Kadi Sarva Vishwavidyalaya, Gandhinagar
MASTERS OF COMPUTER APPLICATION (MCA)
Year – III (Semester – V) (W.E.F. June 2015)
Subject Name: Web Development Tools – II (WDT-II)– MCA-504(B)

Sub Total Credit	Teaching scheme		Examination scheme				
	(per week)		MID	CEC	External		Total Marks
	Th	Pr	Th	Th	Th.	Pr.	
5	3	4	25	25	50	50	150

Learning Objectives:
The purpose of this course is to give students an understanding of both the Applications. This course covers some advanced topic in ASP.NET, so that student can develop projects for the industry.

Prerequisites: Knowledge of Client Server Architecture, Use of Controls & Server, database, ASP.Net web services

Course Contents:

Unit	Content	Weight

Unit – 1	**Introduction ASP.NET**
	• Introducing ASP.NET MVC 4
	  o What Is ASP.NET? | ASP.NET Web Pages | ASP.NET MVC |
	• Installing ASP.NET MVC 4
	  o Software Requirements for ASP.NET MVC4 | Installing ASP.NET MVC 4 Server Components | Visual Studio Application Templates | Anatomy of ASP.NET MVC 4 Internet Application
	• ASP.NET MVC 4 Web Application
	  o Description of the Application | Creating the Database |
		20%

Unit – 2	**MVC Architecture**
	• Understanding Controllers
	  o The Routing Engine | Creating Controllers | Working with Action Methods
	• Understanding Views
	  o View Engines | Working with Views | The Rendering Process | Understanding the Razor View Engine | Working with ViewData and ViewBag | Working with Strongly Typed Views | Understanding ASP.NET MVC Mobile features
	• Understanding Models
	  o What Are Models? | Adding a Business Model | Adding View Models | Understanding Model Binding
		20%

Unit – 3	**Data, AJAX, jQuery, & Web API**
	• Data validation
	  o The Validation Workflow | Manual Validation | Validation with Data Annotations | Creating Custom Data Annotations
	• AJAX and JQuery
	  o Introducing JQuery | Understanding Unobtrusive Javascript | Working with Ajax | Working with JSON | Introducing Web API
	• Security
	  o Authentication and Authorization| Securing Controllers and Action Methods | Authenticating with External Sources | Implementing Membership and Roles | Securing ASP.NET MVC Applications Against External Attacks
		20%

Unit – 4	**Testing Application**	**20%**

	• Routing
	    ○ Routing Concepts | Creating Custom Routs | Creating a Catch-all Segment | Adding Constraints to Routes | Understanding when Routing is Not Applied | ASP.NET Routing Vs. URL Rewriting | Generating Links and URLs
	• Testing the Application
	    ○ Understanding Unit Testing | Examining the Test Project | Testing Controllers | Testing Routes	

Unit-5	**Deploying Application**	**20%**
	• Preparing the Application for Deployment | Deploying to an In-House Server | Deploying to Windows Azure	

Book: Beginning ASP.NET MVC 4, Apress
Chapter wise coverage
    Unit 1: CH# 1, 2, 3
    Unit 2: CH# 4, 5, 6
    Unit 3: CH# 7, 8, 9
    Unit 4: CH# 10, 11, 12
Useful links for practical
- http://www.asp.net/web-api/overview/older-versions
- http://www.asp.net/mvc/overview/older-versions/getting-started-with-ef-5-using-mvc-4/implementing-basic-crud-functionality-with-the-entity-framework-in-asp-net-mvc-application

Practical List

Getting Started with ASP.NET MVC 4
1. Intro to ASP.NET MVC 4
2. Adding a Controller
3. Adding a View
4. Adding a Model
5. Accessing Your Model's Data from a Controller
6. Examining the Edit Methods and Edit View
7. Adding a New Field to the Movie Model and Table
8. Adding Validation to the Model
9. Examining the Details and Delete Methods

Getting Started with EF5 using MVC 4
1. Creating an Entity Framework Data Model
2. Implementing Basic CRUD Functionality
3. Sorting, Filtering, and Paging
4. Creating a More Complex Data Model
5. Reading Related Data
6. Updating Related Data
7. Handling Concurrency
8. Implementing Inheritance
9. Implementing the Repository and Unit of Work Patterns
10. Advanced Entity Framework Scenarios

API
1. Enabling CRUD Operation in Web API 1
2. Using ASP.NET Web API1 with EF5
3. Self-Host Web API 1(C#)
4. Build RESTful API's with ASP.NET Web API