Marwadi University
Faculty of Technology
Department of Information and Communication Technology

Subject Code: 01CT1518

Subject Name: .Net Technology

B. Tech. Year – III (Semester V)

Objective: .Net Technologies are blend of technologies supported by Microsoft .Net Framework, that allows user to create various applications. Students will be able to work with various technologies provided by Microsoft .NET platform.

Credits Earned: 04 Credits

Course Outcomes: After completion of this course, student will be able to:

1. Understand the use of C# basics, Objects and Types, Inheritance and .NET framework developed by Microsoft (Understand).
2. Develop and implement applications with C# (Apply).
3. Analyze the Component Services, Threading, Remoting, Windows services, web services (Analyze).
4. Design the functional web application using the concepts of .NET, various server controls, State management, MVC Architecture and application security (Apply).
5. Design, develop and deploy web application (Create).

Pre-requisite of course: Object oriented concepts, Programming fundamentals

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial / Practical Marks		Total Marks
				E	I		V	T	
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
3	0	2	04	50	30	20	25	25	150

Contents:

Unit	Topics	Hours
1	**Introduction To .Net Framework:** Introduction to .NET Framework Architecture, Program Execution in .NET, CLR structure, MSIL, CLS, CTS, Namespaces, Assemblies the Common Language Implementation, creating strong named assemblies, Garbage Collection.	02

2	**The Basics and Console Applications in C#:** c data types, declaring variables and constants, Type, Conversion, Boxing and Unboxing, Array, Structure, String Manipulation, String Builder, Decision making statements, Conditional Loops, Switch Case., Name Spaces - Constructor and Destructors, Function Overloading &Inheritance, Operator Overloading, when to use Console Applications - Generating Console Output, Processing Console Input	04
3	**Advance C#:** Attributes, Reflection, Delegates, Events, Threading, Collections.	03
4	**Building GUI with C#:** Working with common form controls. Visual Inheritance, Event Handling	04
5	**Working with SQL server:** Introduction to SQL server, Different types of queries, SQL index, SQL views, stored procedure, cursor	04
6	**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.	05
7	**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 Cookie less Session IDs, Application State Using the Data List and Repeater Controls.	05
8	**ASP.NET MVC:** Controller, Model, View, Layout, Partial Views, Razor Language, jQuery Ajax, Entity Framework, routing mechanism, Web API	08
9	**Introduction to .NET Core:** Controllers, views, models, layout, Introduction to entity framework core, Routing, Web api, Dependency injection	05
10	**Deployment of web app:** Deploy web app locally and accessing in local environment from multiple devices	02
	Total Hours	**42**

Suggested Text books / Reference books:

1. Christian Nagel, Professional C# .Net, Wrox Publication
2. Matthew Macdonald and Robert Standefer, ASP.NET Complete Reference, TMH
3. Vijay Mukhi, C# The Basics, BPB Publications
4. Kurt Nomark, Object-Oriented Programming in C#, First edition 2010

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching- learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	25%	25%	10%	10%

Suggested List of Experiments:

1. Create a windows form with the following controls Textbox, Radio button, Check box, Command Button
2. Write a program for Menu option.
3. Create a program to connect with database and manipulate the records in the database using ADO .NET
4. Create a program to implement the concepts of OOPS for creating class, inheritance
5. Create a program to perform input validation using procedure.
6. Write a program to open a file and using I/O operations write contents into a file andread the contents from the file.
7. Create a window form using HTML controls.
8. Create a program to perform validation using validation controls.
9. Create a program in ASP .NET to connect with the database using ADODB connectivity and manipulate the records.
10. Write a program to store the employee details using class and methods in C# .NET
11. Write a program to Handle Exceptions
12. Write a program to create a form with Basic control in C#. NET.
13. Write a API which can be consumed from any other languages I.e. Android / iOS / php / java etc.
14. Write a program to generate daily different offers to attract customers for online shopping portal.

Supplementary Resources:

1. http://www.c-sharpcorner.com
2. http://www.csharphelp.com/index.html
3. http://www.codeproject.com
4. http://telerikacademy.com
5. https://msdn.microsoft.com