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21BC107 INTERNET AND WEB TECHNOLOGIES

Course Description and Objectives:

This course is intended to teach the basics involved in publishing content on the World Wide Web. This includes the 'language of the Web'- HTML, the fundamentals of how the Internet and the Web function, a basic understanding of graphic production with a specific stress on creating graphics for the Web, and a general grounding introduction to more advanced topics such as programming and scripting. This will also expose students to the basic tools and applications used in Web publishing.

Course Outcomes:

The student will be able to:

- Analyze a web page and identify its elements and attributes.
- Create web pages using XHTML and Cascading Style Sheets.
- Build dynamic web pages using JavaScript (Client-side programming).
- Create XML documents and Schemas.
- Build interactive web applications using AJAX.

Skills:

- How the Internet Works
- The Web Development Process
- Planning a Web Application

Activities:

- Web Developers
- Client Server Administrators
- Students who want to build a Web Application
- Students who want to Deploy a Testing or Production Web Server

UNIT - I **12Hours**

Networking Protocols and Internet: Introduction, Protocols in Computer Communications, the OSI Model, OSI Layer Functions.

Why Internet Working? Problems in Internet Working, Dealing with Incompatibility Issues, A Virtual Network, Internet Working Devices, Repeaters, Bridges, Routers, Gateways, A Brief History of the Internet, Growth of the Internet.

UNIT - II **12Hour**

WWW, HTTP, TELNET:

Introduction, Brief History of WWW, the Basics of WWW and Browsing, Hyper Text Markup Language, Common Gateway Interface, Remote Login.

UNIT - III **12Hours**

JavaScript and AJAX:

Introduction, JavaScript, Basic Concepts, Controlling JavaScript Execution, Miscellaneous Features, JavaScript and Form Processing, Pop-up Boxes.

AJAX: Introduction, How AJAX Works? Life without AJAX, AJAX Coding, Life with AJAX.

UNIT - IV **12Hours**

Introduction to XML:

What is XML? XML versus HTML, Electronic Data Interchange, XML Terminology, Introduction to DTD, Document-Type Declaration, Element-Type Declaration, Attribute Declaration, Limitations of DTDs, Introduction to Schema, Complex Types, Extensible Stylesheet Language Transformations, Basics of Parsing, JAXP

UNIT - V **12Hours**

Creating Good Web Pages:

Introduction, Top Level Navigation, Creating Sample Layouts, Metaphor, Theme, and Storyboard, Screen Resolution,3-Column Layout, Using Frameworks, Using Graphics, Usability for the Handheld Devices, Creating Multilingual Web sites, XHTML and Web Browser Compatibility Issues, Designing the Basic Elements of a Home Page.

LIST OF EXPERIMENTS:

1. Create a table in HTML to the following details

Book Name	**Author**
Operating Systems	Godbole
Data Communications and Networks	Godbole
Computer Networks	Rajkumar
OOPs	R.Nageswara Rao

2. Create a form by using various attributes of the input tags.
3. Create a web page multiple types of style sheet used in a single page.
4. Write a CGI sample program to send output back to the user.
5. Write a Java Script program by using variables.
6. Write a java script program to multiply two numbers and display the result in separate text box.
7. Write a java script program on Form Validations.
8. Write a AJAX program checking the presence of XML Http Request object.
9. Write a program to create sales report for our books by using AJAX.
10. 10.Create an XML document template to describe the result of students in an examination. The description should include the student's roll number, name, three subject names and marks, total marks, percentage and results.
11. Write an XSLT code to only retrieve the book titles and their prices.
12. Design a basic elements of a home page.

TEXTBOOK:

Achyut Godbole, Atul Kahate"Web Technologies: TCP/IP, Web/Java Programming, and Cloud Computing", Third Edition, McGraw Hill Education.

REFERENCE BOOKS:

1. Deitel, Deitel, Goldberg, "Internet & World Wide Web How to Program", Third Edition, Pearson Education, 2006.
2. Raj Kamal, "Internet and Web Technologies", Tata McGraw-Hill.