

## SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES

II MCA - II Semester

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**.NET TECHNOLOGIES**

### Course Objectives:

- To explore the knowledge on different types of applications of .net
- To know about the design methodologies with concentration on object oriented concepts.
- Giving the students a complete knowledge on .net framework and .net environment.
- To provide the knowledge on developing internet applications and how to design and implement complete applications over the web.
- To acquire basic knowledge of developing client server applications and to provide basic knowledge on web services.
- Giving the students a quick review on web servers, client side programming, server side programming and various web technologies.

### Syllabus:

#### UNIT I : Introduction to C# and .NET Framework

Introducing C# - Evolution of C# , Characteristics of C# , Applications of C# , How does C# differs from C++ & Java.

The Origin of .NET Technology, The .NET Framework, The Common Language Runtime, Framework Base Classes, User & Program interfaces, Visual Studio .NET, .NET languages , Benefits of .NET approach , C# and the .NET

Overview of C# - Literals, Variables and Data Types – Operators and Expressions.

#### UNIT II : Programming with C#

Decision Making and Branching – Decision Making and Looping – Methods in C# - Handling Arrays – Manipulating Strings.

Structures and Enumerations - Introduction , Structures , Enumerations.

Classes and Objects – Inheritance and Polymorphism , Multilevel Inheritance , Hierarchical Inheritance , Overriding Methods , Abstract Classes , Abstract Methods , Polymorphism .

Interfaces – Delegates and Events – Multithreading in C#.

### **UNIT III : Introduction to Visual Basic.NET**

What is VB.NET – Hello World – Variables – Constants and Operators – Modularizing your code – Functions and Subroutines – Controlling Program Flow – Handling Errors and Exceptions – Object Oriented Programming – Multithreaded Programming.

### **UNIT IV : Working with ASP.NET**

Features of ASP.NET – The Anatomy of ASP.NET Pages – Introducing Web Forms – VS.NET Web Application and Other IDE Basics – Separating Content and Code – the Code Behind Features – Application Configuration – Using HTML Controls – Using Web Controls – Web Controls for Displaying and Formatting Data – Web Controls for Creating Buttons – Web Controls for Inputting Text – Web Controls for Selecting Choices – Web Controls for Creating Lists – Creating a Simple ASP.NET Application – ASP.NET Page Directives – Validation Controls – Data List Controls – User Controls.

### **UNIT V : Introduction to Web Services and ADO.NET**

The Need for Web Services, Overview of Web Services – Web Service Description Language – Web Service Wire Formats – Web Services – Discovery – Creating a Simple Web Service

Overview of Data Access on the Web – ADO.NET Programming Objects and Architecture – Displaying Database Data – Programming with the DataList and DataGrid Controls – Working with the DataSet and DataTable Objects.

#### **Course Outcomes:**

- Acquire the knowledge on the basics of .net framework and .net environment.
- Develop various applications by choosing the best required .net languages and techniques
- Develop web applications using various web technologies like asp.net, html, css.
- Know the basic terminology to develop web applications using .net technologies.
- Display proficiency in C#, VB.NET, ASP.NET, ADO.NET application development environments.

#### **TEXT BOOKS :**

1. Programming in C#, 2/e, 2008, E. Balagurusamy, Tata McGraw – Hill Publishing
2. Company Limited, New Delhi.
3. ASP.NET and VB.NET Web Programming, 2002, Matt J. Crouch, Pearson Education, New Delhi.

## REFERENCE BOOKS :

1. Programming Microsoft® Visual Basic® .NET (Core Reference), 2006, Francesco Balena, Microsoft Press, New Delhi..
2. Microsoft® ADO.NET Step by Step, 2002, Rebecca M. Riordan, Microsoft Press, New Delhi.
3. Professional ASP.NET 2.0 XML, 2006, Thiru Thangarathinam ,Wiley Publishing.
4. Building Microsoft® ASP.NET Applications for Mobile Devices, 2/e, 2003, Andy Wigley, Peter Roxburgh , Microsoft Press.
5. 5..NET Framework Essentials, 3/e, 2003, Thuan L. Thai, Hoang Lam, O'Reilly & Associates, United States of America.