Web Technology Lab (BCS552)

Course Outcome (CO)		Bloom's Knowledge Level (KL)
At the end of course, the student will be able to:		
CO 1	Understanding fundaments of website development and apply HTL and XML languages for development of websites	K_2, K_4
CO 2	Applying CSS in designing and development of responsive website for compatibility of various devices.	K2, K_3, K_5
CO 3	Understand, analyze and design the role of JavaScript for dynamic web pages.	K2, K_4, K_5
CO 4	Design and deploy different components using Java Bean, Node.js and database tables using MongoDB and produce various results based on given query.	K_4, K_5
CO 5	Design and deploy server-side java application called Servlet & JSP tools to catch form data sent from client, process it and store it on database.	K_3, K_4

DETAILED SYLLABUS

This lab is based on the Web Technologies. Some examples are as follows:

1. Write HTML program for designing your institute website. Display departmental information of your institute on the website.
2. Write HTML program to design an entry form for student details/employee information/faculty details.
3. Develop a responsive website using CSS and HTML. Website may be for tutorial/blogs/commercial website.
4. Write programs using HTML and Java Script for validation of input data.
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.
6. Create a Java Bean for Employee information (EmpID, 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.
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.
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.
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.
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.
12. Design and implement a simple shopping cart example with session tracking API.

Note: The instructor may add/delete/modify/tune experiments, wherever he/she feels in a justified manner
It is also suggested that open source tools should be preferred to conduct the lab (Servlet, JSP, Node.js, MongoDB, etc)