

Course Name: Certificate in Programming Excellence through C# WITH .NET

Eligibility: Graduation with One year Diploma in Computers or 3 years Diploma in Comp Sci. with knowledge of VB.NET Programming or BCA/B.Sc (CS/IT)

Duration: 3 months, 120 hrs

Fee: 5000/-

Lateral Entry: Not Available

Objective:

- To develop awareness, capability and confidence right from the beginning in the participant and to take up independent assignment in computer field using .NET technology C# and to work as Web Developer.
- To provide the practical and theoretical knowledge in .NET programming language.
- To develop professional with the concept and technique in .NET C#
- To make professional in .NET C# programming

SUBJECT CODE	SUBJECT	LEC	PRA	TOTAL Dur.	TOTAL MARKS
B06-01	Introduction to Microsoft .NET	10	05	15	
B06-02	Programming C# WITH .NET	35	50	85	100
B06-03	Development of Web Application using database	----	20	20	100
	TOTAL	45	75	120	200

DETAILED SYLLABUS

Subject Code	Subject	Syllabus	Theo.	Prac.
B06-01	Introduction to Microsoft .NET	<p>Introducing .NET: A Brief History of Windows Development, Components of a .NET Application, Migrating Existing Applications</p> <p>.NET, ASP.NET, and Distributed Application Development: The .NET Framework (What .NET Is, Web Services, .NET Framework Drilldown); Active Server Pages(ASP.NET Page Basics, Server Control Syntax, Code Basics, ASP.NET Page Life Cycle, Input Validation, Web Services, Improved ASP.NET page, Development, Improved ASP.NET Deployment, XML Configuration File, Security Infrastructure, Improved ASP.NET Availability and Performance); Distributed Application Architecture: Architecture and Design(The Core Of Distributed Applications, A Functional Overview Of Distributed Application, Designing Distributed Applications, Fundamental Application Boundaries: Presentation, Logic, and Data Services, Coupling, Multitiered Design, Local or Distributed?, Design Constraints, Design Goals).</p> <p>The .NET Standards: Web Standards, Web Services Standards, Language and Infrastructure Standards</p> <p>Visual Studio .NET: .NET and Visual Studio .NET, The Development Environment, Building a .NET Project</p> <p>Applications: The .NET Paradigms: Building Distributed .NET Applications, Data Access Layer, Business Object Layer, Web User Interface with ASP.NET, Desktop User Interface with Windows Forms</p> <p>.NET Exposed: .NET Framework, Deployment and Version Compatibility</p>	01	---
		Total	03	03
			02	----
			02	01
			01	01
			01	----
			10	05
B06-02	PROGRAMMING C# WITH .NET	<p>Introduction: What is C#, Why C#, Evolution of C#, Characteristics of C#, Applications of C#, How does C# differs from C++, How does C# differs from Java.</p> <p>Overview of C#: Namespaces, Adding comments, Main returning a value, Using aliases for Namespace classes, Passing String objects to WriteLine method, Command line arguments, Main with a Class, Providing interactive input, Using mathematical functions, multiple main methods, compile time errors, program structure, program coding style.</p> <p>Literals, Variables & Data Types: Literals, variables, data types, value types, reference types, declaration of variables, initialization of variables, default values, constant variables, boxing & unboxing.</p>	01	
			02	01
			01	01

