

3MCACC1: ADVANCED WEB PROGRAMMING

Total No. of Hours: 52

Lecture Hours per Week: 04

Course Objective: To understand web development using core technologies for designing and Implementation

Course Outcome: Students will be able to

CO1: Develop interactive web pages using various web technologies such as JavaScript and dynamic HTML

CO2: Familiarize with .net framework and understand the Object Oriented programming concepts in C# to implement programming logic in Asp.net

CO3: Understand database connectivity and develop dynamic websites

CO4: Gain knowledge of state management and data binding

CO5: Learn basics of PHP and apply it to develop dynamic websites

Unit I	Web Design principles: Basic Principles involved in developing a web site, Planning Process, Five Golden Rules of web designing. HTML and CSS: Introducing Bootstrap, Working with Layouts – working with containers, Inserting rows and columns to layout, using responsive utility classes, Working with Content – Headings, Paragraphs, Lists, Coding Tables, Forms, Typography, Components – Button, Labels, Checkbox and Radio buttons, Coding Forms, Inline Forms, using Cards for Layout, Updating Blog, Adding Breadcrumbs, using Pagination component.	10 hrs
Unit II	JavaScript: Working with Data types and Variables, Conditional and Looping statements, Arrays. jQuery: Adding jQuery to a page, DOM, Page Elements – Selectors, Filters, Setting and Removing Attributes, Events – Mouse, Document, Form and Keyboard events, jQuery Event concepts, jQuery Effects, Enhancing Web Forms – Adding Smarts to Forms, Form Enhancements, Form Validation. Ajax: The Basics, Ajax the Query way – load, get and post, Formatting data to send to server, Processing data from server, JSON – Accessing JSON data, Complex JSON objects.	10 hrs
Unit III	Ruby: Background and introduction: Basics – Variables, Operators, Control Statements, Defining classes and methods, Strings, Numbers, Date and Time, Arrays, Hashes, Files and Directories. RUBY on RAILS: Introduction - DRY - COC - MVC - REST - Migrations - Active Record Validations - Active Record Associations - Active Record Query Interface - Layouts and Rendering - Rails Routing.	10 hrs

Unit IV	PHP: Introduction – Variables, Constants, Operators and Conditionals, Arrays, Strings, Numbers, Functions, Date and Time, Validating Form Data. Objects – Classes and Objects, Inheritance, Introspection. Modify Image files in different formats, Dynamic PDF files creation	12 hrs
Unit V	MySQL: Naming Database Elements, Choosing Column Types and Properties, Accessing MySQL. Using PHP with MySQL: Connecting to MySQL, Executing and Retrieving Query Results, Updating Records with PHP. Sending Values to Script, Paginating Query Results, Making Sortable Displays. Using Cookies and Sessions	10 hrs

REFERENCE BOOKS

- [1] Matt Lambert, “Learning Bootstrap 4”, Second Edition, Packt Publishing, 2016.
- [2] David Sawyer McFarland, “Javascript& jQuery – The Missing Manual”, O Reilly, 2011.
- [3] Larry Ullman, “PHP and MySQL for Dynamic Web sites”, Fifth Edition, Peachpit Press.
- [4] Kevin Tatroe, Peter Macintyre and Rasmus Lerdorf, “Programming PHP: Creating Dynamic Web Pages”, O’Reilly, Third Edition.
- [5] Bruce A. Tate, Curt Hibbs, “Ruby on Rails: Up and Running”, O’Reilly Media, 2006
- [6] Carlson, Leonard Richardson, “Ruby Cookbook”, O’Reilly Media, 2006
- [7] Jon Duckett, “*Beginning HTML, XHTML, CSS, and JavaScript*”, Wiley Publishing, 2010