

**Teaching plan****Subject: Computer Science****Paper Code: COM0500304****Paper Name: Web Technologies****Credit/Total no. of classes.3+1****Period: Theory: 45 Hours****Practical: 30 Hours****Non Contact: 5hours****Theory****Faculty : P.P.D.Sarma**

| Lecture No. | Topic                                                                                                                | Mode of Teaching<br>(Experiential Learning,<br>Participative Learning) | Teaching Aids use                       | Assessment<br>Method |
|-------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------|----------------------|
| 1,2         | Concepts of the Internet and the World Wide Web (WWW), Overview of web browsers and their functionalities.           | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 3,4         | Client-Server Architecture in Web Applications. Communication Protocols – HTTP, HTTPS, FTP.                          | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 5           | Working of DNS. Brief concepts of port, URL, cache and cookies.                                                      | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 6           | Web Content Accessibility Guidelines. Privacy concerns and data protection regulations, GDPR.                        | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 7           | Introduction to Web Hosting and control panels.                                                                      | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 8           | Website and Webpage. Basic concept of Markup Language                                                                | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 9,10        | Introduction to HTML. Basic HTML structure. Text formatting Tags – headings, paragraph, line break, horizontal rule. | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 11          | Link and Navigation – anchor tags. Lists - ordered, unordered, definition list.                                      | Participative Learning                                                 | Computer system with overhead projector | QUIZ                 |
| 12          | Image and multimedia tags. Tables in HTML.                                                                           | Experiential Learning                                                  | Computer system with overhead projector | QUIZ                 |
| 13          | Forms and Input types – text, email, password, radio, select, checkbox, textarea, date, url, submit, button.         | Experiential Learning                                                  | Computer system with overhead projector | QUIZ                 |

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|-------|----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------|------------|
| 14    | Semantic HTML. Sectioning elements – header, nav, main, section, article, aside, footer.                                   | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 15    | Introduction to CSS. CSS syntax and rule structure. Inline, Internal and External CSS                                      | Participative Learning | Computer system with overhead projector | QUIZ       |
| 16,17 | CSS selectors – element, class, ID, attribute. Combinators – descendant, child, adjacent sibling, general sibling.         | Participative Learning | Computer system with overhead projector | QUIZ       |
| 18    | Understanding the CSS Box Model – content, padding, border, margin.                                                        | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 19    | CSS colours and backgrounds – background-color, background-image, background-repeat                                        | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 20    | CSS typography – font properties, text properties.                                                                         | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 21,22 | JavaScript as a high-level interpreted language. JavaScript code execution in web browsers – JavaScript execution context. | Participative Learning | Computer system with overhead projector | QUIZ       |
| 23,24 | JavaScript syntax and datatypes. JavaScript variables – var, let, const. Assignment and scope of JavaScript variables.     | Participative Learning | Computer system with overhead projector | QUIZ       |
| 25    | Operators in JavaScript – arithmetic, comparison, logical, assignment. Conditional Statements. Looping Structures.         | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 26    | Function declaration and Invocation in JavaScript. Introduction to the Document Object Model.                              | Experiential Learning  | Computer system with overhead projector | Class test |
| 27,28 | Accessing HTML elements in DOM – by id, by tag name, by class name, query selectors.                                       | Experiential Learning  | Computer system with overhead projector | QUIZ       |
| 29,30 | Manipulating DOM elements – create, add, append, remove. InnerText vs InnerHTML.                                           | Experiential Learning  | Computer system with overhead projector | QUIZ       |

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|-------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------|----------------|
| 31    | Manipulating CSS styles using DOM. Event handling and delegation with the DOM using JavaScript.                               | Experiential Learning  | Computer system with overhead projector | QUIZ           |
| 32    | Client-side form validation using JavaScript. Handling form validation and processing data.                                   | Participative Learning | Computer system with overhead projector | QUIZ           |
| 33    | Introduction to PHP and role in Web development. PHP syntax and variables.                                                    | Participative Learning | Computer system with overhead projector | QUIZ           |
| 34    | Basic PHP functions – Built-in PHP functions, string manipulation functions, mathematical functions, date and time functions. | Participative Learning | Computer system with overhead projector | QUIZ           |
| 35    | PHP forms and form handling. Form submission methods – GET and POST.                                                          | Experiential Learning  | Computer system with overhead projector | QUIZ           |
| 36    | Handling form data with PHP. Uploading files with PHP. Introduction to the techstack.                                         | Experiential Learning  | Computer system with overhead projector | QUIZ           |
| 37,38 | Role of Apache, PHP, MySQL etc. Introduction to Databases and SQL. Connecting to databases with PHP.                          | Participative Learning | Computer system with overhead projector | Sessional exam |
| 38,40 | Executing SQL queries with PHP. Retrieving, inserting, updating and deleting data from databases using PHP.                   | Experiential Learning  | Computer system with overhead projector | QUIZ           |
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## Practical

30 practical problems given in the syllabus are to be solved and the codes are to be uploaded in github repository.