FATIMACOLLEGE(AUTONOMOUS),MADURAI–625018
COURSE OUTCOMES

NAME OF THE PROGRAMME:M.SC COMPUTER SCIENCE **PROGRAMMECODE:PSCS**

Course Code	Course Title	Course Outcomes
19PG1B1	ADVANCED PROGRAMMING IN JAVA	CO1: Describeclient/server applications, TCP/IP socket programming and distributed applications using RMI. CO2: Analyze and design Window based applications using Swing Objects. CO3: Develop and design Java programs using Swing components. CO4: Discuss the various JDBC drivers and demonstrate J2EE application using JDBC connectionand serverside programs with Servlets. CO5: Write component-based Java programs using JavaBeans.
19PG1B2	DISTRIBUTED OPERATING SYSTEMS	CO1:Discuss the core concepts of distributed systems. CO2:Analyze various message passing mechanisms with its model. CO3:Identify the inherent difficulties that arise due to distribution of computing resources. CO4:Explain migration with the process management policies. CO5:Explain the basic concepts, design and structure of the LINUX operating system.
19PG1B3	OBJECT ORIENTED SOFTWARE ENGINEERING	CO1: Differentiate traditional and object oriented software engineering CO2: Explain various SDLC methods of OOSE CO3: Describe techniques used in OOSE CO4: Explain OOSE testing methods

		CO5: Analyze and choose necessary method for a particular project
19PG1B4	THEORY OF COMPUTATION	CO1: Demonstrate an in-depth understanding of theories, concepts and techniques in automata and their link to computation. CO2: Develop abstract machines that demonstrate the properties of physical machines and be able to specify the possible inputs, processes and outputs of these machines. CO3: Analyze the computational strengths and weaknesses of these machines. CO4: Explain Context-Free Grammar. CO5: Apply automata concepts and techniques in designing systems that address real world problems.
19PG1B5	LAB-I- ADVANCED PROGRAMMING IN JAVA	CO1: Implementation of java applications that illustrate professionally acceptable coding and performance standards. CO2: Develop distributed applications using RMI. CO3:Design and develop event-driven programming and graphical user interfaces using Swing-based GUI. CO4: Design and develop Java programs using JDBC connection for data access and also Develop server side programs with Servlets. CO5: Design and develop component-based Java programs using JavaBeans.
19PG1B6	LAB-II- OPERATING SYSTEM	CO1: Utilize basic LINUX Utilities. CO2: Write different LINUX shell scripts and execute various shell programs. CO3: Apply LINUX system calls. CO4: Compute various file permissions and have a basic understanding of system security.

		CO5: Demonstrate the basic knowledge of Linux commands and file handling utilities by using Linux shell environment.
19PGBEDC	WEB DEVELOPMENT	CO1: Define various tags of HTML CO2: Design a web page with attractive display CO3: Create a Layout for a webpage using Block tags CO4: Explain how and where to apply CSS CO5: Design own website
19PG2B7	EXTREME PROGRAMMING – ASP.NET	CO1: Explain the important facts of ASP.NET 3.5, analyze and evaluate Web Form processing stages. CO2: Demonstrate web application using different types of Server Controls with input validation. Analysis and Identify state management techniques. CO3: Discuss Data Access Technology using ADO.NET architecture. CO4: Formulate Data Sources using SQL Data Source , Object Data Source and process data with rich datacontrols. CO5: Discuss and demonstrate Themes and Master pages of Web site
19PG2B8	MOBILE APPLICATION DEVELOPMENT USING ANDROID STUDIO	CO1: Design scripts to meet given interface and media control requirements CO2: Utilize variables, properties and other code elements appropriately to implement the code design CO3: Implement and evaluate techniques for the installation of mobile applications CO4: Explain the principles of technologies which support media production and delivery on a variety of platforms CO5:Evaluate alternative mobile frameworks, and contrast different programming platforms

