

Course Title: Web Technology (3 Cr.)

Course Code: CACS205

Year/Semester: II/III

Class Load: 6 Hrs. Per Week (Theory: 3 Hrs, Practical: 3 Hrs.)

Course Description

This course covers different aspect of web technology such as HTML, CSS, and issues of web technology, client tier, server tier and advanced server side issue.

Course Objectives

The general objectives of this course are to provide fundamental concepts of Internet; Web Technology and Web Programming.

Course Content

Specific Objectives	Content
<ul style="list-style-type: none">• Concept and implementation of HTML tag, image, table with spanning along with attributes.• Concept and implementation of Frame with possible attributes.• Concept and implementation of form and elements of form with possible attributes.• Concept and implementation of CSS1/2/3, positioning ,box model• Implementation HTML Hyperlink link, List• Introduction of HTML5 and CSS3 integration.•	<p>Unit 1 HTML and CSS 15 Hrs.</p> <p>HTML Basic: HTML Tag Reference, Global Attributes, Document, Structure Tags, Formatting Tags, Text Level Formatting, Block Level Formatting, List Tags, Hyperlink Tags, Executable Content Tags.</p> <p>Image & Imagemaps: Introduction, Client-Side Imagemaps, Server-Side Imagemaps, Using Server-Side and Client-Side Imagemaps Together, Alternative Text for Imagemaps.</p> <p>Tables: Introduction To HTML Tables and Their Structure, The Table Tags, Alignment, Aligning Entire Table, Alignment within a Row, Alignment within a Cell, Attributes, Content Summary, Background Color, Adding a Caption, Setting the Width, Adding a Border, Spacing Within a Cell, Spacing between the Cells, Spanning Multiple Rows or Columns, Elements that can be Placed in a Table, Table Sections and Column Properties, Tables as a Design Tool.</p> <p>Frames: Introduction to Frames, Applications, Frames document, The <FRAMESET> tag, Nesting <FRAMESET> tag, Placing content in frames with the <FRAME>Tag, Targeting named Frames, Creating Floating Frames, Using Hidden Frames.</p> <p>Forms: Creating Forms, The <FORM> tag, Named Input fields, The <INPUT tag, Multiple lines text windows, Drop Down and List Boxes, Hidden, Text, Text Area, Password, File Upload, Button, Submit, Reset, Radio, Checkbox, Select, Option, Forms and Scripting, Action Buttons, Labeling input files, Grouping related fields, Disabled and read-only fields, Form field event handlers, Passing form data.</p> <p>Style Sheets: Definition, Importance, Different Approaches to Style Sheets, Using Multiple Approaches, Linking to Style Information in Separate File, Setting up Style Information, Using the <LINK>Tag, Embedded Style Information, Using <STYLE>Tag, Inline Style Information.</p>
Concept, benefit and architecture of Tier technology in implementation web application and web server.	<p>Unit 2 Issue of Web Technology 3 Hrs.</p> <p>Architectural Issues of Web Layer, Tier Technology: 2-Tier, 3-Tier and n-Tier.</p>

<ul style="list-style-type: none"> • Concept and development of well form and valid xml using DTD and XSD. • Concept of XSLT and transform xml document in HTML using XSLT. • Implementation xpath and xquery. • Concept of SAX and DOM 	Unit 3 The Client Tier 10 Hrs. Representing Content; Introduction to XML; Elements and Attributes; Rules for Writing XML; Namespaces; Schema: Simple Types and Complex Types, XSD Attributes, Default and Fixed Values, Facets, Use of Patterns, Order Indicators(All, Choice, Sequences), Occurrence Indicators (Maxoccurs, Minoccurs), DTD: Internal Declaration, Private External Declaration, Public External Declaration, Defining Elements and Attributes; XSL/XSLT; Xpath; Xquery; SAX; DOM , Creating XML Parser.
<ul style="list-style-type: none"> • Concept of Web Server and dynamic content generation of server site scripting. • Concept and implementation of session and state. • Error handling approach of server site programming. • Implementation of Control structure to flow control the sequence of statement using server site programming. 	Unit 4 The Server Tier 8 Hrs. Web Server Concept, Creating Dynamic Content, Using Control Flow to Control Dynamic Content Generation, Sessions and State, Error Handling. Architecting Web Application, Using Tag Libraries, Writing Tag Libraries.
<ul style="list-style-type: none"> • Introduction of relational database management system and its requirement. • Implementation of insert, update, delete, select from server site script • Concept of cookie and its implementation using serversite scripting • Concept of User authentication system using default and user define authentication on the basis of IP address and domain name. • Implementation of file handling function to read and write data on text file. • Implementation form handling serversite program to CRUD operations. 	Unit 5 Introduction to Advanced Server Side Issues 9 Hrs. Database Connectivity; Creating an SQL statement: Select, Insert, Update, and Delete; Authentication: Anonymous Access, Authentication by IP address and Domain, Integrated Windows Authentication; Cookies; File Handling; Form handling

Laboratory Works

Laboratory works should be done covering all the topics listed above and a small project work should be carried out using the concept learnt in this course. Project should be assigned on individual basis.

Teaching Methods

The general teaching pedagogy includes class lectures, group works, case studies, guest lectures, research work, project work, assignments (theoretical and practical), tutorials and examinations (written and verbal). The teaching faculty will determine the choice of teaching pedagogy as per the need of the topics.

