## **SYLLABUS - C#**

- NameSpace
- Main Program
- Introduction
- \* Reading and writing to a console
- Built-in data types
- String data type
- Operators
- **❖** Nullable Types
- **❖** Datatype conversions
- **❖** Arrays
- Comments
- If statement
- Switch statement
- Switch continued
- While loop
- Do while loop
- ❖ For & foreach loop
- Methods
- Method parameters
- Namespaces
- Class Introduction
- Static & Instance members
- Inheritance
- Method hiding
- Polymorphism
- Method overriding Vs hiding
- Method overloading
- Why Properties
- Properties
- Structs
- Classes Vs Structs
- Interfaces
- ❖ Explicit interface implementation
- Abstract Classes
- **❖** Abstract Classes Vs Interfaces
- Diamond Problem
- Multiple inheritance
- Delegates
- ❖ Delegates Example I
- ❖ Delegates Example II
- Multicast Delegates

- Exception Handling
- Inner Exceptions
- Custom Exceptions
- Exception Handling Abuse
- Preventing Exception Handling Abuse
- Why Enums
- Enums Example
- Enums Concepts
- **❖** Types v/s Type Members
- Access Modifiers Private, Public and Protected
- \* Access Modifiers Internal and Protected Internal
- Access Modifiers for types
- Attributes
- Reflection
- Reflection Example
- **❖** Late binding using reflection
- Generics
- Generic Collections
- Reason to override ToString() method
- \* Reason to override Equals() method
- Difference between ConvertToString() and ToString() method
- Difference between string and stringbuilder
- ❖ Partial classes in C#
- Creating partial classes in C#
- ❖ Partial methods in c# Part
- How and where are indexers used in net
- ❖ Indexers in c#
- Overloading indexers
- Optional parameters
- Making method parameters optional using method overloading
- ❖ Making method parameters optional by specifying parameter defaults
- Making method parameters optional by using OptionalAttribute
- Code snippets in visual studio
- ❖ What is dictionary in c#
- ❖ What is dictionary in c# continued
- List collection class in c#
- List collection class in c# continued
- ❖ Working with generic list class and ranges in c#
- Sort a list of simple types in c#
- Sort a list of complex types in c#
- ❖ Sort a list of complex types using Comparison delegate
- ❖ Some useful methods of List collection class
- ❖ When to use a dictionary over list in c#

- Generic queue collection classGeneric stack collection class
- ❖ Real time example of queue collection class in c#
- Real time example of stack collection class in c#

