DEPARTMENT OF B.C.A. (SCIENCE)

M.Sc.(C.A.)

Course Outcome:

F. Y. M.Sc.(C.A.) SEMESTER I

CA 501 MJ: Database Systems and SQL :

On completion of the course, student will be able to–

CO1: Enumerate database applications

CO2: Design E-R Model for given requirements and convert the same into database tables.

CO3: Apply Normalization techniques for database design

CO4: Formulate database queries using SQL

CO5: Write Embedded and dynamic queries using SQL/PLSQL

CA 502 MJ: Python Programming and Data Structures

On completion of the course, student will be able to –

CO1: Develop logic for problem solving

CO2: Determine the methods to create and develop Python programs by utilizing the data

CO3: structures like lists, dictionaries, tuples and sets.

CO4: To be familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.

CO5: To write python programs and develop a small application project

CO6: Design and implement Data structures and related algorithms

CO7: Understand several ways of solving the same problem.

CO8: To use well-organized data structures in solving various problems.

CO9: To differentiate the usage of various structures in problem solution.

CO10: Implementing algorithms to solve problems using appropriate data structures.

CA 503 MJ - Operating Systems

On completion of the course, student will be able to–

CO1: Explain basic concepts of operating system

CO2: Describe algorithms for process, memory and disk scheduling
CO3: Apply technique for inter-process communication and Multithreading.
CO4: Implement concept of critical-section.
CO5: Compare and contrast deadlock avoidance and prevention.
CO6: Use functions for file system management.

CA 504 MJP: Lab course Based on CA 501 MJ & CA 503 MJ

On completion of the course, student will be able to–

CO1: Create database tables in postgreSQL.
CO2: Write and execute simple, nested queries.

CA 505 MJP: Lab course based on CA 502 MJ

CA 512B MJ: Cloud Computing

On completion of the course, student will be able to–

CO1: Understand the different Cloud Computing environment
CO2: Analyze virtualization technology and install virtualization Software.
CO3: Develop and deploy applications on Cloud
CO4: Use advance techniques and apply security in Cloud Computing

CA 513B MJP: Lab course based on CA 512B MJ

On completion of the course, student will be able to–

CO1: Understand the different Cloud Computing environment
CO2: Analyze virtualization technology and install virtualization Software.
CO3: Develop and deploy applications on Cloud
CO4: Use advance techniques and apply security in Cloud Computing

CA 531 RM: Research Methodology

On completion of the course, student will be able to–

CO1: Understand and comprehend the basics in research methodology.
CO2: Formulate research aims and objectives
CO3: Organize and conduct research (advanced project) in a more appropriate manner.
CO4: Develop and practice the skills necessary to conduct, review, and publish research.

CO5: Write a research report and thesis.

F.Y.M.Sc.(C.A.) SEMESTER II

CA 551 MJ: Web Technologies

On completion of the course, student will be able to–

CO1: Develop web based application using suitable client side and server side web technologies.

CO2: Build Dynamic web site using server side PHP Programming and Database connectivity.

CO3: Build applications using AJAX and XML .

CA552MJ: Introduction to Data Science:

On completion of the course ,student will be able to–

CO1: Perform Exploratory Data Analysis

CO2: Obtain, clean/process, and transform data.

CO3: Detect and Diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.

CO4: Demonstrate proficiency with statistical analysis of data.

CO5: Present results using data visualization techniques.

CO6: Prepare data for use with a variety of statistical methods and models and recognize how the quality of the data and the means of data collection may affect conclusions.

CA 5 5 3 MJ Computer Networks:

After successful completion of this course, learner will be able to-

CO1: Analyze the requirements for a given organization and select appropriate network architecture, topologies, transmission mediums and technologies.

CO2: Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols.

CO3: Illustrate applications of Computer Network.

CO4: Compare and contrast different routing and switching algorithm.

CA 562B MJ: C# and .NET :

On completion of the course, student will be able to–

CO1: Understand the VB.NET,C# and ASP

CO2: Design and develop window based and web based .NET

applications.

CO3: Design and Implement database connectivity using ADO.NET .

CA58 1 OJT/FP Industry Internship / Field Project (FP):

On Completion of this course, student will be able to –

CO1: Make Use of tools used in industry

CO2: Solve complex problems

CO3: Effectively communicate and collaborate with team members and mentors.

CO4: Demonstrate the ability to prepare documentation needed in the SDLC.

S.Y.M.Sc.(C.A.) SEMESTER III

CA 601 MJ: Artificial Intelligence :

After successful completion of this course, learner will be able to:

CO1: Apply the suitable algorithms to solve AI problems

CO2: Identify and apply suitable Intelligent agents for various AI Applications.

CO3: Build smart system using different informed search / uninformed search or heuristic approaches.

CO4: Represent complex problems with expressive language of Representation.

CA 602 MJ: Machine Learning:

After successful completion of this course, learner will be able to:

CO1: Identify the needs and challenges of machine learning for real time applications.

CO2: Select and apply appropriately supervised machine learning algorithms for real time applications.

CO3: Implement variants of multi-class classifier and measure its performance.

CO4: Compare and contrast different clustering algorithms.

CO5: Design a neural network for solving engineering problems.

CA 603 MJ: Software Engineering:

After successful completion of this course, learner will be able to:

CO1: Compare and contrast various Software Engineering models

CO2: Decide on appropriate process model for a developing a software Project.

CO3: Classify software applications and Identify unique features of various domains.

CO4: Prepare System Requirement Specification (SRS) for the given Problem.

CO5: Design and analyze Data Flow diagrams.

CA 604 MJP: Artificial Intelligence Laboratory :

After successful completion of the course, students will be able to

CO1: Apply informed search / uninformed search or heuristic Approaches.

CO2: Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning

CO3: Design and develop an interactive AI application.

CA 605 MJP: Machine Learning Laboratory:

After successful completion of the course, students will be able to

CO1: Implement and evaluate linear regression and random forest regression models.

CO2: Apply and evaluate classification and clustering techniques.

CA 612B MJ: Software Testing :

CO1: Distinguish between white box and black box testing

CO2: Define Software testing life cycle

CO3: Design test cases

CA 613B MJP: Software Testing Laboratory:

After successful completion of the course, students will be able to

CO1: Perform white box testing activities

CO2: Apply black box testing concepts

CO3: Enlist features of a automation tool

CA 631 RP: Research Work – I

After successful completion of the course, students will be able to

CO1: Apply research methodology to carry out research in a chosen

problem domain.

CO2: Design and develop a novel methodology / framework etc

CO3: Conduct experiments and analyze results

S.Y.M.Sc.(C.A.) SEMESTER IV

CA 651 MJ: Industrial Training

After successful completion of the course, students will be able to

CO1: To demonstrate professional competence

CO2: To apply knowledge gained through training to complete academic activities in a professional manner.

CO3: To choose appropriate technology and tools to solve given problem.

CO4: To demonstrate abilities of a responsible professional and use ethical practices in day to day life.

CO5: To analyze various career opportunities and decide carrier goals

CA 681 RP: Research Work – II

After successful completion of the course, students will be able to

CO1: Apply research methodology to carry out research in a chosen problem domain.

CO2: Design and develop a novel methodology / framework etc

CO3: Conduct experiments and analyze results