

3CP41: .NET TECHNOLOGY
CREDITS - 4 (LTP: 3, 0, 1)

Course Objective:

To impart basic knowledge of .NET framework and C# leading to design of web application.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per Week)			Credits	Marks Distribution				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE	CE	ESE	CE		
3	0	2	4	60	40	20	30	150

Details of Assessment Instruments under CE Practical Component:

1. Experiments during lab sessions and record-keeping of lab work (Term Work): 10 marks
2. Assignments / Quiz / Mini Project: 20 marks

Course Contents:

Unit No.	Topics	Teaching Hours
1	Basic of .NET Framework NET framework, MSIL, CLR, CLS, CTS, Namespaces, Assemblies The Common Language Implementation, Assemblies, Garbage Collection, Managed Execution, Introduction to .NET Core, Important of .NET core , Introduction to ASP.NET Core	08
2	C# - The Basics and Advanced Program structures, Types and Variables, Expressions, Statements, Class, Objects Name Spaces - Constructor and Destructors, Function Overloading & Inheritance, Operator Overloading, Array, Interfaces, Modifiers -, Working with Console input & Output, Property and Indexers ,Enum, Attributes & Reflection API, Async, Generics, LINQ Query Expressions, Lambda Expressions, Logging log4net	10
3	Data Access Advantage of ADO.NET, ADO.NET Architecture, .NET Providers, Connection, Command, DataSet, DataReader. Working with Connection Oriented and Connection less approach, LINQ, Entity Framework	07
4	ASP.NET Introduction to WebForms, Basic working of WebForms, MVC, Introduction to ASP.NET MVC, UI, Layouts and Themes, Working with Entity Framework using MVC , Security Authentication and Authorization.	10
5	Web Services The Motivation for XML Web Services, Creating an XML Web Service with Visual Studio, Designing XML Web Services, Creating Web Service Consumers, Discovering Web Services Using UDDI, Hosting and Deployment: Hosting web sites and web services on IIS on premises and hosting on Azure/AWS cloud hosting.	05
6	WPF & AJAX Introduction to WPF, Create simple Desktop application, Understating of AJAX with ASP.NET, AJAX Toolkit, and Introduction to extended AJAX Toolkit.	05
Total		45

List of References:

1. Christian Nagel, "*Professional C# 6 and .NET Core 1.0*", Wrox publication.
2. Brad Wilson, K. Scott Allen, David Matson, "*Professional ASP.NET MVC 5*", Wrox publication
3. Joseph Albahari, Ben Albahari, "*C# 6.0 in a Nutshell, 6th Edition*", O'Reilly Media

Course Outcomes (COs):

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

1. Illustrate the basics of .NET framework
2. Develop programs using C# programming language.
3. Illustrate ADO.NET and MVC based ASP.NET architecture.
4. Develop Web application having database connectivity.
5. Develop application using MVC and Ajax.
6. Describe Web services and its applications.