	<p>Operators and Expressions: Introduction; Arithmetic Operators; Relational Operators; Logical Operators; Assignment Operators; Increment and Decrement Operators; Conditional Operator; Bitwise Operators; Special Operators; Arithmetic Expressions; Evaluation of Expressions; Precedence of Arithmetic Operators; Type Conversions; Operator Precedence and Associativity; Mathematical Functions.</p>	02	02
	<p>Decision Making and Branching: Introduction; Decision Making with if Statement; Simple if Statement; The if...else Statement; Nesting of ifelse Statements; The else if Ladder; The Switch Statement; The ? : Operator.</p>	01	02
	<p>Decision Making and Looping: Introduction; The while Statement; The do Statement; The for Statement; The foreach Statement; Jumps in Loops.</p>	01	02
	<p>Methods in C #: Introduction; Declaring Methods; The Main Method; Invoking Methods; Nesting of Methods; Method Parameters; Pass by Value; Pass by Reference; The Output Parameters; Variable Argument Lists; Methods Overloading.</p>	01	02
	<p>Handling Arrays: Introduction; One-Dimensional Arrays; Creating an Array; Two-Dimensional Arrays; Variable-Size Arrays; The System.Array Class; ArrayList Class.</p>	01	02
	<p>Working with String and data</p>	01	01
	<p>Manipulating Strings: Introduction; Creating Strings; String Methods; Inserting Strings Using System; Comparing Strings; Finding Substrings; Mutable Strings; Arrays of Strings; Regular Expressions.</p>	01	02
	<p>Structures and Enumerations: Introduction; Structures; Structs with Methods; Nested Structs; Difference between Classes and Structs; Enumerations; Enumerator Initialization; Enumerator Base Types; Enumerator Type Conversion.</p>	02	02
	<p>Classes and Objects: Introduction; Basic Principles of OOP; Defining a Class; Adding Variables; Adding Methods; Member Access Modifiers; Creating Objects; Accessing Class Members; Constructors; Overloaded Constructors; Static Members; Static Constructors; Private Constructors; Copy Constructors; Destructors; Member Initialization; The this Reference; Nesting of Classes; Constant Members; Read-only Members; Properties; Indexers, Namespaces</p>	03	02
	<p>Inheritance and Polymorphism: Introduction; Classical Inheritance; Containment Inheritance; Defining a Subclass; Visibility Control; Defining Subclass Constructors; Multilevel Inheritance; Hierarchical Inheritance; Overriding Methods; Hiding Methods; Abstract Classes; Abstract Methods; Sealed Classes: Preventing</p>	02	01

	Inheritance; Sealed Methods; Polymorphism.		
	Interfaces : Multiple Inheritance: Introduction; Defining an Interface; Extending an Interface; Implementing Interfaces; Interfaces and Inheritance; Explicit Interface Implementation; Abstract Class and Interfaces.	02	03
	Operator Overloading: Introduction; Overloadable Operators; Need for Operator Overloading; Defining Operator Overloading; Overloading Unary Operators; Overloading Binary Operators; Overloading Comparison Operators.	01	02
	Built in collection classes Hashtable, Stack, Que	01	02
	Delegates and Events: Introduction; Delegates; Delegate Declaration; Delegate Methods; Delegate Instantiation; Delegate Invocation; Using Delegates; Multicast Delegates; Events.	01	02
	Managing Console I/O Operations: Introduction; The Console Class; Console Input; Console Output; Formatted Output; Numeric Formatting; Standard Numeric Format; Custom Numeric Format.	01	02
	C# I/O: Console I/O, Streams, Binary file I/O, Text file I/O	01	02
	Managing Errors and Exceptions: Introduction; Types of Errors; Exceptions; Syntax of Exception Handling Code; Multiple Catch Statements; The Exception Hierarchy; General Catch Handler; Using finally Statement; Nested Try Blocks; Throwing Our Own Exceptions; Checked and Unchecked Operators; Using Exceptions For Debugging.	02	03
	Windows Forms: Introduction to GUI Program, Forms, GUI Components, Events, Creating windows, Adding components & Events	01	02
	Platform Invoke: Exported DLL functions from C# Accessing com components using C# C.Net Interoperability with COM Components	01	02
	XML Documentation	01	02
	C# we services	02	03
	ADO.Net using C#	01	03
	Socket programming in C#	01	02
	Total	35	50

B06-03		Development of Web Application using database	---	20
			TOTAL	45
				75