

Master of Computer Applications

Programme Specific Outcomes (PSO)

1. Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
2. Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
3. Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.

1MCACC01: ADVANCED JAVA PROGRAMMING

Course Outcomes (CO)

1. Learn the concept of Servlet and its life cycle.
2. Understand JSP tags and its services
3. Learn the methods of building database connection.
4. Design and develop JSP applications using JSP tags.
5. Develop Enterprise Java Bean Applications.

1MCACC02: ADVANCED OPERATING SYSTEM

Course Outcomes (CO)

1. Apply the fundamental concepts of the operating systems for a given problem and discuss its performance issues
2. Apply graph theory concepts to model OS problem and give valid conclusions.
3. Analyze the given problem and solve using OS management techniques.
4. Design algorithms for the given problem & compare its performance with existing ones
5. Demonstrate the working of basic commands of UNIX environment including file processing.
6. Demonstrate the usage of different shell commands, variable and AWK filtering to the given problem

1MCACC03: DATA AND FILE STRUCTURES

Course Outcomes (CO)

1. Determine preferred data structures (Arrays, linked lists, stack, queues, trees, graphs) for a given problem
2. Design algorithms for various operations (creation, insertion, deletion and traversal) on data structures
3. Explain the applications of data structures
4. Understand and apply searching techniques (linear, binary, and hashing)
5. Understand & Apply sorting techniques (Insertion sort, Selection sort, Quick sort, Merge Sort, Exchange sort)
6. Implement the data structures using a programming language

1MCACC04: ADVANCED SOFTWARE ENGINEERING

Course Outcomes (CO)

1. Understand different software engineering process models and the principle of requirement engineering
2. Understand design engineering and analyze various architectural styles and patterns.
3. Understand component level design and familiarize with quality management and SQA plan
4. Understand and analyze various testing strategies

1MCAAC01: COMPUTATIONAL MATHEMATICS

Course Outcomes (CO)

1. Apply the fundamentals of set theory for the given problem.
2. Understand the concept of logical reasoning
3. Implement various algorithms using principles of mathematical induction
4. Model the given problem by applying the concepts of graph theory.
5. Identify and list the different applications of discrete mathematical concepts in computer science.

1MCABC01 : PROGRAMMING AND PROBLEM SOLVING USING C BRIDGE COURSE

Course Outcomes (CO)

1. Understand the basic concepts of programming, C compiler and problem solving through C by writing algorithms.
2. Familiarize with variables, operators, expressions, input and output statements.
3. Learn decision making statement and looping structure.
4. Implement programs using Arrays, Pointers Structures, Unions and Functions.
5. Implement file concepts and Strings in programs and executing through command prompt

2MCACC01: ADVANCED DATABASE MANAGEMENT SYSTEMS

Course Outcomes (CO)

1. Understand the underlying principles of Relational Database Management System.
2. Analyze and understand Database storage
3. Understand Query processing on XML Data model
4. To implement and maintain an efficient database system using emerging tools

2MCACC02 : ARTIFICIAL INTELLIGENCE

Course Outcomes (CO)

1. Understand the basic principles and applications of Artificial Intelligence
2. Solve various problems by applying a suitable search method
3. Represent knowledge using various different techniques
4. Apply knowledge representation and list the key aspects of planning

2MCAAC02: RESEARCH METHODOLOGY

Course Outcomes (CO)

1. Identify the suitable research methods and articulate the research steps in a proper sequence for the given problem.
2. Carry out literature survey, to define the problem statement and suggest suitable solution for the given problem.
3. Analyze the problem and conduct experimental design with the samplings.
4. Perform the data collection from various sources segregate the primary and secondary data
5. Understand concepts/section of Copy Right Act /Patent Act /Cyber Law/ Trademark

2MCAEC11: CYBER SECURITY

Course Outcomes (CO)

1. Apply IT ACT (Cyber law) to the given case/problem and infer from the given case and analyze the gap if exists.
2. Analyze the working of cyber security principles in designing the system.
3. Analyze the given problem (cyber-crime, vulnerability, threat), develop a strategy(physical, logical or administrative controls) to mitigate the problem and articulate consequences on Society and National Economy.
4. Examine relevant network defence / web application tool to solve given cyber security problem evaluate its suitability.
5. Investigate the influence of Block chain technology for the cyber security problem and evaluate its role.
6. Evaluate provisions available in Indian cyber law to handle infringement of intellectual property rights that happens on the cyber platform.

2MCAEC12: DATA WAREHOUSING AND KNOWLEDGE MINING

Course Outcomes (CO)

1. Understand the concepts of data warehouse and data mining
2. Use data preprocessing techniques to build data warehouse
3. Analyze transaction databases for association rules.
4. Use classification methods and prediction techniques on transaction databases.
5. Understand various clustering techniques for categorizing data.
6. Understand methods for outlier analysis.

