HTML

Introduction to HTML

* History of Html
* Getting Started With HTML
* HTML Page Structure
* Html Elements (textbox, radiobutton, dropdown, list, button)
* Inline and Block Elements
* Images
* Ordered list and Unordered list
* Tables and Nesting tables

ASP.NET

Introduction to HTML

* Introduction to ASP.NET
* ASP.NET Version History
* Difference Between ASP and ASP.NET
* ASP.NET Architecture
* Inline Technique & Code-Behind Technique
* Server Controls (see web form control section)
* Page Lifecycle
* Postback
* Page Directives

Web Form Control

* Text Box
* Check Box
* List Box
* Drop DownList
* Image Control
* Radio Button

CSS

Introduction to CSS

* Introduction to CSS
* CSS Id and Class
* Colors and Backgrounds
* Text and Fonts
* Lists Styles
* Tables Styles
* Introduction to CSS3
* CSS Box Model
* CSS Grouping/Nesting, positions and advance

Master Page

* Introduction to Master Page
* Creating Master Page
* Advantages of Master Pages

Forms & Validations

* Creating Forms
* Creating User SignUp Page
* Using Data Validations Controls – Required Field, Regular Expression, Compare and Range Validator

State Management

* Client Side State Management Techniques – Cookies, ViewState, Hidden Field, Query String
* Server Side Statement Management – Session, Application State

Bootstrap

Introduction to Bootstrap

* Introduction to Responsive Design
* Need of Bootstrap
* Bootstrap Fundamentals
* Bootstrap Grid System
* Bootstrap Components
* Header, Footer, Navigation Bar
* Bootstrap Modals
* Bootstrap Form Elements
* Bootstrap Icons
* Typography
* Customizing Bootstrap
* Panels, Sliders, Tooltips

### Introduction to Microsoft .NET

* Understanding Microsoft .NET 2015
* .NET 2015 Cross platform support
* Advantages of Microsoft .NET 2015

### Introduction to .NET Framework

* Understanding .NET Framework
* .NET Framework Version History
* .NET Framework 4.5 Architecture
* Common Language Runtime (CLR)
* CLR Components
* Microsoft Intermediate language (MSIL)
* Common Type System (CTS)
* Common Language Specification (CLS)
* Relationship Between CTS and CLS
* Framework Class Library (FCL)
* Just In Time Compilation (JIT)

## IDE Environment: Visual Studio 2015

### Introduction to Visual Studio 2015

* Understanding Visual Studio
* Visual Studio Version History
* Understanding Visual Studio Editions
* Advantage of Visual Studio
* Understanding Visual Studio Features
* Visual Studio Explorer – Solution, Team, Server
* Coding and Debugging
* Types of Projects in Visual Studio
* Creating a Project and Solution
* Toolbox
* Property Window

## C# Programming Language

### Introduction to C#

* History of C# Version
* C# - What, Why & When
* Structure of a C# Program
* Basic Input / Output Operations
* Compiling, Running, and Debugging

### Data Type, Variable & Typecasting

* Understanding Data Type
* Types of Data Type – Value Type & Reference Type
* Naming a variable
* Boxing and Unboxing
* Data Conversions – Implicit & Explicit
* Safe Type Casting with IS and AS Operator

### Assemblies

* Types of Assemblies
* Shared Assembly, Private Assembly & Satellite Assembly
* Assembly Manifest, Metadata
* Assembly Cache

### Namespaces

* Creating Namespace
* Advantages of Namespace

### Garbage Collection

* Understanding Garbage Collection (GC)
* Advantage of Garbage Collector
* Generations in Garbage Collector
* Garbage Collector Working Phase
* Garbage Collection Algorithm
* Finalize and Dispose Method

### Operators

* Different Types of Operators
* Operators precedence

### Conditional Statements

* Introduction to conditional statement
* If statements
* If..else statement
* If..else ladder
* Switch statement

### Loops

* Introduction to loop
* do...while loop
* while loop
* Making star patterns

### Jump Statements

* break statements
* continue statement

### Loops Contd.

* for loop
* foreach loop
* Making number patterns

### Arrays

* Introduction to Array
* One Dimensional Array
* Multi-Dimensional Array
* Jagged Array  -- no need

### Strings

* Introduction to strings
* Mutable strings
* Immutable strings
* Strings methods

### Object-Oriented Programming Concepts

* Introduction to object oriented programming
* Classes and Objects
* Inheritance
* Polymorphism
* Abstraction
* Encapsulation

### Class and Objects

* Creating a class
* Access Modifiers
* Instance members
* Creating an object

### Constructor and Destructor

* Introduction to Constructor
* Types of Constructor
* Default Constructor
* Parameterised Constructor
* Introduction to Destructor
* Creating Destructor

### Methods

* Introduction to Methods
* Methods Categories
* Methods Parameters
* Optional Parameters
* Call By Value
* Call By Reference

### Polymorphism

* Introduction to Polymorphism
* Types of Polymorphism
* Methods Overloading
* Methods Overriding
* Abstract, override and new keywords

### Inheritance

* Introduction to Inheritance
* Types of inheritance
* Single Level Inheritance
* Multi-Level Inheritance
* Multiple Inheritance
* Hybrid Inheritance
* Advantage of Inheritance
* Sealed class and private constructor

