3/4 B.Tech - FIRST SEMESTER

IT5L3	**WEB TECHNOLOGIES LAB**	**Credits: 2**

Internal assessment: 25 marks

Lab: 3 Periods/week   **Semester end examination: 50 marks**

Objectives:
- To create static and dynamic Web pages.
- To create DTD and XML schema for defining XML Documents.
- To develop Pure Dynamic Web Application using JDBC.
- To develop Server Programming dynamically using Servlets and Java Server Pages.

Outcomes:

Students will be able to
- Develop static / dynamic web pages using HTML, CSS and java script.
- Populate XML data using XML schema.
- Perform SQL operations on data using JDBC and Servlets.
- Generate the dynamic content using JSP.

Exercise-1:

Design the following static web pages required for an online book store web site.

1) HOME PAGE:

The static home page must contain three frames.

Top frame Logo and the college name and links to Home page, Login page, Registration page, Catalogue page and Cart page (the description of these pages will be given below).

Left frame At least four links for navigation, which will display the catalogue of respective links.

For e.g. when you click the link "IT" the catalogue for IT Books should be displayed in the Right frame.

Right frame the pages to the links in the left frame must be loaded here. Initially this page contains description of the web site.

Logo	Web Site Name			
Home	Login	Registration	Catalogue	Cart
CSE ECE EEE CIVIL	Description of the Web Site			

2) LOGIN PAGE:

This page looks like below:

Logo	Web Site Name			
Home	Login	Registration	Catalogue	Cart
CSE ECE EEE CIVIL	Login [ ] Password [ ] [Submit] [Reset]			

3) CATOLOGUE PAGE:

The catalogue page should contain the details of all the books available in the web site in a table.
The details should contain the following

1. Snap shot of Cover Page.
2. Author Name.
3. Publisher.
4. Price.
5. Add to cart button.

Logo	Web Site Name			
Home	Login	Registration	<mark>Catalogue</mark>	Cart
CSE ECE EEE CIVIL		Book XML Bible Author Winston Publication Wiely	$ 40.5	
		Book AI Author S.Russel Publication Princeton hall	$ 63	Add to cart
		Book Java 2 Author Watson Publication BPB publications	$ 35.5	Add to cart
		Book HTML in 24 hours Author Sam Peter Publication Sam publication	$ 50	Add to cart

Note contains the remaining pages and their description.

Exercise-2:

4) CART PAGE:

The cart page contains the details about the books which are added to the cart. The cart page should look like this

Logo	Web Site Name			
Home	Login	Registration	Catalogue	<mark>Cart</mark>
CSE ECE EEE CIVIL	Book name Java 2 XML bible	Price $35.5 $40.5	Quantity 2 1 Total amount -	Amount $70 $40.5 $130.5

5) REGISTRATION PAGE:

Create a "*registration form* "with the following fields

        1) Name (Text field)
        2) Password (password field)
        3) E-mail id (text field)
        4) Phone number (text field)
        5) Sex (radio button)
        6) Date of birth (3 select boxes)
        7) Languages known (check boxes – English, Telugu, Hindi)
        8) Address (text area)

Exercise-3:

VALIDATION:

Write *JavaScript* to validate the following fields of the above registration page.

1. Name (Name should contains alphabets and the length should not be less than 6 characters).
2. Password (Password should not be less than 6 characters length).
3. E-mail id (should not contain any invalid and must follow the standard pattern name@domain.com)
4. Phone number (Phone number should contain 10 digits only).

Note: You can also validate the login page with these parameters.

Exercise—4:
Design a web page using CSS (Cascading Style Sheets) which includes the following
1) 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.
2) Set a background image for both the page and single elements on the page. You can define the background image for the page like this
3) Control the repetition of the image with the background-repeat property. As background-repeat: repeat Tiles the image until the entire page is filled, just like an ordinary background image in file HTML
4) Define styles for links as A:link
   A:visited
   A:active
   A:hover
5) Work with layers
6) Add a customized cursor Selector
      {cursor:value}

Exercise—5:

Write an XML file which will display the Book information which includes the following ISBN

    1) Title of the book   2) Author Name   3) number
    4) Publisher name   5) Edition   6) Price

    Write a Document Type Definition (DTD) to validate the above XML file. Display
    the XML file as follows.

    The contents should be displayed in a table. The header of the table should be in color
    GREY. And the Author names column should be displayed in one color and should be
    capitalized and in bold. Use your own colors for remaining columns.

    Use XML schemas XSL and CSS for the above purpose. Note Give at
    least for 4 books. It should be valid syntactically. Hint You can use some
    xml editors like XML-spy

Exercise—6:

    1) Install TOMCAT web server and APACHE.
        While installation assign port number 4040 to TOMCAT and 8080 to APACHE. Make sure
        that these ports are available i.e.,no other process is using this port.

    2) Access the above developed static web pages for books web site, using these servers by
        putting the web pages developed in Exercise--1 and Exercise--2 in the document root.
        Access the pages by using the urls http//localhost4040/rama/books.html
        (for tomcat) http//localhost8080/books.html (for Apache).

Exercise—7:

    User Authentication:

    Assume four users user1, user2, user3 and user4 having the passwords pwd1,pwd2,pwd3
    and pwd4 respectively. Write a servelet 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 (Exercise-1) and
    authenticate with the values (user id and passwords) available in the cookies.

    If he is a valid user(i.e., user-name and password match) you should welcome him by
    name(user-name) else you should display " You are not an authenticated user ".

    Use init-parameters to do this. Store the user-names and passwords in the webinf.xml and
    access them in the servlet by using the getInitParameters() method.

Exercise —8:

    Install a database (Mysql or Oracle).

    Create a table which should contain at least the following fields name, password, email-id,
    phone number (these should hold the data from the registration form). Practice 'JDBC'
    connectivity.

    Write a java program/servlet/JSP to connect to that database and extract data from the tables
    and display them. Experiment with various SQL queries.

    Insert the details of the users who register with the web site, whenever a new user clicks the
    submit button in the registration page (Exercise- 2).

Exercise—9:

Write a JSP which does the following job

Insert the details of the 3 or 4 users who register with the web site (Exercise- 9) by using registration form. Authenticate the user when he submits the login form using the user name and password from the database (similar to Exercise- 8 instead of cookies).

Exercise—10:

Create tables in the database which contain the details of items (books in our case like Book name, Price, Quantity, Amount) of each category. Modify your catalogue page in such a way that you should connect to the database and extract data from the tables and display them in the catalogue page using JDBC.

Reference Books:

1. Web Technologies, Black Book, Kogent Learning Solutions Inc, Dreamtech Press.
2. JDBC, Servlets, and JSP, New Edition, Santhosh Kumar K Kogent Learning Solutions Inc, Dreamtech Press
3. Internet and World Wide Web – How to program , Dietel and Nieto

e-Learning Resources:

1. http://www.w3schools.com/html/default.asp