**Microsoft Access**

**Course Overview**

The **Microsoft Access** course provides a detailed introduction to Microsoft’s desktop relational database management system, designed for building and managing small to medium-sized databases. Access combines the power of a database engine with a user-friendly interface to create custom applications for data storage, management, and reporting.

This course is ideal for beginners and business professionals who want to design databases, automate data entry, and generate meaningful reports without deep programming knowledge.

**Course Objectives**

By the end of this course, learners will be able to:

* Understand database concepts and MS Access architecture.
* Design and create relational databases with tables and relationships.
* Use queries to extract and manipulate data effectively.
* Build forms for data entry and user interaction.
* Create reports for data summarization and presentation.
* Automate tasks using macros and basic VBA scripting.
* Manage database security and maintenance.

**Syllabus Breakdown**

**Module 1: Introduction to MS Access**

* Overview of MS Access and its role
* Understanding databases, tables, and relationships
* Navigating the Access interface and objects
* Creating and saving a new database

**Module 2: Designing Tables**

* Defining fields and data types
* Setting primary keys and indexes
* Applying field properties and validation rules
* Establishing relationships between tables
* Understanding referential integrity and cascading options

**Module 3: Working with Queries**

* Introduction to queries and their types
* Creating select queries to retrieve data
* Using criteria and filters in queries
* Performing calculations and using functions in queries
* Creating action queries: append, update, delete

**Module 4: Creating Forms**

* Building forms for user-friendly data entry
* Customizing form layouts and controls
* Using subforms and navigation forms
* Applying form properties and events

**Module 5: Generating Reports**

* Designing reports to summarize data
* Grouping, sorting, and filtering report data
* Adding calculated controls and formatting
* Using report headers, footers, and page setup

**Module 6: Automation and Macros**

* Introduction to macros in Access
* Automating common tasks and workflows
* Creating simple VBA scripts for enhanced functionality
* Debugging and error handling basics

**Module 7: Database Management and Security**

* Compacting and repairing databases
* Backing up and restoring Access files
* Setting user-level security and permissions
* Splitting databases for multi-user environments

**Module 8: Practical Project**

* Designing a complete database application
* Implementing tables, queries, forms, and reports
* Testing and refining the database solution

**Career Opportunities**

Skills in MS Access open pathways to various roles in data management, office administration, and small business solutions, such as:

* **Database Developer**
* **Data Analyst**
* **Office Administrator**
* **Business Analyst**
* **IT Support Specialist**
* **Application Developer (Low-code solutions)**

Proficiency in MS Access helps streamline data-driven workflows and improve organizational efficiency, especially in small to medium enterprises.