Web Technology Lab

Department of Information Technology

Lab Description:

The Web Design and Web Technologies Lab provides practical knowledge of designing and developing interactive and responsive websites. Students work with HTML, CSS, JavaScript, and modern web technologies to build dynamic web applications. The lab focuses on user interface design, client–server concepts, and web standards. It enhances creativity and technical skills required for real-world web development.

Lab Photos:

Available Software:

S.No.	Software Name
1	Windows 11
2	Ms Office
3	Dev C++
4	Java(JDK 24)
5	MySQL 8.0
6	Cisco Packet Tracer
7	Python 3.12
8	Android Studio
9	Google Chrome

Major Euipments Available in Lab:

S.NO.	Equipments Name	Items
1	Computer System	36
2	Keyboard	36
3	Mouse	36
4	LED Smart Panel	Samsung 75"

Labs Conducted in E 108A:

Odd Sem: Web Technology Lab (BCS 552) , Web Design Workshop (BCS 353)

Even Sem: Operating System Lab

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List of Experiments – Web Technology Lab

Subject Code: BCS 552 **Branch: IT**

Subject Name: Web Technology Lab **Sem: V**

On completion of this course, the students will be able to	
BCS-552.1	Understand and apply fundamental web technologies including HTML, XML, and CSS to design and develop responsive and structured web pages compatible with multiple devices.
BCS-552.2	Analyze and implement dynamic client-side interactivity using JavaScript, and build server-side components using Java Bean, Servlet, and JSP to process user input, manage sessions, and interact with databases.
BCS-552.3	Design and develop full-stack web applications by integrating Node.js and MongoDB/MySQL to perform backend operations such as data storage, query processing, and application logic implementation.

Exp. No.	Name of Experiment	CO Mapping
1	Write HTML program for designing your institute website. Display departmental information of your institute on the website.	CO1
2	Write HTML program to design an entry form for student details/employee information/faculty details.	CO1
3	Develop a responsive website using CSS and HTML. Website may be for tutorial/blogs/commercial website.	CO1
4	Write programs using HTML and Java Script for validation of input data.	CO1
5	Write a program in XML for creation of DTD, which specifies set of rules. Create a style sheet in CSS/ XSL & display the document in internet explorer.	CO1
6	Create a Java Bean for Employee information (EmpID,	CO2

	Name, Salary, Designation and Department).	
7	Build a command-line utility using Node.js that performs a specific task, such as converting text to uppercase, calculating the factorial of a number, or generating random passwords.	CO2, CO3
8	Develop a script that uses MongoDB's aggregation framework to perform operations like grouping, filtering, and sorting. For instance, aggregate user data to find the average age of users in different cities.	CO2, CO3
9	Assume four users user1, user2, user3 and user4 having the passwords pwd1, pwd2, pwd3 and pwd4 respectively. Write a servlet for doing the following: 1. Create a Cookie and add these four user id's and passwords to this Cookie. 2. Read the user id and passwords entered in the Login form and authenticate with the values available in the cookies.	CO2
10	Create a table which should contain at least the following fields: name, password, email-id, phone number Write Servlet/JSP to connect to that database and extract data from the tables and display them. Insert the details of the users who register with the web site, whenever a new user clicks the submit button in the registration page.	CO2
11	Write a JSP which insert the details of the 3 or 4 users who register with the web site by using registration form. Authenticate the user when he submits the login form using the user name and password from the database.	CO3
12	Design and implement a simple shopping cart example with session tracking API.	CO3

List of Experiments – Web Design Lab

Subject Code: BCS 353 **Branch: IT**

Subject Name: Web Design Lab **Sem: III**

Course Outcomes	Statement (On completion of this course, students will be able to)
BCS353.1	Understand the concept of layout and structure in HTML for building web pages.
BCS353.2	Apply CSS for styling and web designing of user interface.
BCS353.3	Integrate HTML, CSS, and JavaScript to develop interactive and functional web applications.

S. No	Name of the Experiment	CO Mapping
1	Design the following static web pages required for a online book store website: HOMEPAGE: Design a Static Homepage Using HTML. (i) Logo (ii) College name/ Website name.	CO1
2	LOGIN PAGE: Design a Static Login page Using HTML. (i) User Name (ii) Password	CO1
3	CATALOGUE PAGE: Design a Catalogue page Using HTML. (i) Snap short of the cover page (ii) Author Name (iii) Publisher (iv) Price (v) Add to cart button	CO1
4	CART PAGE: Design a Cart page Using HTML.	CO1

5	REGISTRATION PAGE: Design a Registration page Using HTML. (i) Name [Text field] (ii) Password [password field] (iii) E-mail id [text field] (iv) Phone No. [text field] (v) Sex [ratio button] (vi) DOB [3 select boxes] (vii) Languages Known [Checkboxes- English, Hindi, Urdu, Tamil] (viii) Address [text area].	CO1
6	Js VALIDATION: Write JavaScript to validate the following fields of the above registration page. (i) Name [Name should contain alphabets and the length should not be less than 6 characters] (ii) Password [Password should not be less than 6 characters length]	CO3
7	Js VALIDATION: (i) E-mail id [should not contain any invalid and must follow the standard pattern(name@domain.com) (ii) Phone no. [Phone number should contain 10 digits only]	CO3
8	CSS: Design a web page using CSS(Cascading Style Sheets) which includes the following: (i) Use different font, styles: In the style definition you define how each selector should work (font, color etc.). Then, in the body of your pages, you refer to these selectors to activate the styles. (ii) Set a background image for both the page and single elements on the page.	CO2

List of Experiments –Operating System Lab

Subject Code: BCS 353 **Branch: IT**

Subject Name: Operating System Lab **Sem: IV**

Exp. No.	Name of Experiment	Mapping with CO
1	Study of hardware and software requirements of different operating systems (UNIX,LINUX,WINDOWS XP, WINDOWS7/8	CO1
2	Execute various UNIX system calls for i. Process management ii. File management iii. Input/output Systems calls	CO1

3	Implement CPU Scheduling Policies: i. SJF ii. Priority iii. FCFS iv. Multi-level Queue	CO3
4	Implement file storage allocation technique: i. Contiguous(using array) ii. Linked –list(using linked-list) iii. Indirect allocation (indexing)	CO5
5	Implementation of contiguous allocation techniques: i. Worst-Fit ii. Best- Fit iii. First- Fit	CO4
6	Calculation of external and internal fragmentation i. Free space list of blocks from system ii. List process file from the system	CO4
7	Implementation of compaction for the continually changing memory layout and calculate total movement of data	CO4
8	Implementation of resource allocation graph (RAG)	CO3
9	Implementation of Banker‟s algorithm	CO3
10	Conversion of resource allocation graph (RAG) to wait for graph (WFG) for each type of method used for storing graph.	CO3
11	Implement the solution for Bounded Buffer (producer-consumer)problem using inter process communication techniques-Semaphores	CO2
12	Implement the solutions for Readers-Writers problem using inter process communication technique - Semaphore	CO2