### Property

* Introduction to Property
* Types of Property
* Read-Write Property
* Read Only Property
* Write Only Property
* Advantages of Property

### Indexer

* Introduction to Indexer
* Types of Indexer
* Advantages of Indexer

### Abstract Class

* Introduction to Abstract Class
* Creating Abstract class
* Need of Abstract class
* Advantages of abstract class

### Interface

* Introduction to Interface
* Creating Interface
* Need of Interface
* Abstract class vs. Interface

### Static Class

* Introduction to static class
* Creating static class and static methods
* Need of static class
* Normal class vs. Static class

### Partial Class

* Introduction to partial class
* Creating partial class
* Need of partial class

### Structure

* Introduction to structure
* Creating structure
* Structure vs. Class

### Enum

* Introduction to enum
* Creating enum
* Need of enum

### Exception Handling

* Understanding Exceptions
* Try, Catch and Finally block
* Throw exception
* Handling Exception
* Custom Exception

### Delegates

* Introduction to delegates
* Types of delegates
* Single Delegate
* Multicast Delegate

### Generic Delegates

* Introduction to generic delegates
* Func
* Action
* Predicate

### Events

* Introduction to events
* Creating Events
* Event Handler

### Anonymous Method and Lambda Expression

* Anonymous Method
* Lambda Expression

### Attributes

* Introduction to attributes
* Creating attribute class
* Need of attributes

### Reflection

* Introduction to reflection
* Viewing Metadata

### Collections

* Introduction to .NET Collections
* Introduction to Collection Classes – Array List, Hash Table, Dictionary, Stack, Queue
* Introduction to Collection Interfaces – IEnumerable, IQuerable, IList, ICollection
* Relations between Collection Interfaces and Classes
* Using Collection classes – Array List, Hash Table & Dictionary

### Collections Contd.

* Using Collection classes – Stack, Queue
* Using Collection Interfaces – IEnumerable, IQuerable, IList, ICollection

### Generics

* Understanding .NET Generics
* Using Generics classes
* Using Generics Interfaces
* Generics Advantages
* Collections vs. Generics

### File Handling

* File I/O and Streams
* Stream readers and writers
* Creating file
* Writing data to file
* File opening mode

### File Class and Operations

* File class
* Directory class
* Path class
* Performing operations on a file

## SQL Server

### Introduction to SQL Server

* Understanding SQL Server
* SQL Server Version History
* RDBMS VS DBMS VS NoSQL
* Advantage of SQL Server

### T - SQL

* Types of SQL Commands
* Data Definition Language (DDL)
* Data Manipulation Language (DML)
* Data Query Language (DQL)
* Data Control Language (DCL)
* Transaction Control Language (TCL)
* Creating Database
* Altering Database
* Deleting Database
* Creating Table
* Altering Table
* Deleting Table

### SQL Keys

* Types of SQL Keys
* Super Key
* Primary Key
* Unique Key
* Foreign Key
* Candidate Key
* Alternate Key
* Composite Key

### SQL Commands & Predicates

* Insert
* Update
* Delete
* Truncate
* Delete VS Truncate
* Distinct
* Between…And
* In
* Like
* Is Null

### SQL Clauses

* Select
* Where
* Order By
* Group By
* Having

### Query & Sub-Query

* Understanding Query and Sub-Query
* Writing and Executing Query

### SQL Joins

* Types of Joins
* Inner Join
* Outer Join
* Cross Join
* Self-Join

### Views

* Understanding Views
* Need of Views
* Creating , Altering and Dropping Views
* Simple and Complex Views

### Functions

* Built-In Functions
* Scalar Functions
* Aggregate Functions
* Creating, Altering and Dropping Functions

### Introduction to ADO.NET

* Understanding ADO.NET
* ADO VS ADO.NET
* Advantage of ADO.NET
* ADO.NET Version History
* ADO.NET Architecture
* Connected and Disconnected Architecture
* ADO.NET Objects
* .NET Data Providers

### Connection & Command

* Connection Classes
* Command Objects
* Creating Commands
* Executing Commands
* Parameterized Queries
* Command Types

### Data Readers & Connected Access

* Understanding DataReader
* Reading Data using DataReader
* ExecuteReader Options

### Data Sets & Disconnected Access

* Understanding DataSet
* Understanding DataAdapter
* Understanding DataTable, DataColumn, DataRow

### Transaction

* Understanding Transaction
* Transaction ACID properties
* Implementing Transaction
* Commit and Rollback

### Data Controls

* Data Source Controls
* Choosing Data Binding Controls
* GridView
* DataList
* Paging, Sorting

## AJAX

### Introduction to AJAX

* Understanding AJAX
* Script Manager
* Update Panel
* Remote Method Calls
* AJAX Control Toolkit

## ASP.NET MVC

### Introduction to ASP.NET MVC

* Understanding ASP.NET MVC
* ASP.NET VS MVC VS ASP.NET Web Form VS ASP.NET MVC
* ASP.NET MVC Version History
* Understanding Model, View and Controller
* Advantages of ASP.NET MVC
* Design Pattern VS Architectural Pattern
* Layer VS Tier
* MVC pattern VS 3-Tier Architecture

### Controller & Actions

* Understanding Controller
* Creating Controller
* Understanding Actions

### View

* Types of Views
* Creating Standard View
* Communication between Controller and View

### Model & Validation

* Creating Model
* Understanding ASP.NET MVC Validation