Marwadi University

Syllabus for Bachelor of Technology

Computer Engineering

Subject Code: 01CE0306
Subject Name: Web Technology
B.Tech. Year – II

Objective: The increasing use of Internet and WWW encourages everyone to use web-based solutions for their requirements. Web technology refers to the methods by which End-user devices like computers/mobiles communicate with each other. This communication involves the use of web publishing languages like HTML5, CSS3, Bootstrap, XML and JavaScript This subject will attempt to give you a basic understanding of various aspects of web technologies.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand various web servers and HTTP request response method. (Understand)
- Select various HTML 4, HTML 5 and CSS 3 tags to create an interactive pages. (Apply)
- Develop responsive webpages using Bootstrap. (Create)
- Categorise various XML components to structurize data. (Analyze)
- Use JavaScript to manipulate static webpages and perform various events and effects with DOM structure. (Evaluate)

Pre-requisite of course: NA

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	**Introduction to Web and HTML** Introduction to Web Servers, HTTP request and Response Model, Structure of HTML, Doctypes in HTML, HTML Tags, Elements and attributes. **HTML 5**	7

	HTML 5 Layout and syntax, Attributes, Events, Web forms and validations, Audio & Video, SVG.	
2	**CSS3** Introduction, Selectors (basic, pseudo class, pseudo element), Box Model, Backgrounds and Borders, Text Effects, 2D/3D Transformations, Transitions, Images, Positioning, Animations, Flex, Multiple Column Layout, Media Queries, User Interface	8
3	**Bootstrap** Media Object, Grid Layouts, Typography, Buttons, Input Elements, Jumbotron, Cards and Navigation, Breadcrumb, List Groups, Progress Bars, Tool Tips, Pagination, Modals, Collapse, Accordion, Carousel.	6
4	**XML** Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Transforming XML using XSL and XSLT, XML AJAX, XML DOM.	8
5	**JavaScript and HTML 5 APIs** JS Syntax, variable, string, loops and control, Functions, Events, Array, Date, Type conversions, this, arrow, JS validation, JS class and object, DOM, JS Graphics, JSON, JS AJAX, Web Storage, Canvas, Geo-location, Drag & drop, Web Workers, Indexed DB, Web CORS.	13
	Total Hours	42

References:

1. HTML 5, Black Book, dreamtech Press
2. Glenn Johnson, Programming in HTML5 with JavaScript and CSS3, Microsoft Press.
3. Chris Aquino and Todd Gandee, Front-End Web Development: The Big Nerd Ranch Guide (Big Nerd Ranch Guides), Pearson Technology Group.
4. Spurlock Jake, Bootstrap: Responsive Web development. O'Reilly Media, Inc.
5. Guy Hart-Davis, HTML, XHTML & CSS QuickSteps, Tata McGraw Hill Edition

Suggested Theory distribution:

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
--	20 %	25 %	25 %	25 %	5 %

Laboratory work:

Laboratory work will be based on HTML, CSS, Bootstrap, XML and JavaScript with 14 experiments to be incorporated that will be considered for evaluation.

Instructional Method:

a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
d) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

a) https://www.w3schools.com/html/default.asp
b) https://www.w3schools.com/css/default.asp
c) https://www.w3schools.com/js/default.asp
d) https://developer.mozilla.org/en-US/docs/Web/HTML
e) https://developer.mozilla.org/en-US/docs/Web/CSS
f) https://developer.mozilla.org/en-US/docs/Web/JavaScript
g) https://www.tutorialspoint.com/javascript/index.htm
h) https://www.tutorialspoint.com/html5/index.htm
i) https://www.tutorialspoint.com/css/css3_tutorial.htm
j) https://getbootstrap.com/