Evaluation

Internal Assessment Format [FM = 20] – Subject Teacher				
Term Examination		Assignment	Attendance	Total
First	Final			
5	5	5	5	20
Practical Assessment Format [FM = 20] – External Examiner will be assigned by Dean Office, FOHSS.				
Practical	Viva	Lab Reports	Total	
10	5	5	20	

Note: Assignment may be subject specific case study, seminar paper preparation, report writing, project work, research work, presentation, problem solving etc.

Final Examination Questions Format [FM = 60, Time = 3 Hrs.]

S N	Question Type	Number of Questions Given	Marks per Question	Total Marks
1	Group – 'A' Objective Type Questions (Multiple Choice Questions) Attempt all the questions.	10	1	10 x 1 = 10
2	Group – 'B' Short Questions (Attempt any SIX questions.)	7	5	6 x 5 = 30
3	Group – 'C' Long Questions (Attempt any TWO questions.)	3	10	2 x 10 = 20

Text Books

1. Harvey M. Deitel, Paul J. Deitel & Abbey Deitel, *"Internet and World Wide Web: How to Program"*, 5th Edition, Pearson Education, 2012, ISBN: 9780273764021.
2. Thomas A. Powell, *"HTML & CSS: The Complete Reference"*, McGraw Hill, Fifth Edition, 2010, ISBN: 978-0-07-174170-5

Reference Books

1. Matt J. Crouch, *"[ASP.NET](#) and [VR.NET](#) Web Programming"*, Pearson Education Asia, 2002
2. Rahul Banerjee, *"Internetworking Technologies"*, Prentice-Hall of India Limited, Fourth Edition, 2000
3. Thomas A. Powell, *"Web Design: The Complete Reference"*, Tata McGraw Hill, Second Edition, 2002

Internal Assessment marks Submission format

Campus Name:									
Subject Name: Web Technology						Subject Code: CACS205			
S N	TU Registration No.	Na me	Symbol No.	First– Term [5]	Pre – Final [5]	Assignment [5]	Attendance [5]	Total [40]	Remark s

Name of Subject Teacher:

Name of Director/HoD/Coordinator:

Signature:

Signature:

Date:

Date:

TRIBHUVAN UNIVERSITY
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
Model Question

Bachelor in Computer Applications
Course Title: Web Technology
Code No: CACS 205
Semester: Third

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Candidates are required to answer the questions in their own words as far as possible.

Group “A”

Attempt all the questions

[10 x 1]

Circle (○) the correct answer in the following questions.

1. Why we used XSLT language?
(a) Use to transport XML documents (b) use to perform transaction b/w XML documents
(c) Use to transform XML documents (d) use to format XML documents
2. Which is the correct CSS syntax?
(a) body {color: black} (b) {body;color:black}
(c) {body:color=black(body)} (d) body:color=black
3. SQL Query to delete all rows in a table without deleting the table structure.
(a) DELETE FROM table_name; (b) DELETE TABLE table_name;
(c) DROP TABLE table_name; (d) NONE
4. Web design that makes your web page look good on all devices is called as?
(a) Good web design (b) Interactive web design
(c) Responsive web design (d) Both A and B
5. What is the constraint on the data per cookie?
(a) 2 KB (b) 1 KB (c) 4 KB (d) 3 KB
6. Which of following is not an inline element?
(a) (b) <a> (c) (d) <div>
7. Which is wrong in XQuery?
(a) Used for transforming XML data into XHTML (b) Used for search web documents
(c) Used to generate tables for XSLT (d) None of these
8. Which method has much larger limit on amount of data that can be passed to web server?
(a) Get method (b) Post method (c) Put method (d) Set method
9. In HTML form <input type="text"> is used for

(a) One line text (b) Block of text (c) One paragraph (d) None

10. Which inline function embeds an independent HTML document into current document?

(a) <div> (b) (c) <iframe> (d) <form>

Tribhuvan University

Faculty of Humanities & Social Sciences

Model Question

Bachelor in Computer Applications

Course Title: Web Technology

Code No: CACS 205

Semester: Third

Full Marks: 60

Pass Marks: 24

Time: 3 hours

Candidates are required to answer the questions in their own words as far as possible.

Group “B”

Attempt any **SIX** questions.

[6 x 5 = 30]

11. What is HTML Link? Explain different link used in HTML. [1+4]

12. Write HTML tag to generate the following table. [5]

Routine			
Sunday	Monday	Break	Tuesday
WT	DSA		SAD
Java	Statistics		Math

13. Write HTML tag to generate the following output. [5]

- FOHSS
 - BCA
 - 1. IoT
 - BSW
- FOM
 - 1. BIM
 - 2. BBA

14. “It is discouraged to use frame in web development” Explain the reasons. [5]

15. What is the strength of CSS? What are the various approaches to include CSS document in HTML.

[1+4]

16. What is cookie? Explain how you set and remove values stored in cookie with suitable example?

[1+4]

17. Write HTML tag to generate the following output.
[5]

Student Information	
First Name	<input type="text"/>
Last Name	<input type="text"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other
Subject	<input type="checkbox"/> C <input checked="" type="checkbox"/> JAVA <input type="checkbox"/> PHP
Comment	<input type="text"/>
<input type="button" value="Submit"/>	

Group “C”

Attempt any **TWO** questions

[2X10=20]

18. Is XML replacement for HTML? Explain different types of tier technology with suitable diagram.

[2+8]

19. Write a server-side script to display all the records store in student table which resides under the database called TU. The structure of student table as (id, name, address)
[10]

20. Write well-formed XML document and validate with the use of XML schema.
[5+5]

