Rathnavel Subramaniam College of Arts & Science (Autonomous), Sulur, Coimbatore

School of Computer Studies (SCS)

MASTER OF COMPUTER APPLICATIONS (MCA)

MCA 2018(LE) BATCH

Programme Outcomes (POs):-

PO1	To provide outcome based education in the respective disciplines and to impart skills which will enable the students secure job in their core disciplines in this digitally transforming era.
PO2	To develop the art of critical thinking, creativity and to imbibe emerging trends thereby to excel in their interested domains of specializations.
PO3	To inculcate and develop research competence systematically besides the capacity to analyze the viability of new ideas, entrepreneurship and professionalism based on the students' choice and aptitude.
PO4	To instill a culture of life-long learning and the ability to understand the socio-economic issues.

Programme Specific Outcomes (PSOs):-

On the completion of MCA Degree the Postgraduates will be competently able

PSO1	To perform the Job Roles such as Front End Developer (SPA Developer), Jr. Dynamic Web App Developer, Hybrid Mobile App Developer, Native App Developer , Jr. Java Developer, Jr. ETL Developer, Sr. ETL Developer and BI Developer
PSO2	To Apply the skill sets of MongoDB, NodeJS, ExpressJS and ReactJS
PSO3	To acquire the skill sets in React Native JS and Native App development.
PSO4	To understand, analyze and develop the skill sets in Stream Processing (Spark Streaming, Flume, Storm), Batch Processing (HIVE, HBase, PIG, Sqoop) and Analytics.

Graduate Attributes

- DISCIPLINE KNOWLEDGE
- PROBLEM ANALYSIS
- CRITICAL THINKING
- MODERN TOOLS USAGE
- SOFT SKILLS
- SELF LEARNING
- LIFE LONG LEARNING
- INDIVIDUAL & TEAM WORK
- PROJECT MANAGEMENT & FINANCE

Course Outcomes

Semester	Name of the Course	Course Outcomes
I	Responsive Web Design	• Understand the basic concepts of WEB and HTML structure. • Create Static Web page with List, Image, Links and Tables. • Apply style to the static web page. • Implement the layouts with form controls. • Create Responsive grids, container with navigation. • Implement Media query and make a complete UI for a Web Application.
	Express JS	• Understand the basic concepts of Node JS. • Implement Objects and Function. • Understand and Create Node JS API with Controllers. • Understand and Implement API development Posts. • Implement Express JS basic server setup. • Implement Express JS routes and templates.
	Java script and JQuery	• Understand the basic concepts of web scripting. • Develop programs by using operators, variable and functions. • Develop programs using control structures and arrays. • Understand and Access the Document Object Model Structure. • Apply manipulation on DOM with JavaScript event listeners and higher order function. • Understand and apply JQuery concepts into a

		static web page.
	Java Programming	• Use variables, data types, operators and input/output in Java. • Develop programs that has conditionals and loops in Java. • Construct classes, objects, constructors and extend Inheritance in Java. • Practice abstract classes and Interfaces in Java. • Develop programs packages, enumerations and Arrays in Java. • Explore collections and Threads in Java. • Illustrate date and time, string and exception handling. • Explore Functional Programming in Java.
	Data Structures And Algorithms	• Implement Array, Linked list, Array list to manage the memory using static and dynamic allocations. • Describe the basic concepts of algorithms and analyze the performance of algorithms. • Analyze various Sorting Algorithms. • Analyze various Searching Algorithms. • Implement SQL Queries and various keys. • Execute various operations in SQL.
	Foundations of Big Data Systems	• Understand the concept and challenges of Big data and why existing technology is inadequate to analyze the big data. • Design Abstraction principles to develop systems that can handle big data. • Illustrate the concept of Dictionary ADT using hash tables and Bloom filter and use the appropriate data structure for a problem. • Implement Binary Search Trees and KD Trees. • Discuss the design principles and concepts of algorithm design and explain the divide and conquer paradigm. • Experiment with the concepts of map and reduce.
	Project – Responsive Web Design	• Use HTML in real time web application. • Apply CSS in real time web application. • Extend work with high and low level designs of web application using Bootstrap. • Develop and Validate web pages using JavaScript and JQuery. • Produce a responsive web page for real time environment.

	Employability Skills I	• To enhance the English Language standards of our students to meet corporate requirements. • To enhance the students' level in applying grammar in various areas. • To show the improvisation in the writing level of the students'.

