



*Adhyayan*  
IT COMPANY

SYLLABUS FOR  
ADCA  
ADVANCE DIPLOMA IN  
COMPUTER APPLICATION

# ADCA [ ADVANCE DIPLOMA IN COMPUTER APPLICATIONS ]

## 1. Introduction to Information Technology

### Overview of IT

- Evolution and History of Computers

- Types of Computers and their Applications

### Computer Hardware and Software

- Components of a Computer System

- System Software and Application Software

### Operating Systems

- Introduction to OS (Windows, Linux)

- File Management and Utilities

## 2. Office Automation Tools

### Microsoft Word Advanced

- Advanced Formatting and Styles

- Mail Merge and Macros

### Microsoft Excel Advanced

- Advanced Formulas and Functions

- Data Analysis and Pivot Tables

- Charts and Graphs

### Microsoft PowerPoint Advanced

- Advanced Presentation Techniques

- Multimedia Elements and Custom Animations

### Microsoft Access Advanced

- Database Design and Normalization

- Advanced Queries and Reports

## 3. Internet Technology

### Advanced Internet Concepts

- Internet Protocols and DNS

- Web Browsers and Search Engines

### Email Communication

- Advanced Email Features

- Email Security and Management

## Advanced Java Programming

Inheritance, Polymorphism, and Interfaces

Exception Handling and File I/O

## 8. Software Engineering

Software Development Life Cycle (SDLC)

Phases of SDLC

Software Development Models (Waterfall, Agile, etc.)

Project Management

Planning, Scheduling, and Tracking

Quality Assurance and Testing

## 9. Advanced Web Technologies

Web Frameworks

Introduction to Popular Frameworks (React, Angular, Vue.js)

Backend Development

Server-Side Programming with Node.js

RESTful API Design

## 10. Data Science and Analytics

Introduction to Data Science

Data Collection and Cleaning

Data Analysis with Python

Numpy, Pandas, and Matplotlib

Basic Machine Learning Concepts

Supervised and Unsupervised Learning

Introduction to Scikit-Learn

## Assessment Methods

Assignments and Projects

Regular assignments based on each module.

Project work to apply theoretical knowledge.

Examinations

Mid-term and final examinations to test understanding.

Practical Tests

Hands-on tests to assess practical skills.