

## **Certificate Course in Database Administration**

Virtually all industries make use of database management systems to store and manage their confidential information. There are a lot of career opportunities for database management professionals as companies require them to maintain databases. Within the database-related jobs community, there are a variety of job roles available like Data Analyst, Database Designer or Modeler, Database Developer, Database Administrator, Data Scientist, Business Intelligence Consultant, Software Developer, etc.

**Aim:** The aim of this course is to introduce students to the basic concepts related to database management. The students will learn database management and administration by practicing on the MySQL environment. This course motivates the students to take various professional database administration certifications which are very valuable for their professional life.

**Course Outcomes:** After completing this course the students will be able

- Understand the internal functionality of DBMS.
- Create and use databases.
- Store, retrieve and manipulate information in the database.
- Understand the concepts and technical issues of database administration.
- Perform basic database administration tasks.

### **Course Outline**

#### **Section 1 Introduction**

- Introduction to databases and DBMS
- Introduction to SQL

#### **Section 2 Database design and Implementation**

- Create databases, tables, and indexes
- Work with data types
- Apply Constraints
- Retrieve data from a single table
- Code subqueries
- Insert, update, and delete data
- Use functions in queries
- Retrieve data from two or more tables
- How to create views

#### **Section 3 Stored program development (PL/SQL)**

- Understand Language skills for writing stored programs
- Create stored procedures and functions

- Create triggers and events

#### **Section 4 Database administration**

- Introduction to database administration
- How to secure a database
- How to back up and restore a database