INSTITUTE	**FACULTY OF TECHNOLOGY**
PROGRAM	**BACHELOR OF TECHNOLOGY (COMPUTER ENGINEERING)**
SEMESTER	**5**
COURSE TITLE	**.NET TECHNOLOGIES**
COURSE CODE	**01CE1523**
COURSE CREDITS	**4**

Objective:

1 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.

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

1 To Review the components of .Net Framework
2 To practice Web based application
3 To create web applications using MVC framework
4 To practice basic database application using ADO.net.
5 To design and develop web applications and REST services using ASP.NET Cor

Pre-requisite of course: Object Oriented Programming

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	**Introduction to .Net Framework and C#** Introduction to .NET Framework Architecture, CLR, Assemblies, Basics of C#, Class, Object, Method, Access Modifiers, Constructors, Abstract Class, Inheritance, Interface, Polymorphism, Exception Handling	8
2	**ASP.Net Web Application** Page life cycle of ASP.NET Application, Web Controls (Button, TextBox, CheckBox, Image etc.), Rich Controls (Calendar, AdRotator), Validation Controls, State management, Cookie, Session	8

DR. KRUNAL NARUMAL VAGHELA
Digitally signed by (Name of HOD)

DR. RAJENDRASINH BAHADURSINH JADEJA
Digitally signed by (Name of Dean/ Principal)

Contents : Unit	Topics	Contact Hours
3	**ASP.Net MVC** Introduction to ASP.NET MVC, MVC Architecture Overview, Controllers, Razor Views, LayoutView, PartialView, Models, HTML helpers, Action Filters, Model Validation, URLs and Routing.	9
4	**Working with ADO.Net** ADO.Net Architecture, Characteristics of ADO.Net, Data Namespaces, ADO.Net Object Model, DataSet, DataTable, DataRelation, Connection object,, Command Object, Data Reader Object, DataAdapter Object, Data Controls (Repeater, DataList, DataGrid), Binding data with Crystal Report, Performing CRUD operations	9
5	**ASP.NET Core (Modern .NET Development)** ntroduction to .NET Core, ASP.NET Core Project Structure, Middleware & Request Pipeline, Dependency Injection (DI), ASP.NET Core MVC and Building REST APIs with ASP.NET Core	8
Total Hours		**42**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Practical-1** Program on Class, Object and Constructor	2
2	**Practical-2** Program on Inheritance and Interface	2
3	**Practical-3** : Program on Polymorphism and Exception Handling	2
4	**Practical-4** Create web application using ASP.Net Web Controls	2
5	**Practical-5** Create web application using ASP.Net Rich Controls	2
6	**Practical-6** Create web application using ASP.Net Validation Controls	2
7	**Practical-7** Program on Session and Cookie	2
8	**Practical-8** Creating web application using MVC	4
9	**Practical-9** Create web application that performs CRUD operation using ADO.Net	4
10	**Practical-10** Create Web application which use Data Controls like Repeater, DataList, DataGrid	2

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Digitally signed by (Name of HOD)

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Digitally signed by (Name of Dean/ Principal)

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
11	**Practical-11** Program for creating RESTful APIs using ASP.NET Core	4
Total Hours		**28**

Textbook :

1 ASP.NET Complete Reference, Matthew Macdonald and Robert Standefer, Turtleback, 2002

References:

1 Professional ASP.NET 4 in C# and VB (WROX), Professional ASP.NET 4 in C# and VB (WROX),, Professional ASP.NET 4 in C# and VB (WROX), Professional ASP.NET 4 in C# and VB (WROX),, ason N. Gaylord, Christian Wenz, Pranav Rastogi, Todd Miranda, Scott Hanselman,, Wiley,, 2013

2 Pro ASP.Net in C# 2010,, Pro ASP.Net in C# 2010, Pro ASP.Net in C# 2010,, Pro ASP.Net in C# 2010, Macdonald and Mathew,, Apress Publication, 2010

3 Professional C# .Net,, Professional C# .Net, Professional C# .Net,, Professional C# .Net, Christian Nagel, Wrox Publication, 2014

4 The Complete Reference C#, The Complete Reference C#, The Complete Reference C#, Herbert Shildt,,, Mcgrow Hill Publication, 2010

5 Pro ASP.NET Core MVC 2 (7th Edition), Pro ASP.NET Core MVC 2 (7th Edition), Adam Freeman, Apress Publication, 2017

Suggested Theory Distribution:

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

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
0.00	10.00	40.00	30.00	20.00	0.00

Instructional Method:

1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room

3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory

4 Students will use supplementary resources such as online videos, NPTEL videos, ecourses, Virtual Laboratory

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Digitally signed by (Name of HOD)

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Supplementary Resources:

1. https://dotnet.microsoft.com/en-us/learn/aspnet
2. http://www.c-sharpcorner.com
3. http://www.codeproject.com
4. http://www.csharphelp.com/index.html
5. https://learn.microsoft.com/en-us/aspnet/core/