Course Objectives

To assist the learner to understand the .NET Architecture, Object oriented concepts, to use ADO.NET for database connectivity and developing the ability to solve any type of problems by mapping with real world environment using ASP.NET and C#.

- Construct various applications using C# in .Net framework
- Familiar about Object Oriented concepts in C# language
- Demonstrate how to retrieve data from database using ADO.NET programming
- Create web based and windows based applications using ASP.NET
- Make the developer experience consistent across widely varying types of apps, such as Windows based apps and Web-based apps.

UNIT I   INTRODUCTION TO C#   9

Introducing C# - Introduction to .Net framework and Architecture - Understanding .NET-Overview of C#- Literals Variables-Constant Variables – Scope of Variables – Boxing and Unboxing - Data Types- Operators- Expressions Branching- Looping- Methods- Arrays- Strings- Structures- Enumerations.

UNIT II   OBJECT ORIENTED ASPECTS OF C#   9

Classes-Adding Variables – Adding Methods - Objects – Accessing class Members – Constructors – Abstract classes and Methods - Inheritance - Polymorphism – Interfaces - Operator Overloading - Delegates and Events - Errors and Exceptions.

UNIT III   ADO.NET   9

ADO.NET Introduction - ADO.NET Architecture : Connected and Disconnected Architecture – Data Provider Connection Object, Command Object, Data Reader - Datasets : Data Table , Data Column , Data Row , Data Constraints , Data Relation , Data Adapters

UNIT IV   WEB BASED APPLICATION DEVELOPMENT ON .NET   9

Building Windows Forms Applications -Programming Web Applications with Web Forms using ASP.NET - ASP.NET controls - Understand Data Binding and various Data Sources in ASP.NET - Understand the creation of Master Pages and themes - Configuration of web applications using IIS configurations - State management in ASP.NET Programming Web Services.

UNIT V   MVC FRAMEWORK   9

MVC basics , MVC Architecture, Web forms vs MVC, Create a controller , Create models ,Create a view ,Add a service class ,Use dependency injection ,Finish the controller ,Update the layout

TOTAL:45 h

TEXT BOOKS:

T1: Balagurusamy. E, "Programming in C#", Tata McGraw-Hill, 2004. (Unit I, II)

T2: Liberty.J, "Programming C#", 2nd Edition., O'Reilly, 2002. (Unit III, IV, V)

T3: Bill Hamilton, Matthew MacDonald , " ADO.NET in a Nutshell " ,O'Reilly Media (Unit III)

T4: Jesse Liberty, Dan Maharry, Dan Hurwitz . "Programming ASP.NET 3.5" 4th Edition , O'Reilly Media (Unit IV)

REFERENCES:

R1: Herbert Schildt, "The Complete Reference: C#", Tata McGraw-Hill, 2004.

R2: Robinson et al, "Professional C#", 2nd ed., Wrox Press, 2002.

R3: Andrew Troelsen, "C# and the .NET Platform", A! Press, 2003.

R4: ThamaraiSelvi, R. Murugesan, "A Textbook on C#", Pearson Education

R5: ADO.NET in a Nutshell By Bill Hamilton, Matthew MacDonald Publisher: O'Reilly Media.

R6: Programming ASP.NET 3.5, 4th Edition By Jesse Liberty, Dan Maharry, Dan HurwitzPublisher: O'Reilly Media

Web Links:

W1: https://ict.iitk.ac.in/courses/introduction-to-c-sharp/

W2: https://www.btechguru.com/training--dot-net--c-sharp-dot-net--framework--c-sharp-programming-tutorial-part-1-video-lecture--11285--27--139.html

COURSE OUTCOMES

At the end of this course the students will be able to,

CO1: Construct various applications using C# in .Net framework   1

CO2: Familiar about Object Oriented concepts in C# language   5

CO3: Demonstrate how to retrieve data from database using ADO.NET programming   3

CO4: Develop ASP.NET based web application using C#   2

CO5: Develop desktop based, modern web based applications using Model View Controller.   2

MAPPING OF COURSE OUTCOMES TO PROGRAM OUTCOMES

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	2	2	2	2	-	-	-	-	2	1	2
CO2	3	2	2	2	2	3	2	-	-	-	-	2	1	2
CO3	2	2	3	3	2	2	2	-	-	-	-	2	3	2
CO4	2	3	2	2	2	3	2	-	-	-	-	2	3	3
CO5	3	2	3	2	2	2	3	-	--	-	-	2	3	3
Average	2.4	2.4	2.4	2.2	2	2.4	2.2	-	-	-	-	2	2.2	2.4

ASSESSMENT METHODS:

CAT 1	CAT 2	Model Exam	End Semester Exams	Assignments