II	React JS	• Understand the base features of React JS. • Apply style to the components and elements. • Understand and apply the React component life cycle and React DOM to real time requirements. • Implement routes and form validation. • Understand and apply Redux concepts with Authentication. • Implement Hooks into the Web Application.
	Node JS	• Understand the basic concepts of Node JS and NPM. • Create Web application with Express JS. • Create API and JSON to the static web application. • Understand and Implement EJS, Templates. • Implement data manipulation using MongoDB. • Implement Authentication using encryption, Session and Cookies.
	MongoDB	• Understand the use of Nosql databases in the real world. • Create and manipulate database, tables and records using SQL. • Understand and apply the basic concepts of NOSQL. • Perform the creation and data manipulation operations of MongoDB. • Implement data manipulation using mongoose. • Deploy a complete web application using Atlas and Heroku.
	Platforms For Big Data	• Interpret the concepts of Distributed Systems and Google File System. • Build an ability to use Hadoop framework to efficiently store, retrieve and process Bigdata. • Extend conceptual understanding of Hadoop Distributed File System. • Solve Big data problems with Map Reduce Programming skills of Hadoop. • Apply Pig Scripts to extract knowledge from BigData. • Build an ability to use Spark framework to efficiently store, retrieve and process Bigdata.
	ETL And Batch Processing	• Explain the principles of data warehouse modeling and Build a data warehouse. • Interpret structured and unstructured data by performing ETL & ELT operations. • Apply the mechanism of capturing the data from batch data store using Sqoop. • Organize the Big data using Hive. • Build the HBase NoSQL database to provide

		real-time read/write access to bulk datasets. • Make use of workflow manager tools to learn automation of task flows.
	Scala Programming	• Understand about variables, data types, operators and Develop programs that has loops in Scala. • Develop programs that has functions, strings in Scala. • Construct classes, Objects, Constructors and Implement Inheritance in Scala. • Implement Collections and Traits in Scala. • Implement Spark RDD programs in Scala. • Carry out a Case Study in Movie Analytics using SparkRDD and Spark SQL.
	Project - React JS	• Apply React JS in real time web application. • Implement React route and styles in real time web components. • Implement API in real time web application for transferring JSON data. • Manipulate and Rendering Database Items to Application. • Apply Authentication & Security using NodeJS.
	Project- Big Data	• To Interpret structured and unstructured data by performing ETL & ELT operations. • To Apply the mechanism of capturing the data from batch data store using Sqoop. • Solve Big data problems with Map Reduce Programs of Hadoop. • To Organize the Big data using Hive . • Build the HBase NoSQL database to provide real-time read/write access to bulk datasets. • To Visualize the results using various reporting tools.
	Employability Skills II	• To enhance the English Language standards of RVS students to meet corporate requirements. • To enhance the students Verbal Skills level in the application of grammar in Placement Tests and Competitive Exam. • To enhance the students to communicate effectively in writing to a variety of audience and a variety of purpose. • To enhance the students ability to read and respond to content of the text orally and in writing. • To enable the students to become self confident by mastering personal, interpersonal, oral communication, team management and leadership skills.

III	React Native I	• Demonstrate Java Script and Native Script Functions • Use React, Props and State • Use react native to develop hybrid app • Perform app with lists, user inputs and debugging • Demonstrate Navigation in app development
	React Native II	• Demonstrate data in network • Use maps and locations in app development • Employ Redux in app development • Use Async redux and its tools • Employ performance, deploy and testing
	Project React Native	• Demonstrate React native Base components and apply Style • Implement user input and components with validation • Apply Navigation using switch navigator, stack navigator and tab navigator • Use API to transfer data with authentication • Use Redux APIs to create hybrid mobile app • Deploy and testing the hybrid mobile app
	Real -Time Data Streaming And Processing	• Understand design principles and concepts of Streaming data • Experiment with the concepts of Sketches • Build an ability to use Spark framework to efficiently store, retrieve and process Bigdata • Extend conceptual understanding of Apache Flume • Apply the techniques for deriving and analyzing real time data with Storm • Demonstrate Spark Streaming with real time data
	Big Data Analytics	• Understand the basic concepts of Measures of Central Tendency, Measures of Dispersion and Probability. • Understand the concepts of CRISP for Machine learning in Big Data Analytics • Perform Data preparation for Model Building • Build a Linear Regression Model with SparkML and evaluate the model • Demonstrate Classification Model building using Decision tree and Random forest with SparkML

		• Perform Clustering Model building using KMeans and Hierarchical Clustering with SparkML
	Project –Big Data	• Build an ability to use Spark framework to efficiently store, retrieve and process Bigdata • Extend conceptual understanding of Apache Flume • Apply techniques for deriving and analyzing real time data with Storm • Demonstrate Spark Streaming with real time data • Perform Data preparation for Model Building • Build a Machine Learning Model with SparkML and evaluate the model
IV	Project Viva & Voce	• To implement Full Stack App / Hybrid Web App to Native Mobile App or Develop Big Data Systems • To develop a capstone Project by using latest technologies