

Core ASP.NET (C# Programming)

Session 1: Introduction to .NET Framework

✓ Introduction to .NET Framework	✓ Difference between .NET 2.0, 3.5 and 4.0/4.5
✓ .NET Framework Overview, Development in .NET Framework 4.5	✓ Objectives of .NET Framework 4.5, Components of .NET Framework 4.5

Session 2: Inside .NET Framework & Assembly

✓ Execution Process in .NET Environment	✓ Inside .NET Framework
✓ CLR, Managed and Unmanaged Code	✓ MSIL, CTS, MetaData, Jitters
✓ Assemblies – The Building Blocks	✓ Assembly Benefits, Assembly Contents

Session 3: Introduction to C# Programming

✓ Need of C#, Strengths of C#, C# Basics	✓ Program Structure, Data Types, Variables, Constants, Operators, Flow Control in C#
✓ Operators, Type Safety, Object Comparison	✓ Operator Overloading, User Defined cast

Session 4: Namespaces and Assemblies

✓ Namespaces and Assemblies	✓ Arrays: Simple, Multidimensional and Jagged Array, Array Class
✓ Enumerations, Properties and Indexes	✓ Preprocessors, Preprocessor Usage

Session 5: Preprocessor and Delegates

✓ Conditional Compilation, Assemblies: What are Manifests?, Writing Private Assemblies	✓ Writing Shared Assemblies, Delegates and Events Boxing and Unboxing, Reflection and Type class
✓ Regular Expression, Attributes	✓ Collections: Collection Interface, List, Queue
✓ Stack, Dictionaries, Hashset etc.	✓ HashMap, Set, Map interfaces

Session 6: Exceptional Handling

✓ Error Handling (Exceptions Handling), Checked & Unchecked Statements, The try, catch, finally	✓ Do's and Don'ts of Exception Handling, User Defined Exception classes
✓ Win Forms, Control class, Standard Control and Component	✓ Creating User Controls and Windows Forms Controls in Depths

Session 7: OOPS Implementation

✓ Encapsulation, Abstraction, Class and Object, Relation b/w objects and reference variables	✓ Method Overloading & Types of Methods, Description of Memory blocks: Stack, Heap
✓ Class Area, Constructor, Destructor	✓ Garbage Collection, Using Scope and Dispose

Session 8: OOPS Implementation continue ...

✓ Usage of this keyword, Static data members, Constructor & methods, Relation & Implementing Has-A relation	✓ Implementing IS-A relation using Inheritance, Method Overriding & Hiding, Usage of Base keyword, Static and Dynamic Binding
✓ Runtime Polymorphism and generalization, Abstract classes and methods	✓ Interfaces and Role based Inheritances, Usage of sealed, partial, out, ref, param keyword

Session 9: String Handling

✓ String class & concept of Immutability	✓ Pool of String Constants & its use
✓ Common String operations	✓ Use of StringBuilder and String Handling Methods

Session 10: MultiThreading in .NET

✓ Multitasking and Multithreading, Process	✓ Thread and States of Thread
✓ Thread based execution model of .NET Apps	✓ Implementing User threads, Thread Synchronization, Inter Thread Communication
✓ Thread Interrupting	✓ Daemon Threads and their use
Session 11: Input Output Streams and Reflections	
✓ Streams & their advantages over conventional input output, Reading & Writing data byte by byte	✓ Reading and Writing line by line, and in one go
✓ Redirecting Standard Input and Output Streams	✓ Serialization and Deserialization, File class and File System Interaction, Zip and Unzip files
✓ Understanding object representation of classes, Loading classes dynamically	✓ Instantiating classes indirectly, Obtaining information of classes dynamically, Invoking methods indirectly
✓ Referencing data members indirectly	✓ Overriding access policy and referencing private members