

Syllabus for Diploma in Microsoft .NET

Course Duration For Microsoft .NET Training Course :

- 12 Weeks (Weekday Batches)

Objective For Microsoft .NET Training Course :

- To Become a .NET Programming Professional
- To Enable Students to Improve Placeability

Eligibility For Microsoft .NET Training Course :

- BSc, BCS, BCA, BE, B.Tech, MSc, MCS, MCA, M.Tech
- Basic knowledge of Programming

Highlights :

- The Syllabus has been aligned with various top Maharashtra Universities like Pune ,Mumbai, YCMOU,Amravati and Shivaji University
- The syllabus has been aligned with MCTS Certification offered by Microsoft
- Special Grooming sessions on Interview Techniques
- Practice Tests on Aptitude



Microsoft[®]
.NET

Syllabus Microsoft .NET

C#.NET

Introduction to .NET

- ✓ Introduction to .NET Framework
- ✓ .NET Advantages
- ✓ Common Language Runtime(CLR)
- ✓ Common Type System (CTS)
- ✓ .NET Framework Class Library (FCL)
- ✓ Microsoft Intermediate Language(MSIL)
- ✓ Just In Time(JIT) Compiler
- ✓ Garbage Collection
- ✓ Phases of Garbage Collection

Assemblies in .NET

- ✓ What are Assemblies?
- ✓ Types of Assemblies
 - Private Assembly
 - Public Assembly
 - Satellite Assembly
- ✓ Components of Assembly
- ✓ Role of Assemblies
- ✓ Generating Assemblies

Collection framework

- ✓ What is a Collection Framework?
- ✓ Classes in Collection Framework
 - ArrayList
 - Hashtable
 - SortedList
 - Stack
 - Queue
- ✓ Interfaces in Collection Framework

Inheritance

- ✓ What is Inheritance
- ✓ Advantages of Inheritance
- Types of Inheritance
 - Single
 - Hierarchical
 - Multi-level
 - Hybrid
 - Multiple
- ✓ Method Overriding

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Programming With C#

- ✓ Introduction of C #
- ✓ Language features
- ✓ Structure of a C# program
- ✓ C# Tokens
- ✓ Data Types & Literals
- ✓ Variables and Expressions
- ✓ Operators & Punctuators
- ✓ Typecasting
 - Implicit Typecasting
 - Explicit Typecasting
- ✓ Boxing and UnBoxing
- ✓ Flow Control
 - Conditions
 - Loops
 - Jumps
- ✓ Functions
 - Defining Functions
 - Function Elements
 - Types Of Functions
 - User-defined
 - System-defined
 - Passing Parameters
 - By Value
 - By Reference
 - Using 'out'
 - Using 'params'
 - Function Overloading
 - Function Overriding
- ✓ Arrays
 - Features of Array
 - Accessing Array Elements
 - Type of Array
 - Single Dimensional
 - Multi-dimensional
 - Jagged

Windows Programming using C#

- ✓ Introduction to Window Programming
- ✓ The Graphical User Interface
- ✓ Windows Forms Library
- ✓ Control Class
 - Window Controls
 - Common Controls
 - Container Controls
- ✓ Menus and Toolbars
- ✓ Print Dialogs
- ✓ Dialog Boxes
 - Color dialog
 - Font dialog
 - OpenFile Dialog
 - Save Dialog
- ✓ Deploying Windows Application
 - Deployment Overview
 - Features of Deployment

Object Oriented programming

- ✓ Object Oriented Programming Concepts
- ✓ Advantages of OOP
- ✓ Pillars of OOP
 - Abstraction
 - Inheritance
 - Polymorphism
 - Compile time polymorphism
 - Run-time polymorphism
 - Encapsulation
- ✓ What is a Class?
- ✓ Defining classes & class members
- ✓ Implementation of Classes
- ✓ Access modifiers
 - public
 - private
 - protected
 - protected internal
- ✓ Class Constructors
- ✓ Class Destructors
- ✓ Interfaces
 - Declaring & Using Interfaces
 - Interface Inheritance
 - Interfaces v/s Abstract classes
- ✓ Properties & their Accessors
- ✓ Indexers & 'this' keyword

Handling Exceptions in C#

- ✓ Introduction to Exceptions
- ✓ Exception handling
- ✓ The Exception Class
- ✓ C# Exception Handling Keywords
- ✓ The Exception Chain
- ✓ Exception Hierarchy
- ✓ Pre-defined Exception Classes
- ✓ Catching Specific Exceptions
- ✓ Throwing Objects
- ✓ Regular Expression

Delegates and Events in C#

- ✓ What are Delegates
- ✓ Delegate Declaration
- ✓ Instantiating Delegates
- ✓ How to Call a Delegate
- ✓ Types of Delegates
 - Single Cast Delegate
 - Multicast Delegate
- ✓ Introduction to Events
- ✓ Event Declaration
- ✓ Delegates With Events
 - Publishers
 - Subscribers
- ✓ Event handling in C#

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ASP.NET

ASP.NET

- ✓ Introduction of ASP.NET
- ✓ Concept of Web Applications
- ✓ ASP.NET Architecture
- ✓ Page Composition Parts
- ✓ ASP.NET Page Life Cycle
- ✓ Page Life Cycle Events
- ✓ ASP.NET Server Controls
 - HTML Server Controls
 - Web Server Controls

ASP.NET Controls

- ✓ Intrinsic Controls
- ✓ List Controls
- ✓ Rich Controls
- ✓ Validation Controls
- ✓ User Controls & their uses
- ✓ Navigation Controls
- ✓ Login Controls
- ✓ Custom Controls v/s User Controls