19PG2B9	DESIGN AND ANALYSIS OF ALGORITHMS	CO1: Analyze the time and space complexity of given Algorithms. CO2: Demonstrate operations like searching, insertion, and deletion on various data structures. CO3: Identify appropriate sorting/searching technique for given problem. CO4: Apply the dynamic programming technique to solve the problems. CO5: Discuss advanced tree and graph applications.
19PG2B10	LAB-III - EXTREME PROGRAMMING - ASP.NET	CO1: Design and develop web applications using different Server Controls. CO2: Implement web applications with different state managements. CO3: Create Data Access Technology using ADO.NET architecture. CO4: Design and utilize Data Sources using SQL Data Source , Object Data Source for data manipulation operation. CO5: Design and develop web sites.
19PG2B11	LAB-IV – MOBILE APPLICATION DEVELOPMENT USING ANDROID STUDIO	CO1: Develop enterprise-level mobile solutions. CO2: Install and configure Android application development tools. CO3: Demonstrate Save State information across important operating system events. CO4: Develop advanced application programs using Android CO5: Design and develop mobile applications.
19PG2BE1	COMPUTATIONAL INTELLIGENCE	CO1: Demonstrate the fundamental concepts of soft computing and its applications. CO2: Explain the concepts of fuzzy sets, knowledge representation using fuzzy

		rules, and othermachine intelligence applications of fuzzy logic. CO3: Discuss the basics of an evolutionary computing CO4: Explain genetic algorithms for practical problems. CO5:Discuss the performance of granular computing in solving specific problems.
19PG2BE2	NEURAL NETWORKS	CO1: Explain the basic concepts of Neural Networks. CO2: Describe the various Neural Network models. CO3: Explain Learning Rules of Neural Network CO4: Distinguish Feedback and Feed forward networks CO5: Compare Special networks and discuss the applications of Neural Network.
19PG2BE3	SOFTWARE TESTING	CO1: Discuss various software application domains and different process model used in software development. CO2: Demonstrate the basics of software quality assurance and defect prevention. CO3: Compare different testing strategies and tactics. CO4: Describe the software testing techniques in different environments. CO5: Explain high performance testing using Jmeter.
19PG2BE4	EMBEDDED SYSTEMS	CO1: Explain the concepts of embedded systems CO2: Analyze the architecture of embedded systems CO3: Describe about the processors and memory organization CO4: Distinguish when and where to apply embedded concepts CO5: Describe different embedded system design technologies
19PGBEDC	WEB DEVELOPMENT	CO1: Define various tags of HTML CO2: Analyze information to provide attractive display CO3: Create clear webpage for given data CO4: Explain how and where to apply CSS

		CO5: Design own website
19PG3B12	DIGITAL IMAGE PROCESSING	CO1: Explain the representation of digital image and its manipulations CO2: Analyze image sampling and quantization requirements and implications CO3: Describe various Transformation and Filtering Techniques CO4: Demonstrate Restoration And Reconstruction models CO5: Utilize Image Compression And Segmentation for efficient storage.
19PG3B13	DATA MINING AND DATA WAREHOUSING	CO1: Explain the fundamental concept of Data Mining andanalyze, evaluate the data cleaning, integration , transformation and reduction techniques. CO2:Design multidimensional data using Data Warehouse architecture. CO3:Design and evaluate Classification algorithms. CO4:Identify the types of data in Cluster Analysis and categorize the Cluster Methods. CO5: Utilize the Data Mining techniques in various real applications and in major issues
19PG3B14	LAB-V- DIGITAL IMAGE PROCESSING	CO1: Demonstrate Fundamental Steps involved in Digital Image Processing CO2: Analyze and use Mathematical Tools for Digital Image Processing. CO3: Apply Intensity Transformation functions and Spatial filtering methods CO4: Utilise Color Image Processing with different Color Models CO5: Implement Image Segmentation Techniques and Image Compression Techniques using Huffman, Golomb and Arithmetic coding algorithms
19PG3B15	LAB V1- DATA MINING AND DATA WAREHOUSING	CO1: Utilize Weka tool to evaluate Data Mining algorithms. CO2: Demonstrate pre-processing steps involved in different datasets. CO3: Analyze Data Mining techniques for realistic data. CO4: Develop the decision tree algorithm using different datasets. CO5: Demonstrate the classification and clusters algorithms using large

