Name of Department:- Computer Science and Engineering

1. Subject Code: | TCS 693 | Course Title: | **Full Stack Web Development** |

2. Contact Hours: L: | 3 | T: | - | P: | - |

3. Semester: VI

4. Pre-requisite: TCS 408, TCS 503

5. Course Outcomes: After completion of the course students will be able to

1. Describe the concepts of WWW including browser and HTTP protocol.
2. List the various HTML tags and use them to develop the user-friendly web pages.
3. Define the CSS with its types and use them to provide the styles to the web pages at various levels.
4. Develop the modern web pages using the HTML and CSS features with different layouts as per need of applications.
5. Use the JavaScript to develop the dynamic web pages.
6. Use server-side scripting with PHP to generate the web pages dynamically using the database connectivity.

6. Detailed Syllabus

UNIT	CONTENTS	Contact Hrs
1	**HTML** Introduction to HTML5, How HTML5 is different from previous HTML versions, Semantic elements of HTML5, HTML5 Tags and Syntax, HTML-formatted tables, Lists, Forms, Images and Icons, Hyperlink tag, Videos, Useful tags, Accessibility in HTML5, The W3C Markup Validation Service **CSS** Introduction and need of CSS, basic syntax and structure, types of CSS, background images, colors and properties, manipulating texts, using fonts, borders and boxes, padding, margin, positioning using CSS. Introduction to Bootstrap.	10
2	**JavaScript and jQuery** Introduction to JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: JavaScript and objects, DOM, Manipulation using DOM, forms and validations. DHTML: Combining HTML, CSS and JavaScript. Introduction to jQuery and Ajax. Introduction to XML, uses of XML, XML DTD and Schema Validation.	8

UNIT	CONTENTS	Contact Hrs
3	**PHP** Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, String, Form processing, Files. Advance Features: Cookies and Sessions, Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables. XAMPP Server Configuration.	10
4	**React JS** Introduction and basic features of React, React vs Angular vsVue, JSX, Virtual DOM, Basic React app, Components: Functional and Class, Props and State, Event handling, React Forms, React Hooks, Router, Axios library for fetching data.	9
5.	**Web Application Development** Concept of WWW, Internet vs WWW, HTTP Protocol: Request and Response, Web browser and Web servers. Concepts of effective web design: Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, Sitemap, Planning and publishing website, Designing effective navigation. Introduction to Wordpress, Working with JSON.	8
	Total	45

Text/ Reference Books:

1. Ralph Moseley and M. T. Savaliya ,"Developing Web Applications", , Wiley-India
2. "Web Technologies", Black Book, dreamtech Press
3. "HTML 5", Black Book, dreamtech Press
4. Joel Sklar ,"Web Design", Cengage Learning
5. "Developing Web Applications in PHP and AJAX", Harwani, McGrawHill
6. P.J. Deitel&H.M. ,"Internet and World Wide Web How to program", Deitel, Pearson