
CO2	Understand the principles of data security and privacy.
CO3	Design and implement a complex information system that meets regulatory requirements; define and manage an organization's key master data entities.
CO4	Design, Create and maintain data warehouses.
CO5	Be exposed to recent advances in NOSQL, Big Data and related tools.
CO6	Understand the issues in information lifecycle management

CS6703 – Grid and Cloud Computing

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Describe grid computing techniques to solve large scale scientific problems.
CO2	Explain the concept of virtualization.
CO3	Use the grid and cloud tool kits.
CO4	Summarize the security models in the grid and the cloud environment.
CO5	Understand how grid computing helps in solving large scale problems..
CO6	Understand the security issues in the grid and the cloud environment.

IT6702 – Data Ware Housing and Data Mining

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Gain knowledge on various data warehouse architectures
CO2	Ability to use business analysis tools.
CO3	Apply data mining techniques and methods to process large data sets.
CO4	Ability to decide on appropriate data Mining technology and use data mining tools.
CO5	Compare and contrast the various classifiers.
CO6	Understand the latest trends and scope in Data Mining

IT6004- Software Testing

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Understand the fundamental concepts of software testing principles, process and strategies.
CO2	Gain Knowledge on various test case design strategies.
CO3	Classify the various levels of testing.
CO4	Summarize the structure for testing teams and identify the skills needed by a test specialist.
CO5	Understand the software test automation and identify the skills needed for automation and Illustrate the test metrics and measurements.

Laboratory

IT6711 - Data Mining Lab

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	To be Familiar with the algorithms of Data Mining
CO2	Acquainted with the tools and techniques used for Knowledge Discovery in Databases
CO3	Exposed to Web Mining and Text Mining
CO4	Compare Various Data Mining Algorithms

IT6712 - Security Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Implement the classical substitution and transposition techniques.
CO2	Implement the various security algorithms
CO3	Use different Digital signature algorithms
CO4	Use different open source tools for network security and analysis

IT6713 - Grid & Cloud Computing Laboratory

COs	Course Outcome : The students, after the completion of the course, are expected to
CO1	Use the grid and cloud tool kits.
CO2	Design and implement applications on the Grid
CO3	Design and Implement applications on the Cloud.
CO4	Design and Implement applications on the Hadoop.