

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

CO 2: Design E-R Model for given requirements and convert the same into database tables.

CO 3: Apply Normalization techniques for database design

CO 4: Formulate database queries using SQL

CO 5: 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 –

CO 1: Develop logic for problem solving

CO 2: Determine the methods to create and develop Python programs by utilizing the data

CO 3: structures like lists, dictionaries, tuples and sets.

CO 4: To be familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.

CO 5: To write python programs and develop a small application project

CO 6: Design and implement Data structures and related algorithms

CO 7: Understand several ways of solving the same problem.

CO 8: To use well-organized data structures in solving various problems.

CO 9: To differentiate the usage of various structures in problem solution.

CO 10: Implementing algorithms to solve problems using appropriate data structures.

CA 503 MJ - Operating Systems

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

CO 1: Explain basic concepts of operating system

CO 2: Describe algorithms for process, memory and disk scheduling

CO 3: Apply technique for inter-process communication and Multithreading.

CO 4: Implement concept of critical-section.

CO 5: Compare and contrast deadlock avoidance and prevention.

CO 6: 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–

CO 1: Create database tables in PostgreSQL.
CO 2: 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–

- CO 1: Understand the different Cloud Computing environment
- CO 2: Analyze virtualization technology and install virtualization software
- CO 3: Develop and deploy applications on Cloud
- CO 4: 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–

- CO 1: Understand the different Cloud Computing environment
- CO 2: Analyze virtualization technology and install virtualization software
- CO 3: Develop and deploy applications on Cloud
- CO 4: Use advance techniques and apply security in Cloud Computing

CA 531 RM: Research Methodology

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

- CO 1: Understand and comprehend the basics in research methodology.
- CO 2: Formulate research aims and objectives
- CO 3: Organize and conduct research (advanced project) in a more appropriate manner.
- CO 4: Develop and practice the skills necessary to conduct, review, and publish research.
- CO 5: 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–

- CO 1: Develop web based application using suitable client side and server side web technologies.
- CO 2: Build Dynamic web site using server side PHP Programming and Database connectivity.
- CO 3: Build applications using AJAX and XML

CA552MJ: Introduction to Data Science:

On completion of the course ,student will be able to–
CO 1:PerformExploratoryDataAnalysis
CO 2: Obtain,clean/process,andtransformdata.
CO 3:Detect and Diagnose common data issues,such as missing values,special values,outliers,inconsistencies,and localization.
CO 4: Demonstrate proficiency with statistic alanalysis of data.
CO 5: Present results using data visualization techniques.
CO 6: 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-
CO 1: Analyze the requirements for a given organization and select appropriate network architecture, topologies, transmission mediums and technologies.
CO 2: Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols.
CO 3: Illustrate applications of Computer Network.
CO 4: Compare and contrast different routing and switching algorithm.

CA 562B MJ: C# and .NET :

On completion of the course, student will be able to–
CO 1: Understand the VB.NET,C# and ASP
CO 2: Design and develop window based and web based .NET applications.
CO 3: 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 –
CO 1: Make Use of tools used in industry
CO 2: Solve complex problems
CO 3: Effectively communicate and collaborate with team members and mentors.
CO 4: 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:

CO 1: Apply the suitable algorithms to solve AI problems
CO 2: Identify and apply suitable Intelligent agents for various AI applications
CO 3: Build smart system using different informed search / uninformed search or heuristic approaches
CO 4: Represent complex problems with expressive language of representation

CA 602 MJ: Machine Learning:

After successful completion of this course, learner will be able to:
CO 1: Identify the needs and challenges of machine learning for real time applications.
CO 2: Select and apply appropriately supervised machine learning algorithms for real time applications.
CO 3: Implement variants of multi-class classifier and measure its performance.
CO 4: Compare and contrast different clustering algorithms.
CO 5: Design a neural network for solving engineering problems.

CA 603 MJ: Software Engineering:

After successful completion of this course, learner will be able to:
CO 1: Compare and contrast various Software Engineering models
CO 2: Decide on appropriate process model for a developing a software project
CO 3: Classify software applications and Identify unique features of various domains
CO 4: Prepare System Requirement Specification (SRS) for the given problem
CO 5: Design and analyze Data Flow diagrams

CA 604 MJP: Artificial Intelligence Laboratory :

After successful completion of the course, students will be able to
CO 1: Apply informed search / uninformed search or heuristic approaches
CO 2: Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning
CO 3: Design and develop an interactive AI application.

CA 605 MJP: Machine Learning Laboratory:

After successful completion of the course, students will be able to
CO 1: Implement and evaluate linear regression and random forest regression models.
CO 2: Apply and evaluate classification and clustering techniques.

CA 612B MJ: Software Testing :

CO 1: Distinguish between white box and black box testing

CO 2: Define Software testing life cycle

CO 3: Design test cases

CA 613B MJP: Software Testing Laboratory:

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

CO 1: Perform white box testing activities

CO 2: Apply black box testing concepts

CO 3: Enlist features of a automation tool

CA 631 RP: Research Work – I

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

CO 1: Apply research methodology to carry out research in a chosen problem domain

CO 2: Design and develop a novel methodology / framework etc

CO 3: 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

CO 1: To demonstrate professional competence

CO 2: To apply knowledge gained through training to complete academic activities in a professional manner

CO 3: To choose appropriate technology and tools to solve given problem.

CO 4: To demonstrate abilities of a responsible professional and use ethical practices in day to day life.

CO 5 :To analyze various career opportunities and decide carrier goals