**AIT 222      INTRODUCTION TO .NET FRAMEWORK AND ASP.NET      4(2+2)**

**Objective(s)**

On verge of this course, students will be able to understand the 3-tier software architecture (presentation/client tier, application tier, data tier) and develop multi-tier web applications. The goal of this course is to impart the basics of the .NET framework like Common Language Runtime (CLR), .NET framework classes, Event driven programming, Error handling, State Management, and ADO.NET.

**UNIT I**

**Introduction to ASP.NET & Controls**

Overview to .Net Framework– Web Architecture (**Overview of ASP.NET Architecture**) – Client Server Architecture **–** Application Web Servers **–** Installation of IIS server **– Introduction to Visual Studio –** Types of Files in ASP.NET **–** Types of controls in ASP.NET **–** Page life cycle, Adding Controls to a Webpage **–Using standard controls** (Buttons, Textbox, Checkbox, Label, Panel, Listbox, Dropdownlist etc.**) and Rich web Controls (calendar, fileupload etc.).**

**UNIT II**

**Validation & Error handling**

What is Validation? – Client-Side Validation – Server-Side Validation – Validation Controls (RequiredField Validator, Range Validator, CompareField Validator, RegularExpression Validator, Custom Validator, ValidationSummary Control) – Master Page – Designing Website with Master Page, Theme and CSS – Navigation Controls – Introduction of Exceptions and Errors, try/catch & finally block – Page Tracing.

**UNIT III**

**State Management & Configuration**

What is State? – Why is it required in Asp.Net? – Client-Side State Management – Server-side State Management – State management (viewstate, session, application, cache, Query String, Cookie) – Introduction to Web.Config (using various sections like connectionstrings, appsettings, customerrors, Authentication and Authorization) &global.asax file.

**UNIT IV**

**ADO.NET**

Overview of ADO.NET– Architecture of ADO.NET – Connected Architecture – Disconnected Architecture – Database Programming with ADO.NET (Connection, Command, DataReader, DataAdapter, Dataset, DataColumn, DataRow, DataConstraints, DataView etc.) – Using Data Access Control (Gridview Control, Repeater Control etc.) – Binding Data to DataBound Controls – Displaying Data in a webpage using SQLDataSource Control – Data Binding Expressions – Caching Application Pages and Data.

**UNIT V**

**AJAX & XML**

Using AJAX with ASP.NET - Introduction to XML – Reading Datasets from XML – Writing Datasets with XML

**Reference Book(s)**
1. ASP.NET UNLEASHED – BY Stephen Walther, Kevin Hoffman, Nate Dudek **SAMS**
2. Beginning_ASP.NET 4 in C# and VB – By Imar Spaanjaars**Wrox**
3. Beginning ASP.NET 4 in C# 2010 – By Matthew MacDonald Apress
4. C# 4.0 The Complete Reference – By Herbert Schildt – McGraw-Hill Prof Med/Tech
5. C# in a Nutshell – By Peter Drayton, Ben Albahari, Ted Neward – **O'Reilly Media, Inc**.
6. Professional C# 4.0and .NET 4 – By Christian Nagel, Bill Evjen, Jay Glynn, Karli Watson, Morgan Skinner – **WORX**

**Practical(s):**
1. Installing Visual Studio and IIS.
2. Practice of Standard Controls.
3. Practice of Standard Controls.
4. Practice of Validation Controls.
5. Practice of Master Page.
6. Using Theme and CSS in website.
7. Practice of Navigation Controls.
8. Using try/catch block.
9. Understanding & Practice of Query String, Viewstate
10. Understanding & Practice of Session, Application
11. Importance and use of web.config file.
12. Use of global.asax file.
13. Practice of Displaying Data in a webpage using SQLDataSource Control
14. Database programming with ADO.NET (Connection, Command, DataReader).
15. Database programming with ADO.NET (DataAdapter, Dataset, DataColumn, DataRow, DataConstraints, DataView etc.).
16. Practice of Data Access Controls (Gridview Control, Repeater Control etc.).
17. Practice of Data Binding Expressions
18. Practice of Caching Application Pages and Data.
19. Practice of AJAX.
20. Practice of sending emails.
21. Practice of Writing Datasets to XML file and Reading Datasets From XML.