		datasets
19PG3BSI	SUMMER INTERNSHIP/ TRAINING/ ONLINE CERTIFICATION	CO1: Identify employment contacts leading directly to a full-time job following course completion CO2: Create communication, interpersonal and other soft skills essential for the job interview process. CO3: Analyze the project requirements and engages in continuing professional development. CO4: Analyze a problem and identify the computing requirements appropriate to its solution. CO5: Utilizing a new software tool.
19PG3BE5	PYTHON PROGRAMMING	CO1: Understand python is a useful scripting language for developers. CO2: Apply to lists, tuples, and dictionaries in python programs CO3: Identify the structure and components of a python program. CO4: Analyze the design philosophy that emphasizes code readability, notably using significant whitespace. CO4: Utilizing a new software tool.
19PG3BE6	CRYPTOGRAPHY AND NETWORK SECURITY	CO1: Explain the various symmetric encryption techniques and demonstrate the functionalities of DES algorithm. CO2: Analyze public key algorithms. CO3: Evaluate the authentication concept and hash algorithms. CO4: Apply the concepts of key management techniques. CO5: Analyze the vulnerabilities in data communication through networks.
19PG3BE7	DISTRIBUTED DATABASE	CO1: Compare normal and distributed DBMS and to explain various approaches of DDBMS. CO2: Formulate various kinds of retrieving statements to retrieve information

		from DDB. CO3: Explain multiple processes dealing with distributed database system without clash CO4: Describe the set of protocols used in DDBMS to make effective communication. CO5: Discuss object concepts and object models.
19PG3BE8	COMPILER DESIGN	CO1: Describe the phases of Compiler. CO2: Explain the role and type of Parser CO3: Analyze and use Intermediate languages CO4: Describe the design of code generation with register utilization. CO5: Demonstrate code optimization techniques.
19PG3BE9	CLOUD COMPUTING	CO1: Identify and use different cloud computing services. CO2: Explain the basic principles of cloud virtualization. CO3: Prepare the appropriate cloud computing solutions to meet the requirement of specific applications. CO4: Design application by utilizing cloud platforms such as Google app Engine and Amazon Web Services. CO5: Analyze different cloud programming models.
19PG3BE10	ADVANCED COMPUTER GRAPHICS & ANIMATION	CO1: Explain the basic concepts in computer graphics. CO2: Analyze various algorithms and to convert the basic geometrical primitives. CO3: Demonstrate the importance of viewing and clipping. CO4: Discuss the fundamentals of animation CO5: Describe Interpolation-Based Animation
19PG3BE11	BIG DATA ANALYTICS	CO1: Explain Characteristics and challenges of Big Data

		CO2: Describe Big Data Analytics CO3: Utilize Hadoop for Big Data Technologies CO4: Demonstrate MAPREDUCE Programming CO5: Describe types of Recommendation Systems using Big Data Analytics.
19PG3BE12	DEEP LEARNING	CO1: Explain Deep learning CO2: Analyze different methods used for modelling CO3: Choose appropriate model according to application CO4: Compare various learning methods CO5: Explain Applications in Object Recognition and Computer Vision
19PG4B17	PRINCIPLES OF INTERNET OF THINGS	CO1: Explain the basic concepts of IoT. CO2: Discuss physical and logical design of IoT enabled technologies. CO3: Analyze how and where IoT can be applied. CO4: Compare M2M and IoT. CO5: Describe the features of Python used for IoT implementation.
19PG4BPR	PROJECT	CO1: Discuss project development and the associated business processes. CO2: Analyse problems and formulate solutions. CO3: Communicate with engineers and the community at large in written and oral forms. CO4: Create effective communication skills for presentation. CO5: Plan as an individual or in a team in development of technical projects.
Certificate Course	CONTENT MANAGEMENT SYSTEMS	CO1: Understand the primary roles of Content Management Systems CO2: Able to utilize protectively the environment of Wordpress CO3: Able to apply themes, widget, plugings CO4: Can utilize effectively the pages, posts, menus CO5: Understanding the other CMS software and able to develop the web site