

**B.C.A. (Honours) & B.C.A. (Honours with Research)**  
**(Semester - 5 and Semester - 6)**  
**To be effective from June – 2025**  
**Saurashtra University**

**CS-36: Programming with ASP.NET**

**Objectives:**

- Familiarize students with the basic concepts of ASP.NET
- Explore the different approaches to building web applications in ASP.NET
- Learn to integrate databases with ASP.NET applications using technologies like ADO.NET

**Prerequisites:**

- Basic Programming Knowledge
- Basic Understanding of HTML, CSS, OOP Concepts and C#.NET
- Having a general understanding of web development concepts such as client-server architecture, web servers etc.

Unit No.	Topic	Detail
1	Framework and Web Contents Validation Controls	<ul style="list-style-type: none"> <li>• Overview of Asp.NET Framework</li> <li>• Client Server Architecture</li> <li>• Application Web Servers</li> <li>• Types of Files in Asp.NET</li> <li>• Types of controls in Asp.NET</li> <li>• Page Architecture</li> <li>• Web form</li> <li>• Introduction to standard Controls (Buttons, Textbox, Checkbox, Lable, Panel, Listbox, Dropdownlist etc.)</li> <li>• Running an Asp.Net Application, File Upload Control</li> <li>• What is Validation? <ul style="list-style-type: none"> <li>• Client Side Validation</li> <li>• Server Side Validation</li> </ul> </li> <li>• Types (RequiredField Validator, Range Validator, CompareField Validator, RegularExpression Validator, Custom Validator, ValidationSummery Control)</li> </ul>
2	State Management	<ul style="list-style-type: none"> <li>• What is State?</li> <li>• Why it is required in Asp.Net?</li> <li>• Client Side State Management</li> <li>• Server Side State Management</li> <li>• Various State Management Techniques (View State, Query String, Cookie, Session State, Application State)</li> </ul>
3	ADO .NET and Database	<ul style="list-style-type: none"> <li>• Architecture of ADO.NET</li> <li>• ADO.NET Classes for Connected and Disconnected Architecture ( Connection, Command,DataReader, DataAdapter, DataSet, DataColumn, DataRow, DataConstraints, DataView etc.)</li> <li>• TheGridview Control, TheRepeater Control</li> <li>• Binding Datato DataBound Controls,</li> <li>• Diping Data in a webpage using SQLDataSource Control</li> <li>• DataBinding Expressions</li> </ul>

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<b>4</b>	Master Pages and Theme Caching, Application Pages and Data	<ul style="list-style-type: none"> <li>• What is MasterPage?</li> <li>• Requirement Of a Master Page in an Asp.NET application</li> <li>• Designing Website with Master Page, Theme and CSS</li> <li>• Overview of Caching <ul style="list-style-type: none"> <li>○ PageOutput Caching</li> <li>○ Partial Page Caching, Absolute Cache Expiration</li> <li>○ Sliding Cache Expiration</li> <li>○ Data Caching</li> </ul> </li> </ul>
<b>5</b>	Working with XML ASP.NET Application Configuration and Deployment of Application	<ul style="list-style-type: none"> <li>• Reading Datasets FromXML</li> <li>• Writing DataSets With XML</li> <li>• WebServices (Introduction, HTTP, SOAP, UDDI,XML, Creating a Web Service, Consuming a Web Service)</li> <li>• Introduction To Web.Config</li> <li>• Common Configuration Sections</li> <li>• AppSettings</li> <li>• Tracing</li> <li>• Custom Errors</li> <li>• Authentication And Authorization</li> <li>• Deployment of Application in web server</li> </ul>

**Reference Books:**

- ASP.NET - Unleashed
- ASP.NET – Wrox Publication
- Pro ASP.NET Core MVC 2 Book by Adam Freeman
- Introduction to ASP.NET Web Programming using the Razor Syntax (C#) by Tom FitzMacken

**Course Outcomes:**

- Understand the ASP.NET framework and different controls.
- Understand form validation, apply form validation control also understand state management.
- Understand ADO .NET architecture and developing application with LINQ.
- Understand and apply concept of Master Page, CSS & Theme.
- Understand configuration of application with XML.