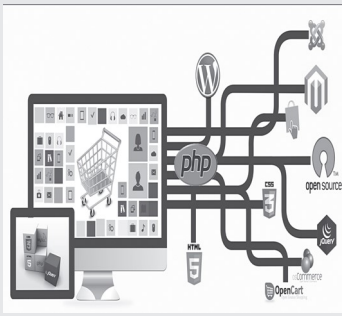
19CS215 WEB TECHNOLOGIES



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Hours Per Week :

L	T	P	C
2	-	2	4

Total Hours :

L	T	P
30	-	30

CS	WA/RA	SSH	SA	S	BS
5	5	30	20	5	5

PREREQUISITE COURSE: OOPs through JAVA.

COURSE DESCRIPTION AND OBJECTIVES:

This course offers the basic concepts used to develop static web pages and it also provides knowledge of Internet programming concepts, Web Servers and Application Servers, Design methodologies with concentration on Object-Oriented concepts. The objective of this course is to build web applications using JSP, PHP and client side script technologies that span multiple domains.

COURSE OUTCOMES:

Upon completion of the course, student will be able to achieve the following outcomes:

COs	Course Outcomes	POs
1	Understand the concepts of HTML, CSS and Javascript.	1
2	Apply Javascript features for form validation and JDBC concepts to perform database operations from web pages.	1
3	Analyse the suitability of Servlet and JSP technologies to build solutions for real-world problems.	2
4	Evaluate the performance of web application developed using JSP, Servlet and PHP.	4
5	Design and develop three-tier web applications using JSP, Servlet. and PHP.	3,5,8 9, 10

SKILLS:

- ✓ *Perform client side validation using Java script.*
- ✓ *Store and retrieve data using JDBC.*
- ✓ *Generate dynamic contents using Servlets.*
- ✓ *Generate dynamic webpages using JSPs and PHP.*
- ✓ *Develop a web application or website for any real-time requirements.*

UNIT – I **L-6**

HISTORY AND EVOLUTION OF INTERNET - Introduction to WWW, servers and web applications; HTML - common tags, block level and inline elements, lists, tables, images, forms, frames; Cascading style sheets, CSS Properties; Java Script - Introduction to Java Script, variables, data types, operators, functions, objects in Java Script, Dynamic HTML with Java Script.

UNIT – II **L-6**

JDBC: Database schema, Brief overview of the JDBC process, JDBC driver types, JDBC packages, Database connection, Creating, Inserting, Updating and Deleting data in database tables, Result set, Metadata.

UNIT – III **L-6**

JAVA SERVLETS: Introduction to servlets, Basic servlet structure, Simple servlet generating plain text, Life cycle of a servlet, The servlet API, Reading servlet parameters, Reading initialization parameters, Context parameters, Handling http request & responses, Using cookies-session tracking, Servlet with JDBC.

UNIT - IV **L-6**

JSP TECHNOLOGY: The problem with servlet, The anatomy of a JSP Page, JSP Processing, JSP Application Development - generating dynamic content, using scripting elements, implicit JSP objects, declaring variables and methods, sharing data between JSP pages, users passing control, JSP application design with JDBC, JSP application design with MVC.

UNIT - V **L-6**

PHP: Introduction to PHP, Origins and uses of PHP, Overview of PHP, General syntactic characteristics primitives, Operations, Expressions, Control statements, Arrays, Functions, Form handling, PHP and MySQL.

LABORATORY EXPERIMENTS

LIST OF EXPERIMENTS **TOTAL HOURS: 30**

1) Create a HTML page having four frames named.

   a) top b) center c) bottom d) left

   The top frame should contain company logo and title. The bottom frame should contain copy right information. The left frame should contain various links like Home, Products, Services, Branches, About us, etc. When clicked on those links, the contents should appear in the display on to center frame.

2) Create a HTML document to demonstrate Form Elements that includes Form, input-text, password, radio, checkbox, hidden, button, submit, reset, label, text area, select, option, file upload.

3) Write a HTML program with at least two <h1>, two images, two buttons and appropriate CSS to display,

   a) All <h1> with font-size 12pt, and bold in Verdana font using Inline CSS.

   b) All <img> with border color yellow, thickness 10px using Document Level CSS

   c) All <input type='button'> should change background color to red on mouse over them using External CSS.

4) Design a HTML page having a text box and four buttons viz Factorial, Fibonacci, Prime, and Palindrome. When a button is pressed an appropriate java script function should be called to display the following:

   a) factorial of that number.

   b) fibonacci series up to that number.

   c) prime numbers up to that number.

   d) is it palindrome or not?

5) Write Java script programs to demonstrate the following objects with atleast five methods:

   a) Math b) String c) Array c) Date

6) Write a Java script program to display message on OnBlur and OnFocus events.

7) Write a Java program to connect to a database server using JDBC and insert 10 students information of user choice in to student table.

8) Write a Java program to display all records in the student table.

9) Develop a simple Servlet to display Welcome to Servlet.

10) Develop a Servlet to validate user name and password with the data stored in Servlet configuration file. Display authorized user if she/he is authorized else display unauthorized user.

11) Develop a Servlet to validate user name and password stored in the database. Display authorized user is she/he is authorized else display unauthorized user.

12) Write a Servlet program to store student details sent from registration form in to the database.

13) Write JSP Program to store student information sent from registration page into database.

14) Develop a program to validate username and password that are stored in database using JSP.

15) Write an appropriate JSP page to insert, update and delete data in student table in a single application with proper linking of JSP pages and session management.

16) Write PHP Program to store registration information sent from registration page into database.

17) Develop a program to validate username and password that are stored in database using PHP.

18) Write an appropriate PHP page to insert, update and delete data in registration user table in a single application with proper linking of PHP pages and session management.

TEXT BOOKS :

1. Paul Deitel, Harvey Deitel and Abbey Deitel, "Internet & World Wide Web How to Program", 5th edition, Pearson Education, 2012.
2. Jon Duckett, "Beginning Web Programming with HTML, XHTML, and CSS", 2nd edition, Wiley India Pvt. Ltd, 2008.
3. Marty Hall and Larry Brown, "Core Servlets and Java Server pages Vol. 1: Core Technologies", 2nd edition, Pearson, 2004.
4. Larry Ullman, "PHP for the Web: Visual QuickStart Guide", 4th edition, Pearson Education, 2011.

REFERENCE BOOK:

1. Robert W Sebesta, "Programming the World Wide Web", 4th edition, Pearson, 2006.