2MCAEC21: DIGITAL IMAGE PROCESSING

Course Outcomes (CO)

1. Understand fundamentals of Digital image processing and various stages of Digital image processing
2. Learn spatial operations and use it for various image processing applications namely image enhancement, image sharpening and image resampling
3. Understand the frequency domain concepts and operations namely frequency domain filtering and apply it to enhance the images
4. Identify various noise and image degradation models and restore the images using filters
5. Understand various segmentation techniques and use it for object segmentation
6. Identify various morphological operations and apply to segment objects based on shapes

2MCAEC22: INTERNET OF THINGS

Course Outcomes (CO)

1. Understand constraints and opportunities of wireless and mobile networks for Internet of Things
2. Analyze the societal impact of IoT systems and its domains
3. Develop critical thinking skills
4. Analyze, design or develop parts of an Internet of Things solution and map it toward selected business models
5. Evaluate the impact of cloud technology and its issues related to the Internet of Things

3MCACC01: MACHINE LEARNING

Course Outcomes (CO)

1. Understand the fundamental issues and challenges of machine learning, data model selection and its complexity
2. Understand the strengths and weaknesses of machine learning approaches
3. Analyze the underlying relationships within and across Machine Learning algorithms and the paradigms of supervised and un-supervised learning

3MCACC02: ADVANCED WEB PROGRAMMING

Course Outcomes (CO)

1. Apply the concept and usages of web based programming techniques
2. Develop interactive web pages using various web technologies such as Bootstrap, JavaScript and dynamic HTML
3. Demonstrate applications of AJAX and JQuery in web designing
4. Illustrate the use of PHP for server side applications
5. Design and implement user interactive dynamic web based applications

3MCACC03: ADVANCED ALGORITHMS

Course Outcomes (CO)

1. Understand the problem type, pick an appropriate algorithm design, analyze the worst-case running time of the algorithm using asymptotic analysis
2. Familiarize and analyze the approximation factor of an algorithm
3. Understand major string matching algorithms and their analyses
4. Analyze randomized algorithms and demonstrate difference between a randomized algorithm and an algorithm with probabilistic inputs
5. Understand the need for parallel algorithm design, choose necessary parameters for implementing parallel algorithms and deploy it in correct scenarios.

3MCACC04: DATA COMMUNICATION AND COMPUTER NETWORKS

Course Outcomes (CO)

1. Understand the types of networks, network models and its related terminologies
2. Describe the layer functionalities of OSI and TCP/IP model
3. Comprehend the working of various layer protocols of network models
4. Apply sub netting techniques to solve problems on classless and classful addressing
5. Analyze and interpret concepts of network security and cryptography

3MCAEC31: BIG DATA ANALYTICS

Course Outcomes (CO)

1. Understand the fundamentals of data analytics techniques and platforms
2. Design and Apply data analytics ecosystem and visualization techniques to solve various problems
3. Analyze the results of data analytics and visualization for various problems
4. Evaluate the solutions of data analytics ecosystems

3MCAEC32: NoSQL

Course Outcomes (CO)

1. Demonstrate the concepts of unstructured data
2. Analyze and Manage the Data using CRUD operations
3. Develop the applications using NoSQL
4. Realize the concept of Map Reduce its applicability in the real world application development
5. Analyze the framework of NOSQL

4MCAEC41: SOFTWARE DEFINED NETWORKS

Course Outcomes (CO)

1. Differentiate between traditional networks and software defined networks and learn the fundamentals of software defined networks
2. Understand advanced and emerging networking technologies, separation of the data plane and control plane
3. Understand SDN Programming and analyze the performance of varying and complex networking tasks
4. Understand SDN concepts and apply it to solve real time world problems

4MCACC01: CLOUD COMPUTING

Course Outcomes (CO)

1. Understand basics of Cloud computing
2. Understand the importance of virtualization
3. Analyze various cloud computing services
4. Understand the key concepts of Cloud Deployment using AWS as case studies

4MCAEC42: STORAGE AREA NETWORKS

Course Outcomes (CO)

1. Understand the basic concepts of Server centric and storage centric systems
2. Evaluate storage architectures, including storage subsystems - DAS, SAN and NAS
3. Apply the techniques used for data maintenance and realize strong virtualization concepts
4. : Understand the importance of RAID concepts
5. Understand the concept of security in storage networks and best practices

4MCAE C43: BLOCKCHAIN TECHNOLOGY

Course Outcomes (CO)

1. Demonstrate the basics of Block chain concepts using modern tools/technologies
2. Analyze the role of block chain applications in different domains including Cybersecurity
3. Evaluate the usage of Block chain implementation/features for the given problem
4. Exemplify the usage of bitcoins and its impact on the economy
5. Analyze the application of specific block chain architecture for a given problem

4MCAEC44: DIGITAL MARKETING

Course Outcomes (CO)

1. Understand emerging trends in digital marketing and critically assess the use of digital marketing tools
2. Analyze SEO techniques, social media marketing and web analytics for business success
3. Demonstrate cognitive knowledge of the skills required in conducting research on digital market opportunities