Programming in C Sharp Using Net Framework

BCA(N)- EF

Block 1

Unit 1:   Introduction of C#

Introduction, C# Basics, Microsoft.Net, Some common Difference between C# & others OOPs languages, Scope of Variables.

Unit 2:   Operators & Expressions in C#

Introduction, Operator and Operands, Types of Operator, Arithmetic Operator, Logical Operator, Relational Operator, Increment & Decrement Operator, Assignment Operator

Special Operator, Conditional Operator, Bitwise Operator, Precedence of Operator,

Type Conversion.

Unit 3:   Control Statement in C#

Introduction, Statements, Types of Control Statements, Branching Control Statements,

Jumping Statement, Looping/Iteration Control Statement, Summary, Exercise.

Unit 4:   Structures and Array

Introduction, Structures, Nested Structures, Difference between Classes & Structures, Enumerations, Enum Type Conversion, Arrays, Creating an Array, Types of Arrays

1-D Array, 2-D Array, Dynamic Array.

Block 2

Unit 6:   Inheritance and Polymorphism

Introduction, Inheritance in C#, Types of Inheritance, Single Inheritance, Multilevel Inheritance, Multiple Inheritances (Interface),Polymorphism in C#, Abstract Base Classes & Methods.

Unit 7:   Overloading and Overriding

Introduction, Operator Overloading, Unary Operator Overloading, Binary Operator Overloading, Method Overloading, Method Overriding.

Unit 8:   Event & Delegates

Introduction, Delegates, Declaration of Delegates, Instating a Delegates, Delegates, Events.

Unit 9:   Properties & Indexer

Introduction, Properties, Types of Properties, Indexers.

Block 3

Unit 10:   Assemblies & Attributes

Introduction, Assemblies, Creating Assemblies, Types of Assemblies, Assemblies and the Internal Access Modifiers, Customizing an Attributes, In-built Attributes, Using Win32 API

Creating Custom Attributes, Versioning, and Reflection.

Unit 11:   Directive and Debugging

Introduction, Error, Types of Errors, Finding Errors, Preprocessor Directive, Using Debuggers.

Unit 12:   Exception Handling

Introduction, Exceptions, Types of Exceptions, Raising Exceptions using Throw, The try statement, The try-catch statement, The finally statement.

Unit 13:   Threading in C#

Introduction, Definition of Threading, Thread Creation, Synchronizing of Threads, and Multithreading.

Block 4

Unit 14:   Namespace

Introduction, Namespaces, Qualified Naming, Using Namespace Directives, Using Alias Directives, The .NET Base Class Library.

Unit 15:   Graphics

Introduction, Graphics Object, Brushes, Pens, Images, Text, and Drawing.

Unit 16:   Windows-Based Application in C#

Introduction, Component of a Form, Labels, Buttons, Text Boxes, List Boxes, Check Boxes, and Radio Buttons, C# Control, Method, Properties, and Event.

Unit 17:   Web-Based Application in C#

Introduction, ASP.NET Web Application, Creating a Web-Based Project with C#, Building Web Service.

Block 5

Unit 18:   Files and Database Programming

Introduction, Files and Directories, Creating a File, Deleting a File, Database, MS-Access, Inserting Data in MS-Access, Deleting Data in MS-Access, Updating Data in MS-Access, Retrieving Data in MS-Access, SQL, Inserting Data in SQL, Deleting Data in SQL, Updating Data in SQL, Retrieving Data in SQL, XML, Inserting Data in XML, Deleting Data in XML, Updating Data in XML, Retrieving Data in XML, Converting SQL Data in XML format.

Unit 19:   COM form C# Application

Introduction, Using COM Component from C#.

Unit 20:   C# and .NET Security

Introduction, Security Role, Code Security, Code Security Policy, Code Security Permissions, User Security.