Graphics in ASP.Net

- ✓ Introduction to Graphics
- ✓ Graphics in ASP.Net
- ✓ The Graphics Class
- ✓ Dynamic Graphics
- ✓ Basic Drawing
- ✓ Drawing a Custom Image
- ✓ Graphic Objects
- ✓ Placing Custom Images Inside Web Pages
- ✓ Image Format and Quality

HTML, CSS & Javascript Overview

- ✓ HTML Basics
- ✓ HTML Elements
- ✓ HTML Form
- ✓ CSS Introduction
- ✓ CSS Syntax & Selectors
- ✓ Javascript Overview
- ✓ Bootstrap Overview

Basics of Networking

- ✓ Networking overview
- ✓ Networking programming options
- ✓ Sockets
- ✓ WebClient
- ✓ WebRequest and WebResponse
- ✓ TcpListener & TcpClient

Master and Content Pages in ASP.NET

- ✓ What are Master & Content pages?
- ✓ Advantages of Master Pages
- ✓ Linking Content & Master Pages
- ✓ Working of Master pages
- ✓ The @Page directive
- ✓ Nested Master Pages
- ✓ What are Themes?
- ✓ Applying Themes
- ✓ Types of Themes
 - Page Theme
 - Global Theme

State Management in ASP.NET

- ✓ What is State Management?
- ✓ Types of State Management
 - Client-side state management
 - Server-side state management
- ✓ Using View State
- ✓ Session & Application State
- ✓ Using cookies & URL Encoding
 - Transient Cookie
 - Persistent Cookie
- ✓ ASP .Net Web Application Security
- ✓ Authentication overview
- ✓ Authorization overview
- ✓ What is Impersonation ?
- ✓ ASP.NET provider model
- ✓ Caching
 - What & Why of Caching
 - Output Caching
 - Data Caching
 - Persistent Cookie

Multi-threading

- ✓ What is MultiThreading?
- ✓ Why do Applications need multiple threads?
- ✓ Thread Life Cycle
 - Unstarted state
 - Ready state
 - Not Runnable state
 - Dead state
- ✓ States of Thread
- ✓ Thread Priority
- ✓ Thread Synchronization

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Database Connectivity

ADO.Net

- ✓ Introduction of SQL
- ✓ SQL Environment
- ✓ Components of SQL
- ✓ Basic SQL Commands
- ✓ Triggers and Views
- ✓ Data Binding in ASP.Net
- ✓ Data Binding Expressions
- ✓ Data Sources & Controls
- ✓ Insert, Update, Delete Operations using Data Source Controls
- ✓ Working With GridView Control
- ✓ Data bound controls
- ✓ DetailsView control

Introduction of LINQ

- ✓ Introduction of LINQ
- ✓ Features of LINQ
- ✓ LINQ Architecture
- ✓ Advantages of LINQ
- ✓ DataContext in LINQ
- ✓ LINQ Queries
- ✓ Standard Query operators
- ✓ LINQ to ADO.NET
- ✓ LINQ to XML
- ✓ Lambda Expressions

Advanced Technologies (AJAX, jQuery, MVC, Web Services)

AJAX Technology

- ✓ What is AJAX?
- ✓ Features of AJAX
- ✓ Pros & Cons of AJAX
- ✓ AJAX Architecture
- ✓ AJAX Extension Controls
 - Script Manager
 - Update Panel Control
 - Update Progress
 - Timer
- ✓ ASP.NET AJAX Control Toolkit
- ✓ Creating AJAX Application Using ASP.NET

jQuery

- ✓ Introduction to jQuery
- ✓ Core Features
- ✓ jQuery Selectors
- ✓ Working of jQuery
- ✓ jQuery UI Library
- ✓ Document Ready Event
- ✓ Events Handling
- ✓ Effects Methods

Agile Scrum Overview

- ✓ Introduction To Agile Methodology
- ✓ Scrum & Its Characteristics
- ✓ Sprints In Scrum
- ✓ Overview of Scrum Artifacts & Ceremonies

Working with MVC

- ✓ Introduction to .Net MVC Framework
- ✓ MVC Framework Features
- ✓ MVC Architecture
- ✓ MVC Components
- ✓ MVC Application Folders
- ✓ Configuration files
 - global.asax
 - packages.config
 - web.config
- ✓ Working with Views
- ✓ Working with Controls

Security

- ✓ What is Authentication and Authorization?
- ✓ Windows Authentication
- ✓ Forms Authentication
- ✓ Passport Authentication
- ✓ Anonymous Authentication
- ✓ Securing pages & folders
- ✓ Roles Management
- ✓ Creating & Authenticating Roles
- ✓ Creating & Authenticating Users Using Membership

Localization, Globalization & Personalization

- ✓ Globalization- a culture-neutral design
- ✓ Localizability Review
- ✓ Localizing your app
- ✓ Culture-sensitive Resource Files
- ✓ What is Personalization?
- ✓ Creating & Managing Profiles

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WebServices

- ✓ What is a Web Service?
- ✓ Introduction to Windows Communication Foundation(WCF)
- ✓ Advantages of WCF
- ✓ Windows Presentation Foundation(WPF)
- ✓ WPF Features
- ✓ Windows Workflow Foundation(WF)
- ✓ Creating a WCF service
- ✓ Using on click deployment
- ✓ ASP.Net Web API & Features
- ✓ Creating Web API Service

Project on ASP.NET

Students will be developing a web project using ASP.Net and its different components. Developing this project will give the students a clear understanding about how to integrate the various .Net features into one project which would use the functionality of these features to their maximum. This project will be done under the careful guidance of an experienced faculty.

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