

Year: B. Tech III (Semester VI)

Subject Name: .NET Programming

Subject Code: BTCO14608

Type of course: Professional Elective II and III

Prerequisite (if any): Basic OOPS concepts

List of Courses where this course will be prerequisite: -

Rationale: Object oriented programming has gained momentum because of the object reuse. .NET provides an object oriented development framework. .NET provides a base class library that supports innovative web development. It enables users to fulfill varied functions like graphic rendering and file reading. It has all the resources to provide websites with different functionality and manage it smoothly at the same time. .NET provides Consistent programming model, Direct Support for Security, Simplified Development efforts and Easy application deployment and Maintenance

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
3	0	2	4	60	25	15	30	20	150

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr.No.	Content	Total Hrs
1	Understanding .NET: Understanding the .NET Framework, Understanding .NET Core ,Understanding future versions of .NET ,Understanding .NET Core support, What is different about .NET Core? ,Understanding .NET Standard, .NET platforms and tools, Understanding intermediate language, Understanding .NET Native, Comparing .NET technologies	3
2	Understanding C# basics : Name Spaces - Constructor and Destructors, Function Overloading & Inheritance, Operator Overloading, Modifiers - Property and Indexers , Attributes & Reflection API, Namespaces Classes and Inheritance. Error Handling , Data Types. String Manipulation ,Files and I/O ,Collections	5
3	ADO.NET: Benefits of ADO.NET, ADO.NET compared to classic ADO -, Datasets, Managed Providers -, Data Binding: Introducing Data Source Controls -, Reading and Writing Data Using the SqlDataSource Control	5
4	Windows Forms and Controls in details: The Windows Forms Model, Creating Windows Forms Windows Forms Properties and Events, Windows Form Controls, Menus - Dialogs – ToolTips	5



5	ASP.NET: Introduction to ASP.NET, Working with Web and HTML Controls, Using Rich Server Controls, Login controls, Overview of ASP.NET Validation Controls, Using the Simple Validations, Using the Complex Validators Accessing Data using ADO.NET, Using the Complex Validators Accessing Data using ADO.NET, Configuration Overview, Themes and Master Pages: Creating a Consistent Website, Master Pages, Displaying Data with the GridView Control Introducing the GridView Control, Filter Data in the GridView Control, Allow Users to Select from a DropDownList in the Grid, Add a Hyperlink to the Grid, Deleting a Row and Handling Errors	10
6	Managing State: Preserving State in Web Applications and Page-Level State, Using Cookies to Preserve State, ASP.NET Session State, Storing Objects in Session State, Configuring Session State, Setting Up an Out-of-Process State Server, Storing Session State in SQL Server, Using Cookieless Session IDs, Application State Using the DataList and Repeater Controls, Overview of List-Bound Controls, Creating a Repeater Control and DataList Control	5
7	Building Websites Using the Model-View-Controller Pattern Model-View-Controller Pattern, Setting up an ASP.NET Core MVC website, Creating and exploring an ASP.NET Core MVC website, Reviewing the ASP.NET Core MVC website, Reviewing the ASP.NET Core Identity database, Exploring an ASP.NET Core MVC website, Customizing an ASP.NET Core MVC website	7
8	Building and Consuming Web Services Creating and Consuming 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	5

Suggested Specification table with Marks (Theory): (For B.Tech only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	15	30	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr No	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication / Publication Edition





1	C# 8.0 and .NET Core 3.0 – Modern Cross-Platform Development	Mark J. Price	Packt	Latest Edition
2	Professional C# .Net	Christian Nagel	Wrox Publication	
3	ASP.NET Complete Reference	Matthew Macdonald and Robert Standefer	TMH	
4	C# The Basics	Vijay Mukhi	BPB Publication	

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand code solutions and compile C# projects within the .NET framework.	10%
CO-2	Design and Implement Windows Applications using Windows Forms, Control Library, Advanced UI Programming & Data Binding concepts	30%
CO-3	Identify Industry defined problem and suggesting solution(s) using .NET application.	20%
CO-4	Design and Implement database connectivity using ADO.NET in window based application. .	20%
CO-5	Understand and implement applications using MVC Framework	20%

List of Open learning website:

1. www.e-sharpecorner.com
2. www.e-sharp-station.com/Tutorial.aspx
3. www.w3schools.com/
4. www.tutorialspoint.com/asp.net/index.htm

List of Open Source Software:--

FOR LAB SESSIONS:

List of Experiments:



Sr. No	Practical
1	Create a Windows Form to implement Calculator
2	Create a Windows Form to Convert following currency conversion. Rupees to dollar, frank, euro
3	Implement Paint application to draw various shapes using GDI+. Use menu to provide various options. Free Hand Drawing should also be implemented.
4	Implement an MDI form to implement "Employee Management System". When application runs it shows Splash screen, followed by Login Form. Use Progress Bar control to show progress of Login and then open MDI form MDI form should contain the following Forms 1) employee master 2) department master 3) salary generator 4) salary report (month wise and employee wise) 5) Exit menu option
5	Write a program to check whether empty query string is entered in Asp .net
6	Write a program to change color of Label text control programmatically in Asp .Net
7	Write a program to Enable-Disable Textbox and change the width of TextBox programmatically in Asp .Net
8	Design an application using Master Pages and Menu Controls.
9	Implement a Login Module in ASP.NET with C# with sql server database connectivity It Contains • Registration • Login • Change Password • Forgot Password In this use concepts of State management like cookies, session , query string and perform necessary validations. Also include the concepts of master page.
10	Create a Website that display Advertisement using Adrotator control.
11	Write down code for how data can be displayed in following data bound controls • DataList • GridView • ListView • Repeater
12	Create an application for XML Web service for a) conversion of Temperature from Fahrenheit to Celsius and vice versa. b) Simple Interest Calculator.
13	Create a website which demonstrates MVC Framework

Major Equipment Needed: -

