

Paper Code: BCADSE 5.4

Paper title: Elective-I: a. NET using C#

Teaching Hours – 5 hrs/week

Total Teaching Hours: 60 Hrs.

Marks: Th-80+IA-20

Credits: 4

Unit I: C# Language fundamentals

Introducing the Building Blocks of the .NET Platform (CLR, CTS, and CLS), Anatomy of C# program, The System. Environment Class, The System. Console Class, Understanding Value Types and Reference Types, The System Data types, Operators, Decision Constructs, Iteration Constructs, , The System. String data types, String Builder, .NET Array Types, Defining Classes and Creating objects, Pillars of OOP, C#'s Inheritance Support, C #'s Polymorphic Support, Understanding C# Partial types, Understanding Boxing and Unboxing Operations. **12Hrs**

Unit II: Object Life time and Exception handling

Understanding Object Lifetime classes, Objects and References, the basics of Object Lifetime, System.GC type, Building Finalizable Objects, Building Disposable Objects. Ode to Errors, Bugs, and Exceptions, The Role of .NET Exception Handling, throwing generic exceptions, catching exceptions, Configuring the state of an exception, System – Level Exception , Application-Level Exception, Processing Multiple Exception, Generic catch statements, Inner exceptions, Finally Block. **12 Hrs**

Unit III: Interfaces, Collections, Delegates & Events

Defining Interfaces in C#, Implementing an Interface in C#, Contrasting Interfaces to Abstract Base Classes, Collections: Introducing Collections . Benefits of Collection Classes .• Understanding and using commonly used collections, Interfaces of the System. Collections Namespace, .NET Delegate type, defining a Delegate in C#, System. Delegate Base Classes, Delegate examples, C# Events. **12 Hrs**

Unit IV:GUIusingWindows Forms and Database Programming

Controls- TextBox, label, Button, checkbox, radiobutton, listbox, combobox , Datetime picker, Common properties, methods and events , menus, context menus, Menustrip, Graphics and GDI, SDI and MDI, Dialog boxes; Database Programming - Understanding the Role of Managed Provider and ADO.NET Objects , Connecting to Database, Performing Insert, Update and Delete Operations, Executing Select Statements. **12Hrs**

Unit V: Understanding .NET Assemblies and file handling

Assemblies-The Role of .NET Assemblies, Understanding the format of .NET Assemblies, single file assembly, multifile assembly, Private and Shared Assemblies; File handling:The System IO Namespace, Directory (Info) and File (Info) types, Working with Directory Info, Directory Type, File Info, File Type Classes, Abstract Stream Class, Stream Writers and Stream Readers, String Writers and String Readers, Binary Writers and Binary Readers. **12 Hrs**

Reference Books:

1. Andrew Troelsen: Pro C# with .NET 3.0, Special Edition aPress, India,2007.
2. E. Balagurusamy: Programming in C#., 5th Reprint, Tata McGraw Hill,2004.
3. Herbert Schildt: The Complete Reference C#, Tata McGraw Hill,2004
4. C# 2008 programming cogent learning solutions Inc. DreamtechPress.
5. C#2008 Programming covers .net 3.5 Black Book – Beginners Edition Kogent learning solutions Inc. DreamtechPress.