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| **SESSION** | **SEPT 2024** |
| **PROGRAM** | **MASTER OF COMPUTER APPLICATIONS (MCA)** |
| **SEMESTER** | **2** |
| **COURSE CODE & NAME** | **DCA6203 WEB TECHNOLOGIES** |
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**Set – I**

**1. Discuss the important role HTML has played in the evolution of web development. Describe how HTML serves as the foundational language for creating the structure and organizing the content of web pages, allowing developers to design and format text, images, links, and other elements that make up a webpage’s layout and functionality.**

**Ans 1.**

**The Role of HTML in the Evolution of Web Development**

HTML, or HyperText Markup Language, has been the cornerstone of web development since the inception of the World Wide Web. As the primary language for structuring web content, HTML has undergone several iterations, evolving alongside the growing demands of the internet and the expectations of users. Its significance lies in its ability to provide the foundational framework for web pages, enabling developers to create organized, accessible, and visually appealing content.

**HTML as the Foundation of Web Content** HTML serves as the backbone of web development, establishing the structure of web pages. Using a system of tags and elements, it

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**2. Distinguish between HTML and DHTML, highlighting the key differences in their functionalities and capabilities. Additionally, explain the various benefits of using DHTML, including its ability to create dynamic, interactive web content that enhances user experience through features like real-time updates, animations, and improved responsiveness to user actions.**

**Ans 2.**

**Differences Between HTML and DHTML and the Benefits of DHTML**

HTML and DHTML represent two distinct approaches to web development. While HTML provides the basic structure for web pages, DHTML (Dynamic HTML) extends this functionality by introducing interactivity and dynamic content. This distinction highlights the evolution of web technologies toward creating richer and more engaging user experiences.

**HTML: The Static Foundation** HTML is a static markup language primarily used for defining the structure and content of web pages. It allows developers to create and organize

**3. Describe the various features of XML, including its ability to store and transport data in a structured and flexible manner, support for custom tags, and emphasis on data integrity and readability. Provide an example of a web page that utilizes XML, illustrating how XML can be integrated to display data in a meaningful way while allowing for easy data manipulation and access.**

**Ans 3.**

**Features of XML and Its Integration in Web Pages**

XML, or eXtensible Markup Language, is a versatile and widely used technology for storing, transporting, and organizing data in a structured manner. Unlike HTML, which is primarily concerned with displaying information, XML focuses on data representation, offering flexibility, readability, and the ability to define custom tags. These features have made XML a fundamental component in web development, data exchange, and configuration files.

**Structured and Flexible Data Storage** One of XML's most significant features is its ability

**Set – II**

**4. Explain the concept of XLink in XML, which is a standard that allows for the creation of hyperlinks within XML documents, enabling the linking of resources and facilitating navigation between different pieces of information. Define the various attributes of XLink, including xlink:href, which specifies the target of the link; xlink:role, which defines the role of the link; xlink:title, providing a title for the link; and xlink:show and xlink:actuate, which control how the linked resource is presented and when it is activated.**

**Ans 4.**

**The Concept of XLink in XML**

XLink, or XML Linking Language, is a standard developed by the W3C to enable the creation of hyperlinks within XML documents. Unlike traditional HTML links, which are limited to simple navigation between web pages, XLink offers advanced linking capabilities, including linking multiple resources, defining roles, and controlling link behavior. This flexibility makes XLink a powerful tool for managing relationships between XML data.

**Defining Hyperlinks in XML** XLink allows developers to create both simple and extended links within XML documents. Simple links are akin to traditional HTML hyperlinks,

**5. Explain what AJAX (Asynchronous JavaScript and XML) is, a technique used in web development that enables the creation of dynamic and interactive web applications by allowing data to be exchanged between the client and server asynchronously, without requiring a full page reload. Discuss how AJAX works, highlighting its key components, which include the XMLHttpRequest object for sending requests to the server, JavaScript for processing the data, and HTML/CSS for updating the web page content. Additionally, outline the advantages of AJAX, such as improved user experience through faster load times, reduced server load, and enhanced interactivity, which contribute to the creation of more responsive web applications.**

**Ans 5.**

**Understanding AJAX in Web Development**

AJAX, which stands for Asynchronous JavaScript and XML, is a web development technique that allows the creation of dynamic, interactive web applications. Its primary purpose is to enable asynchronous communication between a client and a server, facilitating data exchange without requiring the entire web page to reload. This results in faster, smoother, and more responsive user experiences, as only the necessary parts of a web page are updated in response to user actions.

**How AJAX Works**

The working of AJAX revolves around the interaction between the client and server using

**6. Explain the purpose of PHP (Hypertext Preprocessor) in web development, highlighting its role as a server-side scripting language that enables developers to create dynamic and interactive web pages by processing data on the server before sending it to the client. Discuss the syntax of PHP code, covering essential elements such as variables, which are defined with a dollar sign followed by the variable name; data types, including strings, integers, and arrays; operators for performing calculations and comparisons; and comments, which can be added for clarification and documentation. Provide a code example that demonstrates these basic elements in action, illustrating how PHP is used to handle data and generate dynamic content on a webpage.**

**Ans 6.**

**The Role of PHP in Web Development**

PHP, or Hypertext Preprocessor, is a widely used server-side scripting language that enables developers to create dynamic and interactive web pages. Unlike client-side scripting languages like JavaScript, PHP executes code on the server, generating HTML content that is sent to the client’s browser. This server-side functionality allows PHP to process data, interact with databases, manage files, and create dynamic content based on user interactions or input.

**Syntax and Essential Elements of PHP**

The syntax of PHP is straightforward and designed to be beginner-friendly, making it a popular