COURSE TITLE	**.NET TECHNOLOGIES**
COURSE CODE	**01CE0523**
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 Apply object-oriented programming concepts such as classes, inheritance, and interfaces using C# to build modular applications.

2 Construct web forms using web controls and implement session and cookie management.

3 Create dynamic and structured web applications using the ASP.NET MVC framework incorporating routing, views, and controllers.

4 Analyze differences between connected and disconnected architectures in ADO.NET.

5 Create RESTful APIs using ASP.NET Web API, handling HTTP methods, routing, and parameter binding.

Pre-requisite of course:NA

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
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

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Contents : Unit	Topics	Contact Hours
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), , Data Controls (Repeater, DataList, DataGrid),	9
5	**ASP.Net Web API and Security** Introduction, Understanding HTTP methods, , Creating API controller, API configuration, Routing, , Parameter binding, request and response, , API filters, Form Based Security , Windows based security	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
Total Hours		**24**

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) , Jason 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, , Macdonald and Mathew , Apress Publication , 2010

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

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

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
10.00	20.00	40.00	0.00	0.00	30.00

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, e-courses, Virtual Laboratory

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