Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
310257:Web Technology Laboratory

Home

Teaching Scheme	Credit: 01	Examination Scheme and Marks
Practical: 02 Hours/Week		Term Work: 25 Marks Oral: 25 Marks

Companion Course : Web Technology (310252)

Course Objectives:

- To learn the web based development environment
- To use client side and server side web technologies
- To design and develop web applications using front end technologies and backend databases

Course Outcomes:

On completion of the course, learners will be able to

CO1: Understand the importance of website planning and website design issues

CO2: Apply the client side and server side technologies for web application development

CO3: Analyze the web technology languages, frameworks and services

CO4: Create three tier web based applications

Guidelines for Instructor's Manual

The instructor‘s manual is to be developed as a reference and hands-on resource. It should include prologue (about University/program/ institute/ department/foreword/ preface), curriculum of the course, conduction and Assessment guidelines, topics under consideration, concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

Guidelines for Student's Laboratory Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and handwritten write-up of each assignment (Title, Date of Completion, Objectives, Problem Statement, Software and Hardware requirements, Assessment grade/marks and assessor's sign, Theory- Concept in brief, algorithm, flowchart, test cases, Test Data Set(if applicable), mathematical model (if applicable), conclusion/analysis. Program codes with sample output of all performed assignments are to be submitted as softcopy. As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal must be avoided. Use of DVD containing students programs maintained by Laboratory In-charge is highly encouraged. For reference one or two journals may be maintained with program prints in the Laboratory.

Guidelines for Laboratory /Term Work Assessment

Continuous assessment of laboratory work should be based on overall performance of Laboratory assignments by a student. Each Laboratory assignment assessment will assign grade/marks based on parameters, such as timely completion, performance, innovation, efficient codes, and punctuality.

Guidelines for Oral Examination

Oral examination should be jointly conducted by the internal examiner and external examiner. Relevant questions may be asked at the time of evaluation to test the student‘s understanding of the fundamentals, effective and efficient implementations in term work. This will encourage, transparent evaluation and fair approach, and hence will not create any uncertainty or doubt in the minds of the students. So, adhering to these principles will consummate our team efforts to the promising start of student's academics.

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. Use of open source software is encouraged. Based on the concepts learned. Mini project should be implemented by the students in a group of 2-3 students.

Suggested List of Laboratory Experiments/Assignments
(All assignments are compulsory)

<table>
<tr><th>Sr. No.</th><th>Assignment Title</th></tr>
<tr><td>1.</td><td>Case study:
Before coding of the website, planning is important, students should visit different websites (Min. 5) for the different client projects and note down the evaluation results for these websites, either good website or bad website in following format:
<table>
<tr><th>Sr. No.</th><th>Website URL</th><th>Purpose of Website</th><th>Things liked in the website</th><th>Things disliked in the website</th><th>Overall evaluation of the website (Good/Bad)</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
From the evaluation, students should learn and conclude different website design issues, which should be considered while developing a website.</td></tr>
<tr><td>2.</td><td>Implement a web page index.htm for any client website (e.g., a restaurant website project) using following:
a. HTML syntax: heading tags, basic tags and attributes, frames, tables, images, lists, links for text and images, forms etc.
b. Use of Internal CSS, Inline CSS, External CSS</td></tr>
<tr><td>3.</td><td>Design the XML document to store the information of the employees of any business organization and demonstrate the use of:
a) DTD
b) XML Schema
And display the content in (e.g., tabular format) by using CSS/XSL.</td></tr>
<tr><td>4.</td><td>Implement an application in Java Script using following:
a) Design UI of application using HTML, CSS etc.
b) Include Java script validation
c) Use of prompt and alert window using Java Script

e.g., Design and implement a simple calculator using Java Script for operations like addition, multiplication, subtraction, division, square of number etc.
a) Design calculator interface like text field for input and output, buttons for numbers and operators etc.
b) Validate input values
c) Prompt/alerts for invalid values etc.</td></tr>
<tr><td>5.</td><td>Implement the sample program demonstrating the use of Servlet.

e.g., Create a database table ebookshop (book_id, book_title, book_author, book_price, quantity) using database like Oracle/MySQL etc. and display (use SQL select query) the table content using servlet.</td></tr>
<tr><td>6.</td><td>Implement the program demonstrating the use of JSP.

e.g., Create a database table students_info (stud_id, stud_name, class, division, city) using database like Oracle/MySQL etc. and display (use SQL select query) the table content using JSP.</td></tr>
<tr><td>7.</td><td>Build a dynamic web application using PHP and MySQL.

a. Create database tables in MySQL and create connection with PHP.
b. Create the add, update, delete and retrieve functions in the PHP web app interacting with MySQL database</td></tr>
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8.	Design a login page with entries for name, mobile number email id and login button. Use struts and perform following validations a. Validation for correct names b. Validation for mobile numbers c. Validation for email id d. Validation if no entered any value e. Re-display for wrongly entered values with message f. Congratulations and welcome page upon successful entries
9.	Design an application using Angular JS. e.g., Design registration (first name, last name, username, password) and login page using Angular JS.
10.	Design and implement a business interface with necessary business logic for any web application using EJB. e.g., Design and implement the web application logic for deposit and withdraw amount transactions using EJB.
11.	**Mini Project**: Design and implement a dynamic web application for any business functionality by using web development technologies that you have learnt in the above given assignments.

@The CO-PO Mapping Matrix

PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	3	1	-	1	1	-	-	1	-	-
CO2	2	2	-	2	1	-	-	-	1	-	-	-
CO3	2	-	3	-	-	1	-	-	-	1	1	-
CO4	1	2	2	1	2	1	1	-	-	-	-	1