PROGRAMME: MASTER OF COMPUTER APPLICATON

JNTUK UNIVERSITY REGULATION R20

Course Outcome's (Co's)

I Year I semester Course Outcomes

C101	MCA1101	BUSINESS COMMUNICATION

Course Outcomes (Cos)

C101.1	To acquaint the students with fundamentals of communication
C101.2	To help students honing oral, written and nonverbal communication skills
C101.3	To transform students as effective communicators.

C102	MCA1102	MATHEMATICAL AND STATISTICAL FOUNDATIONS

Course Outcomes (Cos)

C102.1	Apply the basic rules and theorems of probability theory such as Baye's Theorem, determine probabilities that help to solve engineering problems and to determine the expectation and variance of a random variable from its distribution.
C102.2	Able to perform and analyze of sampling, means, proportions, variances and estimates the maximum likelihood based on population parameters.
C102.3	Learn how to formulate and test hypotheses about sample means, variances and proportions and to draw conclusions based on the results of statistical tests.
C102.4	Design various ciphers using number theory.
C102.5	Apply graph theory for real time problems like network routing problem.

C103	MCA1103	COMPUTER ORGANIZATION & OPERATING SYSTEMS

Course Outcomes (Cos)

C103.1	Understand the basic organization of computer and different instruction formats and addressing modes
C103.2	Analyze the concept of pipelining, segment registers and pin diagram of CPU.
C103.3	Understand and analyze various issues related to memory hierarchy
C103.4	Evaluate various modes of data transfer between CPU and I/O devices
C103.5	Examine various inter connection structures of multi processors

C104	MCA1104	DATA STRUCTURES

Course Outcomes (Cos)

C104.1	Implement basic programs by using C concepts.
C104.2	Select the data structures that efficiently model the information in a problem
C104.3	Assess efficiency trade-offs among different data structure implementations or combinations
C104.4	Implement and know the application of algorithms for sorting and pattern matching.

C105	MCA1105	OBJECT ORIENTED PROGRAMMING WITH JAVA

Course Outcomes (Cos)

C105.1	Describe the uses OOP concepts
C105.2	Apply OOP concepts to solve real world problems
C105.3	Distinguish the concept of packages and interfaces
C105.4	Demonstrate the exception handing, multithread applications with synchronization
C105.5	Design the GUI based applications using AWT and Swings

C106	MCA1106	OPERATING SYSTEMS AND LINUX LAB

Course Outcomes (Cos)

C106.1	Implement various CPU scheduling algorithms and compare results
C106.2	Implement various disk scheduling algorithms and compare results
C106.3	Implement page replace algorithms
C106.4	Implement various memory management techniques.
C106.5	Execute basic Linux commands

C107	MCA1107	DATA STRUCTURES LAB

Course Outcomes (Cos)

C107.1	Implement various basic data structures and its operations
C107.2	Apply sorting and searching algorithms to given numbers
C107.3	Implement various tree operations.
C107.4	Implement various graphs algorithms.
C107.5	Develop applications using various data structures.

C108	MCA1108	JAVA PROGRAMMING LAB

Course Outcomes (Cos)

C108.1	Apply OOP concepts to solve real world problems
C108.2	Implement different forms of inheritance
C108.3	Create packages and to reuse them
C108.4	Implement multi threaded programs using synchronization concepts
C108.5	Create user defined exceptions

I Year II semester Course Outcomes

C109	MCA2101	DATABASE MANAGEMENT SYSTEMS

Course Outcomes (Cos)

C109.1	Illustrate the concept of databases, database management systems, database languages, database structures and their work
C109.2	Apply ER modeling and Relational modeling for designing simple databases
C109.3	Summarize the concepts related to relational model and SQL and Write database queries using relational algebra and structured query language.
C109.4	Design and develop databases from the real world by applying the concepts of Normalization
C109.5	Outline the issues associated with Transaction Management and Recovery, Tree Structured and Hash-Based Indexing

C110	MCA2102	COMPUTER NETWORKS

Course Outcomes (Cos)

