3.2 INTERNET AND WEB TECHNOLOGY

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RATIONALE

The diploma holders in Computer Science and Engineering needs to understand about Internet, Web Space and how to develop static website. They should be able to develop basic static websites by using different front-end Technologies . Hence this subject.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- understand working of Internet/ Websites, Client Server Model and Internet Tools.
- understand and develop HTML Web pages.
- provide logics on the web pages by using JavaScript
- use Bootstrapto develop responsive website
- control the Look and feel of web pages by using CSS
- use JQuery for developing the Web Pages
- develop Static webpage/web portal

DETAILED CONTENTS

5. Web Development Introduction (06 Periods)

Internet, WWW, Browser, Search engine Client Server Model, URL, Web Pages, Website and Web Services, Types of Websites (Static, Dynamic and Responsive), Developer options of Browser (View page source, Developer Tools, Inspect Element etc) ,Need of cyber security & IT Laws

6. HTML (10 Periods)

Basics:

HTML Document, Basic Structure of HTML, Syntax, HTML Tags and Attributes, Types of HTML Tags, Rules of nesting, Basic Tags (HTML Tag. Head Tag, Title Tag, Body Tags).

Page Formatting:

Adding a new Paragraph, Adding a line break, Inserting a blank space , changing page background , Divand Span tags

Text Formatting:

Html Headings, Formatting elements (<b> Bold text , Important text ,<i> Italic text , Emphasized text , <mark> Marked text, <small> Small text, <del> Deleted text, <ins> Inserted text, <sub> Subscript text, <sup> Superscript text), Comments, Horizontal Lines

Creating Lists:Ordered List, Unordered Lists, Definition Lists

Others:

Images, Text Links, Image Links, opening a page in New Window or Tab, Linking to an area of same page, Introduction to Table Tags, Advantages and limitations of tables, Frames &IFrame, HTML Forms , XHTML

7. Cascading Style Sheets (08 Periods)

Introduction, Benefits of CSS, CSS Syntax, CSS Implementation (inline, internal and external), CSS Selectors (ID Selectors, Class Selectors, Grouping Selectors, Universal Selectors, CSS Pseudo-classes), CSS properties (background-color, background-image, border-style, height, width, color, text-align, font-family, font-style, font-size, font-weight), Box Model in CSS(margin, border, padding)

8. Java Scripts (08Periods)

Java Script Introduction , variables , data types , operators, control flow (if-else, for loop , while loop , do-while loop) , Declaring Functions , Calling functions with parameters, Adding JavaScript to Web Documents, JavaScript Objects , Document Object Models, HTML Events and calling Java Script functions on Events.

9. JQUERY (09 Periods)

JQuery Concept, Adding JQuery to Web Page, JQuery Selectors, JQuery Event Methods, JQuery Effects (Hide/Show, Fade, Slide), Insertion of header /footer in HTML Pages using JQuery

10. Bootstrap (09 Periods)

Color Management, Buttons, Table, drop-down, navigation-bar, images, pagination, jumbotron, alerts, forms, progress bar, grid, utilities & filters

11. XML & JSON (06 Periods)

Introduction and use of XML, Difference between XML and HTML, XML Elements, Attribute, Name space, Syntax Rules, XML DTD and XML Schema, RSS FEED, JSON Introduction and uses, JSON v/s XML, JSON Syntax.

LIST OF PRACTICALS

16. Install, configure and start using developer tools /Code Editor/Browser
17. Creating Web Pages using different HTML tags
18. Control the look and feel of Web Page Styling by using CSS.
19. Write JavaScript functions and control the different companonets of Web page by predeifned javascript objects
20. Validation of Form fields using Java Script
21. Use jQuery library to apply different features on web pages.
22. Use Bootstrap library and icons to develop a responsive websites

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate the capabilities of websites/WebPages to students while doing practical exercises. The students should be made familiar with developing web pages by code editor/browsers, working on internet. The student should be made capable of developing static websites by using HTML, JavaScript, CSS and jQuery

MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-term and end-term written tests
- Actual laboratory and practical work, exercises and viva-voce
- Software installation, operation, development and viva-voce

RECOMMENDED BOOKS

1. Head First HTML and CSS: A Learner's Guide to Creating Standards-Based Web Pages , O Reilly Publications by Elisabeth Robson Eric Freeman
2. Head First JavaScriptProgramming, O Reilly Publications by Eric FREEMAN
3. Head First jQuery, O Reilly by Ryan Benedetti, Ronan Cranley
4. Web Technologies, Black Book ,Kogent Learning Solutions Inc
5. Developing Web Applications, 2ed ,WileyPublications, M.T.Savaliya
6. Mastering Bootstrap 4 ,by Benjamin Jakobus and Jason Marah,Packt Publishing
7. e-books/e-tools/relevant software to be used as recommended by AICTE/UPBTE/NITTTR, Chandigarh.

Websites for Reference:

1. http://swayam.gov.in
2. http://spoken-tutorial.org

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	06	10
2	10	18
3	08	15
4	08	15
5	09	16
6	09	16
7	06	10
Total	**56**	**100**