

INSTRUCTIONS TO PAPER SETTERS:

1. Question No. 1 should be compulsory and cover the entire syllabus. There should be 10 questions of short answer type of 2 marks each, having at least 2 questions from each unit.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions to evaluate analytical/technical skills of candidate. However, student may be asked to attempt only 1 question from each unit. Each question should be 10 marks including subparts, if any.

OBJECTIVE: In this course student will become familiar with an with C# language. This course will help to develop real life projects.

PREREQUISITES:

- Basic Programming Language

UNIT - I

The CLR and .NET Framework: Understand the motivation behind the .NET platform, Common Language Infrastructure (CLI). Know the role of the Common Type System (CTS), the Common Language Specification (CLS) and the Common Language Runtime (CLR), Understand the assembly, metadata, namespace, type distinction, Contrast single-file and multi-file assemblies, Know the role of the Common Intermediate Language (CIL), Platform independent .NET(Mono / Portable .NET distributions). [No. of Hrs.: 08]

UNIT - II

Evolution of C# Language: Language Fundamentals, Reference and value Types, primitive types the Nullable and enum types, Classes and objects, Defining classes Creating objects, Using static members, Garbage Collector, Overloading Methods, Various Constructors. Encapsulating data, access modifiers, properties, indexers arrays and readonly fields. Handling errors and throwing exceptions The Root object class. Inheritance and polymorphism specialization and generalization, Abstract classes, nesting of classes. Structures. String and DateTime classes. [No. of Hrs: 14]

UNIT - III

Event handling paradigm Delegates and events. Anonymous delegates and lambda expression FUNC and Action delegates.

Generics Collections Interfaces, overriding interface implementation. Explicit interface implementation. Collection, IEnumerable, IEnumerator, IList, IComparer and their Generic equivalent. Working with generic List, Stack, Dictionary and Queue.

Programming Window Forms Applications: The notifies - subscribers paradigm for handling events. .NET framework for handling GUI events. Introduction to WPF and building an WPF application [No. of Hrs: 10]

UNIT - IV

Introducing LINQ and XML: XML A quick introduction. LINQ and C#. Defining and executing a Query. Implicitly typed local variables. Anonymous Types, Extension Methods and Lambda Expressions. Putting LINQ to work. LINQ to SQL Fundamentals of ADO.NET Updating retrieving and deleting data using LINQ to SQL. [No. of Hrs: 10]

TEXT BOOKS:

1. Jesse Liberty and Donald Xie , “Programming C# 3.0”, O'REILLY.
2. J.G.R. Sathiaselvan, N Sasikaladevi, “Programming with C# .net”, PHI, 2009.
3. Paul J. Deitel, Harvey Deitel, “C# 2008 for Programmers”, Pearson, 3rd Ed., 2010.
4. Joseph Albahari and Ben Albahari, “C# 3.0/4.0 in NUTSHELL”, O'REILLY.

REFERENCES:

1. Stephen C. Perry, Atul Kahate, Stephen Walther, Joseph Mayo, “Essential of .net and Related Technologies with a focus on C#, XML, ASP.net and ADO.net”, Pearson, 2nd Ed. 2009.
2. Jon Skeet, “C# in Depth ”, O'REILLY