## WEB TECHNOLOGY AND ITS APPLICATIONS
### [As per Choice Based Credit System (CBCS) scheme]
### (Effective from the academic year 2016 -2017)
### SEMESTER – VII

| Subject Code | 15CS71 | IA Marks | 20 |
|---|---|---|---|
| Number of Lecture Hours/Week | 04 | Exam Marks | 80 |
| Total Number of Lecture Hours | 50 | Exam Hours | 03 |

### CREDITS – 04

**Course Objectives:** This course will enable students to

- Illustrate the Semantic Structure of HTML and CSS
- Compose forms and tables using HTML and CSS
- Design Client-Side programs using JavaScript and Server-Side programs using PHP
- Infer Object Oriented Programming capabilities of PHP
- Examine JavaScript frameworks such as jQuery and Backbone

| Module – 1 | Teaching Hours |
|---|---|
| Introduction to HTML, What is HTML and Where did it come from?, HTML Syntax, Semantic Markup, Structure of HTML Documents, Quick Tour of HTML Elements, HTML5 Semantic Structure Elements, Introduction to CSS, What is CSS, CSS Syntax, Location of Styles, Selectors, The Cascade: How Styles Interact, The Box Model, CSS Text Styling. | 10 Hours |
| **Module – 2** | |
| HTML Tables and Forms, Introducing Tables, Styling Tables, Introducing Forms, Form Control Elements, Table and Form Accessibility, Microformats, Advanced CSS: Layout, Normal Flow, Positioning Elements, Floating Elements, Constructing Multicolumn Layouts, Approaches to CSS Layout, Responsive Design, CSS Frameworks. | 10 Hours |
| **Module – 3** | |
| JavaScript: Client-Side Scripting, What is JavaScript and What can it do?, JavaScript Design Principles, Where does JavaScript Go?, Syntax, JavaScript Objects, The Document Object Model (DOM), JavaScript Events, Forms, Introduction to Server-Side Development with PHP, What is Server-Side Development, A Web Server's Responsibilities, Quick Tour of PHP, Program Control, Functions | 10 Hours |
| **Module – 4** | |
| PHP Arrays and Superglobals, Arrays, $_GET and $_POST Superglobal Arrays, $_SERVER Array, $_Files Array, Reading/Writing Files, PHP Classes and Objects, Object-Oriented Overview, Classes and Objects in PHP, Object Oriented Design, Error Handling and Validation, What are Errors and Exceptions?, PHP Error Reporting, PHP Error and Exception Handling | 10 Hours |
| **Module – 5** | |
| Managing State, The Problem of State in Web Applications, Passing Information via Query Strings, Passing Information via the URL Path, Cookies, Serialization, Session State, HTML5 Web Storage, Caching, Advanced JavaScript and jQuery, JavaScript Pseudo-Classes, jQuery Foundations, AJAX, Asynchronous File Transmission, Animation, Backbone MVC Frameworks, XML Processing and Web Services, XML Processing, JSON, Overview of Web Services. | 10 Hours |

**Course Outcomes:** After studying this course, students will be able to

- Adapt HTML and CSS syntax and semantics to build web pages.

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| • Construct and visually format tables and forms using HTML and CSS |
| • Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically. |
| • Appraise the principles of object oriented development using PHP |
| • Inspect JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features. |

**Question paper pattern:**

The question paper will have ten questions.
There will be 2 questions from each module.
Each question will have questions covering all the topics under a module.
The students will have to answer 5 full questions, selecting one full question from each module.

**Text Books:**

1. Randy Connolly, Ricardo Hoar, **"Fundamentals of Web Development", 1st**Edition, Pearson Education India. (**ISBN:**978-9332575271)

**Reference Books:**

1) Robin Nixon, **"Learning PHP, MySQL & JavaScript with jQuery, CSS and HTML5",** 4th Edition, O'Reilly Publications, 2015. ( **ISBN:**978-9352130153)

2) Luke Welling, Laura Thomson, **"PHP and MySQL Web Development",** 5th Edition, Pearson Education, 2016. (**ISBN:**978-9332582736)

3) Nicholas C Zakas, **"Professional JavaScript for Web Developers",** 3rd Edition, Wrox/Wiley India, 2012. (**ISBN:**978-8126535088)

4) David Sawyer Mcfarland, **"JavaScript & jQuery: The Missing Manual",** 1st Edition, O'Reilly/Shroff Publishers & Distributors Pvt Ltd, 2014 (**ISBN:**978-9351108078)

5) Zak Ruvalcaba Anne Boehm, **"Murach's HTML5 and CSS3"** , 3rd Edition, Murachs/Shroff Publishers & Distributors Pvt Ltd, 2016. (**ISBN:**978-9352133246)