C110.1	Explain the network architecture, TCP/IP and OSI reference models
C110.2	Identify and understand various techniques and modes of transmission
C110.3	Demonstrate the data link protocols, multi-channel access protocols and IEEE 802 standards for LAN
C110.4	Describe routing and congestion in network layer with routing algorithms and classify IPV4 addressing scheme
C110.5	Develop network security and define various protocols such as FTP, HTTP, Telnet, DNS

C111	MCA2103	SOFTWARE ENGINEERING AND DESIGN PATTERNS

Course Outcomes (Cos)

C111.1	Define various software application domains and remember different process model used in software development.
C111.2	Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
C111.3	Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
C111.4	Apply structural patterns to solve design problems.
C111.5	Evaluate the design solutions by using behavioral patterns.

C112	MCA2104	DATA WAREHOUSING AND MINING

Course Outcomes (Cos)

C112.1	Understand the basics of types of data, quality of data, suitable techniques required for preprocessing and measures required to perform data analysis
C112.2	Describe the need of classification, identify suitable technique(s) to perform classification, model building and evaluation
C112.3	Identify the requirements and usage of association rule mining on categorical and continuous data
C112.4	Compare and Identify suitable clustering algorithm(s) (apply with open source tools), interpret, evaluate and report the result
C112.5	Describe the requirements and the need of web mining

C113	MCA2105	DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes (Cos)

C113.1	Describe asymptotic notation used for denoting performance of algorithms
C113.2	Analyze the performance of a given algorithm and denote its time complexity using the asymptotic notation for recursive and non-recursive algorithms
C113.3	List and describe various algorithmic approaches
C113.4	Solve problems using divide and conquer, greedy, dynamic programming, backtracking and branch and bound algorithmic approaches
C113.5	Demonstrate an understanding of NP- Completeness theory and lower bound theory

C114	MCA2106	DBMS LAB

Course Outcomes (Cos)

C114.1	Utilize SQL to execute queries for creating database and performing data manipulation operations
C114.2	Examine integrity constraints to build efficient databases
C114.3	Apply Queries using Advanced Concepts of SQL
C114.4	Build PL/SQL programs including stored procedures, functions, cursors and triggers

C115	MCA2107	COMPUTER NETWORKS LAB

Course Outcomes (Cos)

C115.1	Know how reliable data communication is achieved through data link layer.
C115.2	Suggest appropriate routing algorithm for the network.
C115.3	Provide internet connection to the system and its installation.
C115.4	Work on various network management tools

C116	MCA2107	SOFTWARE ENGINEERING AND DESIGN PATTERNS LAB

Course Outcomes (Cos)

C116.1	Understand the architecture, creating it and moving from one to any, different structural patterns.
C116.2	Analyze the architecture and build the system from the components.
C116.3	Design creational and structural patterns.
C116.4	Learn about behavioral patterns.

C117	MCA2109	EMPLOYABILITY SKILLS

Course Outcomes (Cos)

C117.1	Recite the soft skills
C117.2	Make presentations effectively with appropriate body language
C117.3	Be composed with positive attitude
C117.4	Apply their core competencies to succeed in professional and personal life

II Year III semester Course Outcomes

C201	MCA3101	MACHINE LEARNING WITH PYTHON

Course Outcomes (Cos)

C201.1	Illustrate and comprehend the basics of Machine Learning with Python
C201.2	Demonstrate the algorithms of Supervised Learning and be able to differentiate linear and logistic regressions
C201.3	Demonstrate the algorithms of Unsupervised Learning and be able to understand the clustering algorithms
C201.4	Evaluate the concepts of binning, pipeline Interfaces with examples
C201.5	Apply the sentiment analysis for various case studies

C202	MCA3102	INTERNET OF THINGS

Course Outcomes (Cos)

C202.1	Explain the definition and usage of the term 'the internet of things' in different contexts
C202.2	Discover the various network protocols used in IoT
C202.3	Define the role of big data, cloud computing and data analytics in a typical IoT system.
C202.4	Compare and contrast the threat environment based on industry and/or device type
C202.5	Design a simple IoT system made up of sensors, wireless network connection, data analytics and display/actuators, and write the necessary control software

