



Semester - V

Subject Name: Advanced Web Technology

Subject Code: 09CE0503

Objective: The increasing use of Internet and WWW encourages everyone to use web-based solutions for their requirements. Now a day's most of services are available on Internet using as a web application which user can access using only a browser. E.g. user can edit photos, use services like word processing, spreadsheet and making presentation etc. This subject will attempt to give you an advanced knowledge to develop and web application which can run on either computer and/or mobile using various technologies/frameworks such as HTML, CSS, PHP, MySQL and twitter's bootstrap framework.

Credits Earned: 4 Credits

Course Outcomes: End of this course will help to understand following aspects.

- Get advance knowledge of HTML, CSS.
- To understand modern web design concepts and implement it.
- To understand responsive design and implement it using various techniques.
- To understand the server-side language PHP and Database MySQL for data storage and retrieval.
- Implementation of full responsive web site/application using HTML, CSS, PHP and MySQL

Pre-requisite of course: Basic knowledge of HTML, CSS and basic programming knowledge

Teaching and Examination Scheme

| Teaching Scheme (Hours) | | | Credits | Theory Marks | | | Tutorial/ Practical Marks | | Total Marks |
|-------------------------|----------|-----------|---------|--------------|----|-----|---------------------------|-----------|-------------|
| Theory | Tutorial | Practical | | ESE | IA | CSE | Viva | Term work | |
| 0 | 0 | 4 | 4 | 00 | 30 | 20 | 25 | 25 | 100 |



Contents:

| Unit | Topics | Contact Hours |
|-------------|--|----------------------|
| 1 | Web Design: Concept of effective web design, Web design issues related to browsers. Effect of resolution on web design, Layout and Linking of pages. | 1 |
| 2 | Advance CSS & HTML HTML: Div and Span tag, HTML 5 tags, Form tags and data input tags CSS: CSS selectors, margin & padding, collapsing margin, resets and CSS box-sizing, Shadow & Gradients, Types of fonts, transition and animation, tool tip, CSS variables, CSS Media Query | 3 |
| 3 | Responsive Web Design Concept of Responsive web design, Viewport, CSS Position and float properties, CSS flex-box and CSS Grid layouts | 3 |
| 4 | Responsive Web Design using Bootstrap Introduction to Bootstrap framework, Bootstrap Grid Layout, Bootstrap Component like navbar, forms, carousel, tooltips, buttons, images. | 2 |
| 5 | JavaScript & JQuery Ajax Introduction, AJAX request and response, Event Handling, Manipulate HTML/CSS using JavaScript/JQuery | 2 |
| 6 | Object Oriented Programming in PHP looping structures, conditional structures, arrays, functions, retrieving data from HTML forms, Class & Objects in PHP, Inheritance and Polymorphism | 3 |
| 7 | Database Connectivity and Session Handling PHP – MySQL database connectivity, using MySQLi and PDO (Connection to database, creating tables, retrieving, updating and deleting data from/to tables.) Concept of Session, Usage of Session, Different ways to handle session data, using URL, Session and Cookies. | 3 |
| | Total Hours | 17 |



References:

1. Bruce Lawson, Remy Sharp, “Introducing Html5”, Pearson Education, second edition
2. Steven Holzner, “PHP: The Complete Reference”, McGraw-Hill Osborne
3. Ralph Moseley and M. T. Savaliya, Developing Web Applications, Wiley-India
4. Julie C. Meloni, “Teach yourself PHP, Mysql and Apache All in One”, Pearson Education

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

| Distribution of Theory for course delivery and evaluation | | | | | |
|---|------------|-------|---------|----------|--------|
| Remember | Understand | Apply | Analyze | Evaluate | Create |
| 35% | 35% | 30% | 0% | 0% | 0% |

List of Experiments:

| Sr. No. | Unit No. | Name of Topics | Contact Hours |
|---------|----------|---|---------------|
| 1 | 2 | Write an HTML code to design static webpage using various HTML tags. Format page using tables, lists and other tags. Create a page for your resume and time table page. | 3 |
| 2 | 2 | Write an HTML pages to demonstrate the use of various ways to insert CSS in web page and use of different selectors. | 2 |
| 3 | 2 | Write an HTML page that contains various images and text which will be shown/hidden based on screen size using CSS media query. | 2 |
| 4 | 3 | Develop a page to learn the use of CSS flexbox, CSS Grid. | 4 |
| 5 | 4 | Develop a responsive page to learn Bootstrap grid system and various component of bootstrap. | 4 |
| 6 | 5 | Create an HTML form and use Java Script / JQuery event handling to validate the form. | 2 |
| 7 | 5 | Create an Page to hide/show HTML elements using JavaScript/JQuery and change the style of HTML elements using JavaScript/JQuery | 2 |
| 8 | 5 | Creates an web page to demonstrate AJAX concepts. | 2 |



| | | | |
|--------------------|-----|--|----|
| 6 | 6 | Programs to demonstrate the use of PHP OOPs programming concepts. | 2 |
| 7 | 6 | Create an HTML form and use PHP to put server-side validation. | 2 |
| 8 | 7 | Create HTML pages to demonstrate and learn database connectivity operation like connection to database, insert, delete and update of data. Use classes and object to implement database operation. | 4 |
| 9 | 7 | Implement login and registration functionality to demonstrate the use of various session handling techniques. | 4 |
| 10 | All | Develop a mini project which covers entire syllabus. | - |
| Total Hours | | | 33 |

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, also need to use ICT tools and facilities.
- 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.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) <http://nptel.ac.in>
- b) <https://www.w3schools.com/html/default.asp>
- c) <https://www.w3schools.com/css/default.asp>
- d) <https://getbootstrap.com/docs/4.1/getting-started/introduction/>
- e) <https://www.w3schools.com/js/default.asp>
- f) <https://www.html5dog.com>