R.M.K. ENGINEERING COLLEGE

RSM Nagar, Kavaraipettai – 601 206

Department of Artificial Intelligence and Data Science

Course Outcomes
ODD Semester 2021-22

Sl. No.	Semester	Theory/ Practical	Course Code / Course Name
1)	3	Theory	20MA305-Linear Algebra
2)	3	Theory	20AI301-Digital Principles and Computer Architecture
3)	3	Theory	20AI302-Introduction to Data Science (Lab Integrated)
4)	3	Theory	20CS302-Object Oriented Programming
5)	3	Theory	20IT403-Database Management Systems
6)	3	Theory	20GE301-Universal Human Values-II: Understanding Harmony
7)	3	Practical	20CS311-Object Oriented Programming Laboratory
8)	3	Practical	20IT412-Database Management Systems Laboratory
9)	3	Practical	20AI311-Mini Project
10)	3	Practical	20CS313-Aptitude and Coding Skills - I

EVEN Semester 2021-22

Sl. No.	Semester	Theory/ Practical	Course Code / Course Name
1)	4	Theory	20MA402-Probability and Statistics
2)	4	Theory	20AI401-Artificial Intelligence
3)	4	Theory	20AI402-Data Analytics
4)	4	Theory	20AI403-Object Oriented Software Engineering
5)	4	Theory	20AI404-Operating System Fundamentals (Lab Integrated)
6)	4	Theory	20CS402-Design and Analysis of Algorithms
7)	4	Practical	20AI411-Artificial Intelligence Laboratory
8)	4	Practical	20AI412-Data Analytics Laboratory
9)	4	Practical	20AI413-Internship
10)	4	Practical	20CS414-Aptitude and Coding Skills – II

ODD Semester 2021-22

3rd Semester – B.Tech. Artificial Intelligence and Data Science

20MA305-Linear Algebra	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Test the consistency and solve the system of linear equations.
CO2	Identify the bases and dimensions of vector space.
CO3	Demonstrate the accurate and efficient use of advanced algebraic techniques.
CO4	Compute orthonormal basis of inner product space and least squares approximation.
CO5	Evaluate the eigenvalues of a matrix using numerical techniques and perform matrix decomposition.

20AI301-Digital Principles and Computer Architecture	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Design digital circuits using simplified boolean functions.
CO2	Design combinational circuits and sequential circuits
CO3	Interpret the basic structure and operation of a computer, instructions and addressing mode.
CO4	Construct a basic processor with pipeline.
CO5	Evaluate the memory hierarchical system including cache memory and virtual memory.
CO6	Differentiate the different ways of communicating with I/O devices and I/O interfaces.

20AI302-Introduction to Data Science (Lab Integrated)	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Explain the fundamentals of data science
CO2	Experiment python libraries for data science
CO3	Apply and implement basic classification algorithms
CO4	Implement clustering and outlier detection approaches
CO5	Present and interpret data using visualization tools in Python

20CS302-Object Oriented Programming	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Explain the object oriented programming concepts and fundamentals of Java
CO2	Develop Java programs with the packages, inheritance, interfaces and exceptions
CO3	Build Java applications with I/O streams, threads and generics classes
CO4	Apply strings and collections in applications
CO5	Develop interactive Java applications using swings and event handling mechanism

20IT403-Database Management Systems	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Implement SQL and effective relational database design concepts.
CO2	Map ER model to Relational model to perform database design effectively.
CO3	Compare and contrast various indexing strategies in different database systems.
CO4	Implement queries using normalization criteria and optimization techniques.
CO5	Analyse how advanced databases differ from traditional databases.
CO6	Design and deploy an efficient and scalable data storage node for varied kind of application requirements.

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.

Laboratory

20CS311-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 collections, exception handling, regular expressions and multithreading.
CO3	Design applications using file processing and event handling

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.

20AI311-Mini Project	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Define the problem statement, study of requirements; study related Literature and the possible feasibilities.
CO2	Demonstrate a sound technical knowledge of their selected project domain.
CO3	Analyze the problem statement and design the architecture and modules for the proposed system
CO4	Implement the problem and test the project with various test cases
CO5	Demonstrate the knowledge, skills and attitudes of a software professional
CO6	To take up challenging real world problems and find solution using appropriate methodology.

20CS313-Aptitude and Coding Skills - I	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	CO1: Develop vocabulary for effective communication and reading skills.
CO2	CO2: Build the logical reasoning and quantitative skills.
CO3	CO3: Develop error correction and debugging skills in programming.

EVEN Semester 2021-22

4th Semester – B.Tech. Artificial Intelligence and Data Science

20MA402-Probability and Statistics	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
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.

20AI401-Artificial Intelligence	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Explain the foundations of AI and various Intelligent agents
CO2	Apply search strategies in problem solving and game playing
CO3	Explain logical agents and first-order logic
CO4	Apply problem-solving strategies with knowledge representation mechanism for solving hard problems
CO5	Describe the basics of learning and expert systems.

20AI402-Data Analytics	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Explain the fundamentals of big data and data analytics
CO2	Discuss the Hadoop framework
CO3	Explain about exploratory data analysis and data manipulation tools
CO4	Analyse and interpret streaming data
CO5	Illustrate various applications of data analytics

20AI403-Object Oriented Software Engineering	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Summarize software engineering principles and activities involved in building large software programs.
CO2	Describe the process of requirements gathering, analysis and unified modelling
CO3	Apply the object oriented design process.
CO4	Analyse the various traditional and object oriented testing methods
CO5	Apply estimation techniques, schedule project activities and compute pricing.

20AI404-Operating System Fundamentals	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Implement the operating system concepts and process
CO2	Analyse various CPU scheduling algorithms and thread mechanism
CO3	Implement process synchronization and deadlock problems
CO4	Design various page replacement techniques to given situation
CO5	Implement various disk scheduling techniques

20CS402-Design and Analysis of Algorithms	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Analyse the efficiency of recursive and non-recursive algorithms mathematically
CO2	Analyse the efficiency of brute force, divide and conquer, decrease and conquer, Transform and conquer algorithmic techniques
CO3	Implement and analyse the problems using dynamic programming and greedy technique algorithmic techniques.
CO4	Solve the problems using iterative improvement technique for optimization.
CO5	Compute the limitations of algorithmic power and solve the problems using backtracking and branch and bound technique.

Laboratory

20AI411-Artificial Intelligence Laboratory	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Implement search strategies
CO2	Implement and execute gaming algorithms
CO3	Design programs for Constraint satisfaction problems
CO4	Experiment the simple projects using AI Concepts

20AI412-Data Analytics Laboratory	
COs	**Course Outcome : The students, after the completion of the course, are expected to ….**
CO1	Setup multi-node Hadoop Clusters
CO2	Apply Map Reduce algorithms for problems
CO3	Perform data analysis with machine learning models.
CO4	Perform graphical data analysis.
CO5	Build large datasets using Hbase, Mongo DB.

20CS414-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.

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