C203	MCA3103	WEB TECHNOLOGIES

Course Outcomes (Cos)

C203.1	Analyze a web page and identify its elements and attributes
C203.2	To acquire knowledge of xml fundamentals and usage of xml technology in electronic data interchange
C203.3	Build dynamic web pages using JavaScript (client side programming).
C203.4	To design and develop web based enterprise systems for the enterprises using technologies like jsp, servlet.
C203.5	Build web applications using PHP

C204	MCA3104	CRYPTOGRAPHY AND NETWORK SECURITY

Course Outcomes (Cos)

C204.1	Explain Basic Principles, different security threats, countermeasures, foundation course of cryptography mathematics and Symmetric Encryption
C204.2	Classify the basic principles of Asymmetric key algorithms and operations of asymmetric key cryptography.
C204.3	Design Cryptographic Hash Functions as SHA-3 and Digital Signatures as Elgamal
C204.4	Explain the concept of Revise Key Management and Distribution and User Authentication
C204.5	Determine the knowledge of Network and Internet Security Protocols such as S/MIME

C205	MCA3105	CLOUD COMPUTING

Course Outcomes (Cos)

C205.1	Interpret the key dimensions of the challenge of Cloud Computing
C205.2	Examine the economics, financial, and technological implications for selecting cloud computing for own organization
C205.3	Assessing the financial, technological, and organizational capacity of employer's for actively initiating and installing cloud-based applications
C205.4	Evaluate own organizations' needs for capacity building and training in cloud computing-related IT areas
C205.5	Illustrate Virtualization for Data-Center Automation

C206	MCA3106	MACHINE LEARNING WITH PYTHON LAB

Course Outcomes (Cos)

C206.1	Implement procedures for the machine learning algorithms
C206.2	Design Python programs for various Learning algorithms
C206.3	Apply appropriate data sets to the Machine Learning algorithms
C206.4	Identify and apply Machine Learning algorithms to solve real world problems

C207	MCA3107	IoT LAB

Course Outcomes (Cos)

C207.1	Interpret the impact and challenges posed by IoT networks leading to new architectural models.
C207.2	Compare and contrast the deployment of smart objects and the technologies to connect them to network.
C207.3	Appraise the role of IoT protocols for efficient network communication
C207.4	Elaborate the need for Data Analytics and Security in IoT.
C207.5	Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry.

C208	MCA3108	WEB TECHNOLOGIES LAB

Course Outcomes (Cos)

C208.1	Create dynamic and interactive web pages using HTML, CSS & Java Script
C208.2	Experiment with Learn and implement XML concepts
C208.3	Develop web applications using PHP
C208.4	Show the Install Tomcat Server and execute client-server programs
C208.5	Implement programs using Ruby programming

II Year IV Semester Course Outcomes

C209	MCA4101	HUMAN RESOURCE MANAGEMENT

Course Outcomes (Cos)

C209.1	Contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes.
C209.2	Administer and contribute to the design and evaluation of the performance management program.
C2029.3	Develop, implement, and evaluate employee orientation, training, and development programs.
C209.4	Facilitate and support effective employee and labour relations in both non-union and union environments.

C210	MCA4102	SOFTWARE TESTING METHODOLOGIES

Course Outcomes (Cos)

C210.1	Identify and understand various software testing problems, apply software testing knowledge and engineering methods and solve these problems by designing and selecting software test models, criteria, strategies, and methods
C210.2	Design and conduct a software test process for a software project
C210.3	Analyze the needs of software test automation
C210.4	Facilitate and support effective employee and labour relations in both non-union and union environments. Use various communication methods and skills to communicate with their teammates to conduct their practice-oriented software testing projects
C210.5	Basic understanding and knowledge of contemporary issues in software testing, such as component-based, web based and object oriented software testing problems
C210.6	Write test cases for given software to test it before delivery to the customer and write test scripts for both desktop and web based applications

C211	PROJECT WORK

Course Outcomes (Cos)

C211.1	On the completion of project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology