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**EASWARI ENGINEERING COLLEGE**

**DEPARTMENT OF INFORMATION  
TECHNOLOGY**

**IT 2353 – WEB TECHNOLOGY**

**2 MARKS QUESTIONS & ANSWERS**



**III YEAR –B.TECH (IT)**

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**DEPARTMENT OF INFORMATION TECHNOLOGY  
III YEAR IT  
IT2353 – WEB TECHNOLOGY**

**UNIT - I**

**PART - A**

**1. What is the use of http protocol?**

HTTP is a standard protocol that defines how a web client talks to a server and how data is transferred from the server back to the client.

HTTP relies heavily on two other standards.

MIME (Multipurpose Internet Mail Extensions), HTML

**2.What is the use of MIME?(Multipurpose Internet Mail Extension)**

MIME is a way to encode different kinds of data, such as sound and text, to be transmitted over a 7-bit ASCII connection. It also lets the recipient know what kind of data has been sent, so that it can be displayed properly. MIME was originally designed to facilitate multimedia email and to provide an encoding that could get binary data past the most train –damaged mail transfer programs.

MIME is an open standard for sending multipart, multimedia data through Internet email. MIME was originally intended for email, it has become a widely used technique to describe a file's contents so that client software can tell the difference between different kinds of data.

**3. Define URI, URL, URN.**

URI (Uniform Resource Identifier): It identifies an object on the Internet.

URL (Uniform Resource Locator): It is a specification for identifying an object such as a file, newsgroup, CGI program or e-mail address by indicating the exact location on the internet.

URN (Uniform Resource Name): It is a method for referencing an object without declaring the full path to the object.

**4. What is meant by relative url?**

URLs that are not complete but inherit pieces from their parent are called relative URL.

In contrast, a completely specified URL is called an absolute URL address.

**5. Write the format of html program**

```
<HTML>
<HEAD>
<TITLE> This is the Title </TITLE>
</HEAD>
<BODY>
```

.... Type the body of the program

</BODY>

</HTML>

Note: All the tags in HTML program are optional, however the file should be saved in .html extension.

## 6. Mention some text formatting tags

<p> </p> - is used for introducing various paragraphs.

<br> - this tag is used for giving an empty blank line.

HEADING TAGS - <h1> </h1> .. <h6> </h6> is used to introduce various headings.

<h1> is the biggest and h6 is the smallest heading tag.

<HR> TAG – is used to draw lines and horizontal rules.

<B>,<I>,<U> for bold, italic and underline respectively.

## 7. What are the different types of LIST Tags.

TYPES OF LISTS

Unordered lists

Ordered lists

## 8. What do you mean by column spanning and row spanning?

Row spanning is used to merge (combine) two or more rows.

Column spanning is used to merge (combine) two or more columns.

## 9. Mention the different types of links

HTML allows linking to other HTML documents as well as images. There are 3 attributes that can be introduced in BODY tag.

LINK – Changes the default color of a Hyperlink to whatever color is specified with this tag.

ALINK – Changes the default color of a hyperlink that is activated to whatever color is specified with this tag.

VLINK – Changes the default color of a hyperlink that is already visited to whatever color is specified with this tag.

NOTE: User can specify the color name of a hyperlink or an equivalent hexadecimal number.

EXTERNAL LINKS

SYNTAX

<A HREF = "location name"> Hyper Text Message </A>

## 10. Explain image maps with its syntax

When a hyperlink is created on an image, clicking on any part of the image will lead to opening of the document specified in the <A HREF TAG>. Linked regions of an image map are called hot regions and each hot region is associated with a filename.html.

Syntax

<MAP NAME = "map name">

ATTRIBUTES OF IMAGE MAPS

COORDS: Each of the above shapes takes different coordinates as parameters.

Rectangle – 4 coordinates (x1,y2,x3,y2)

POLYGON: 3 or more coordinates.

HREF – Takes the name of the .html file that is linked to the particular area on the image.

<MAP NAME = "fish.jpg">

<AREA SHAPE = "rect" COORDS = "52,65,122,89" HREF = "sct.html">

</MAP>

### **11. Mention the various form elements.**

Various elements or controls can be created in FORM using <INPUT> tag. They are 1. Label 2. Text box 3. Text Area 4. Radio button 5. Check box 6. List box 7. Command button 8. Scroll bars

### **12. What is the difference between node and host?**

A node is any addressable device connected to a network whereas the host is a more specific descriptor that refers to a networked general-purpose computer rather than a single purpose device (such as a printer).

### **13. Define protocol.**

A protocol is a formal set of rules that must be followed in order to communicate.

### **14. What is meant by Name Resolution?**

Name Resolution is the process of mapping a hostname to its corresponding IP Address. One way to translate a hostname to an IP address is to look it up in a simple text file. The second way is the domain name service, which is a distributed database containing all registered hostnames on the Internet and their IP addresses.

### **15. What are the components of HTTP URL?**

The components are host, an optional port, path, filename, section and query string.

### **16. Define URL encoding.**

URL encoding involves replacing all unsafe and nonprintable characters with a percent sign (%) followed by two hexadecimal digits corresponding to the character's ASCII value.

## **17. What are the issues of next generation IP?**

The issues to be considered in IP next generation are

- o Addresses Space Growth
- o Support large Global networks
- o A clear way of transition from the existing IP to new IP next generation

## **18. What do mean by search engine?**

It is a program or web page that enables you to search an Internet site for a specific keywords or words.

## **19. What is HTML?**

Hyper Text Markup Language. This is a file format, based on SGML, for hypertext documents on the Internet. It is very simple and allows for the embedding of images, sounds, video streams, form fields and simple text formatting. References to other objects are embedded using URLs. HTML is a plain text file with commands <markup tags> to tell the Web browsers how to display the file.

## **20. How do you change the color of background or text in HTML?**

Include the element \"bgcolor\" with a color code in your body tag:

```
<BODY BGCOLOR=\"#ffffff\" TEXT=\"#000000\" LINK=\"#cc0000\"  
VLINK=\"#000066\" ALINK=\"#ffff00\">
```

## **21. How do you use a picture as the background in HTML?**

Include the element \"background\" with the name of the graphics file:

```
<BODY BACKGROUND=\"gumby.gif\" BGCOLOR=\"#ffffff\"  
TEXT=\"#000000\"  
LINK=\"#cc0000\" VLINK=\"#000066\" ALINK=\"#ffff00\">
```

## **22. How do you add music to a web page?**

```
<A HREF=\"http://www.snowhawk.com/sounds/hvnearth.mid\">Heaven on  
Earth</A>
```

## **23. How do you align text next to a graphic in HTML?**

```
<IMG SRC=\"wflower.jpg\" WIDTH=\"25\" HEIGHT=\"25\" ALIGN=\"top\"  
BORDER=\"0\" ALT=\"wildflower photo\"> Photo of wildflowers in Texas</A>
```

## **24. How do you make a graphic a link?**

```
<AHREF=\"http://www.snowhawk.com/wildlife.html\"><IMG  
SRC=\"leopard.jpg\" WIDTH=\"25\" HEIGHT=\"25\" ALIGN=\"top\"  
BORDER=\"0\" ALT=\"link to wildlife\"></A>
```

## 25. How do you make a new paragraph in HTML?

Inserting the <P> tag at the beginning of your paragraph will drop the text down two lines. (If you insert the <BR> tag, it will drop your text down one line.)

## 26. How do you make headings and text larger or smaller?

There are 6 sizes to the heading tags:

This is using the <H1> tag

This is using the <H2> tag

This is using the <H3> tag

This is using the <H4> tag

This is using the <H5> tag

This is using the <H6> tag

## 27. How do you make text show as bold?

Placing the <B>tag before the text will make everything bold, until you close the tag with</B> (Or using <STRONG>tags</STRONG > will do the same.)

## 28. How do I make text show in italics?

Placing the <I>tag before the text will make everything in italics, until you close the tag with</I> (Using <EM>emphasis tags</EM > will do the same.)

## 29. How would you make all text on a page green and a little larger than normal, but make all headings yellow?

Put the following at the beginning of the Web page:

```
<BODY TEXT="green"><BASEFONT SIZE=4>
```

Then make each heading look like this:

```
<H1><FONT COLOR="Yellow">Heading goes here </FONT></H1>
```

## 30. Write the HTML to create the following ordered list.

X. Xylophone

Y. Yak

Z. Zebra

```
<OL TYPE="A" START="24">
```

```
<LI> Xylophone
```

```
<LI>YAK
```

```
<LI>Zebra
```

```
</OL>
```

The following alternative will also do the same things.

```
<OL TYPE="A"<LI VALUE="24">Xylophone<LI>Yak<LI>Zebra</OL>
```

## 31. How would you insert a single word and put a square bullet in front of it?

```
<UL TYPE="Square"><LI>Web Technology</UL>
```

**32. How would you insert an image file named elephant.jpg at the very top of a Web page?**

Copy the image file into the same directory folder as the HTML text file and type <IMG SRC> immediately after the <BODY> tag in the HTML text file

**33. How would you give a Web page a black background and make all text, including links, bright green?**

Put the following at the beginning of the Web page:

```
<BODY BGCOLOR="black">
```

The following would do the same thing

```
<BODY BGCOLOR="#000000"
```

```
TEXT="#00FF00" LINK="#00FF00" VLINK="#000000">
```

**34. How would you make an image file named texture.jpg appear as a background tile?**

```
<BODY BACKGROUND="texture.jpg"
```

```
TEXT="White" LINK="red" VLINK="blue" ALINK="black">
```

**35. How would you wrap text around the right side of an image, leaving 40 pixels of space between the image and the text?**

```
<IMG SRC="myimage.gif" HSPACE=40 VSPACE=40 ALIGN="left">Text goes here
```

**36. How could you insert exactly 80 pixels of blank space between two paragraphs of text?**

Create a small image that is all one color, and save it as nothing.gif with that color set to be transparent. Then put the following tag between the two paragraphs of text:

```
<IMG SRC="nothing.gif" WIDTH=1 HEIGHT=80>
```

**37. How would you write the HTML to draw a rule 20 pixels wide?**

```
<HR WIDTH=20>
```

**38. If you have a circular button that links to another page, how do you prevent a rectangle from appearing around it?**

Use the BORDER=0 attribute, like this:

```
<A HREF="another_page.htm"><IMG SRC="circle.gif" BORDER=0></A>
```

### **39. What is meant by Stateless Connection?**

When a web server receives a HTTP request from a web browser it evaluates the request and returns the requested document, if it exists, and then breaks the HTTP connection. This document is preceded by the response header, which has details about how to display the document that will be sent by the server. Each time a request is made to the server, it is as if there was no prior connection and each request can yield only a single document. This is known as Stateless Connection.

### **PART B**

1. List any four events associated with DHTML and explain each one with an example.
2. Design a web page that allows the user to choose from a series of images and to view the image in color and grayscale.
3. How to create user interactive web pages using form objects and form elements?
4. What are the necessities of using HTML forms? What is the use of HTML Forms? Create a HTML Form page for Railway Registration Form.
5. How to create user interactive web pages using Form elements and Form objects? Develop an Student registration form using HTML Form elements. (Assume your own fields).



## UNIT - II

### PART - A

#### 1. Mention the advantages of java script

- a. Use sending data continuously File storage Massively parallel computing
- b. Smart forms – includes various controls like text box, radio button, text
- c. area control etc.
- d. Peer-to-Peer Interaction – used in various client/server model.
- e. Games – Combine the ability to easily include networking in your programs with java's powerful graphics and you have the recipe for truly awesome multiplayer games.
- Chat – Used in various chat applications.
- f. Whiteboards – Java programs are not limited to sending ext and data
- g. across the network.
- h. A number of programmers have developed whiteboard software that allows users in diverse locations to draw on their computers

#### 2. What are Style Sheets?

Style sheets are collections of style information that are applied to plain text. Style information includes font attributes such as type size, special effects (bold,italic,underline), color and alignment. Style sheets also provide broader formatting instructions by specifying values for quantities such as line spacing and left and right margins.

#### 3. List down the ways of including style information in a document.

- a. 1.Linked Styles -Style information is read from a separate file that is specified in the <LINK> tag
- b. 2.Embedded Styles -Style information is defined in the document head using the <STYLE> and </STYLE> tags.
- c. 3.Inline Styles -Style information is placed inside an HTML tag and applies to all content between that tag and it companion closing tag.

#### 4. Define cascading.

Cascading refers to a certain set of rules that browsers use, in cascading order, to determine how to use the style information. Such a set of rules is useful in the event of conflicting style information because the rules would give the browser a way to determine which style is given precedence.

#### 5. Define scriptlet.

Scriptlets enable you to create small, reusable web applications that can be used in any web page. Scriptlets are created using HTML, scripting and Dynamic HTML. To include them in an HTML document use the <OBJECT> tag.

## **6. What does DHTML refer?**

DHTML refers to collection of technologies, which makes HTML documents more dynamic and interactive.

## **7. What does data binding mean?**

Data binding is DHTML feature that lets you easily bind individual elements in your document to data from another source such as database or comma delimited text file.

## **8. What is meant by Plug-in?**

A hardware or software module that adds a specific feature or service to a larger system. The idea is that the new component simply plugs in to the existing system. For example, there are number of plug-ins for the Netscape Navigator browser that enable it to display different types of audio or video messages. Navigator plug-ins are based on MIME filetypes.

## **9. List the advantages of java script**

JavaScript is an object-oriented language that allows creation of interactive Web pages

JavaScript allows user entries, which are loaded into an HTML form to be processed as required

## **10. List the various dialog boxes in java script**

Dialog boxes are used to display small windows. This is also used to get input from user.

## **11. Mention the various java script object models .**

- Math Object
- String Object
- Date Object
- Boolean and Number Object
- Document Object
- Window Object

## **12. How scripting language is differs from html.**

- HTML is used for simple web page design
- HTML with FORM is used for both form design and Reading input values from user.
- Scripting Language is used for Validating the given input values whether it is correct or not, if the input value is incorrect, the user can pass an error message to the user.
- Using form concept various controls like Text box, Radio Button, Command Button, Text Area control and List box can be created.

### **13. Define function in java script .**

Function is a part of a program or in other words function is a module in java program which can be called or invoked any number of times from the main program.

Function can be called any number of times but it can accept any input values or parameters, however it can return only one output at a time.

### **14. Define cascading style sheets (css )**

- CSS are powerful mechanism for adding styles (e.g. Fonts, Colors, Spacing) to web documents.
  - They enforce standards and uniformity throughout a web site and provide numerous attributes to create dynamic effects.
  - The advantage of a style sheet includes the ability to make global changes to all documents from a single location. Style sheets are said to cascade when they combine to specify the appearance of a page.
- The style assignment process is accomplished with the <STYLE>...</STYLE> tags.

### **15. Mention the types of style sheets**

- 1 Embedded or Internal Style sheet
- 2 External or Linked Style sheet
- 3 Inline style sheet

### **16. How to introduce style in html program?**

```
<HTML>
<HEAD>
<STYLE Type = "text/css">
predefined tag name {attribute name1:attribute value1; attribute
name2:attribute
value2; .....attribute name-n:attribute value-n}
<STYLE>
</HEAD>
<BODY>
write the body of program
</BODY> </HTML>
```

### **17. List down font characteristics permitted in style sheets.**

- 1.font-family
- 2.font-size
- 3.font-weight
- 4.font-style

### **18. Write a java script program to print first 100 numbers .**

### **19. Write a java script program to print Armstrong numbers between 1 to 500.**

### **20. Define DOM.**

## PART B

1. Explain the document object model architecture
2. Explain the various event handlers in java script. Give an example.
3. Write a java script program to develop the arithmetic calculator
4. What are the various java script objects? Explain each with an example.
5. Explain about types of cascading style sheet? Explain with example
6. Discuss briefly Dynamic HTML – Event Model
7. Explain Event bubbling with an example program
8. Write a JavaScript to display a welcome button of an html form is pressed
9. Write a JavaScript program to demonstrate the JavaScript events.
10. Design a webpage with a textbox where the user can enter a four digit number and a button “validate” . Validate the entered number for the following using java script. No zero as the first digit Entered number must be in ascending order of digits (Ex:1234,5678...)
11. Write the complete JavaScript to prompt the user for the radius of the sphere and call function sphere Volume to calculate and display the volume of the sphere. Use the statement.  $\text{Volume} = (4.0/3.0) * \text{Math.PI} * \text{Math.pow}(\text{radius}, 3)$
12. To calculate the volume, the user should input the radius through an HTML text field and press an HTML button to initiate the calculations.
13. What are the objectives of using Cascading style sheet? Briefly explain about linking of external Style sheets and fixing the backgrounds.
14. Explain the concept of CSS and its properties and its uses with an example.
15. Using a JavaScript create a web page using two image files , which switch between one another as the mouse pointer moves over the images.
16. Explain about cascading style sheets in detail.
  - i. Style sheet rules
  - ii. Styling a page
  - iii. Linking style sheets
  - iv. Inline style sheets.
17. Write a XHTML program to create a web page for your college information using any one CSS type (Assume your own data) .Explain the various CSS properties in detail. Write a suitable code each property.
18. Develop a JavaScript program to display a message “HI ! GOOD MORNING TO YOU” when a page is loaded and display a message “THANKS TO VISIT OUR WEB PAGE” when a page is unloaded.
19. Design a web page with a text box (username) where the user can enter a name and another text box (ID) where the user enter an only four digit ID.NO and a button “validate”. Validate the entered username and ID field for the following using java script.
  - i. Both the fields should not be empty
  - ii. Name field should have alphabets
  - iii. ID field should have numeric.
20. Write a Java Script to print the smallest number in an array of ‘N’ numbers.

## **UNIT - III**

### **PART – A**

#### **1. List any two keyboard events?**

- ✓ onKeyPress
- ✓ onKeyUp
- ✓ onKeyDown

#### **2. List any two mouse events?**

- ✓ onMouseUp
- ✓ onMouseDown
- ✓ onMouseOver
- ✓ onClick

#### **3. What are Servlets?**

A small program that runs on a server, the term usually refers to a Java applet that runs within a Web server environment. This is analogous to a Java applet that runs within a Web browser environment.

Java servlets are becoming increasingly popular as an alternative to CGI programs. The biggest difference between the two is that a Java applet is persistent. This means that once it is started, it stays in memory and can fulfill multiple requests. In contrast, a CGI program disappears once it has fulfilled a request. The persistence of Java applets makes them faster because there's no wasted time in setting up and tearing down the process.

#### **4. What are Applets?**

A program designed to be executed from within another application. Unlike an application, applets cannot be executed directly from the operating system. With the growing popularity of OLE (object linking and embedding), applets are becoming more prevalent. A well-designed applet can be invoked from many different applications. Web browsers, who are often equipped with Java virtual machines, can interpret applets from Web servers. Because applets are small in file size, cross-platform compatible, and highly secure (can't be used to access users' hard drives), they are ideal for small Internet applications accessible from a browser.

#### **5. What do you mean by Server-side?**

Occurring on the server side of a client-server system. For example, on the World Wide Web, CGI scripts are server-side applications because they run on the Web server. In contrast, JavaScript scripts are client-side because they are executed by your browser (the client). Java applets can be either server-side or client-side depending on which computer (the server or the client) executes them.

## **6. Explain the life cycle methods of a Servlet.**

The `javax.servlet.Servlet` interface defines the three methods known as life-cycle method.

`public void init(ServletConfig config)` throws `ServletException`

`public void service( ServletRequest req, ServletResponse res)` throws `ServletException`, `IOException`

`public void destroy()`

First the servlet is constructed, then initialized with the `init()` method.

Any request from client are handled initially by the `service()` method before delegating to the `doXxx()` methods in the case of `HttpServlet`.

The servlet is removed from service, destroyed with the `destroy()` method, then garbage collected and finalized.

## **7. What is the difference between the `getRequestDispatcher(String path)` method of `javax.servlet.ServletRequest` interface and `javax.servlet.ServletContext` interface?**

The `getRequestDispatcher(String path)` method of `javax.servlet.ServletRequest` interface accepts parameter the path to the resource to be included or forwarded to, which can be relative to the request of the calling servlet. If the path begins with a `"^"` it is interpreted as relative to the current context root.

The `getRequestDispatcher(String path)` method of `javax.servlet.ServletContext` interface cannot accept relative paths. All paths must start with a `"^"` and are interpreted as relative to current context root.

## **8. Explain the directory structure of a web application.**

The directory structure of a web application consists of two parts.

A private directory called `WEB-INF`

A public resource directory which contains public resource folder.

`WEB-INF` folder consists of

1. `web.xml`
2. `classes` directory
3. `lib` directory

## **9. What are the common mechanisms used for session tracking?**

- ✓ Cookies
- ✓ SSL sessions
- ✓ URL- rewriting

## **10. Explain about Session tracking.**

A session is basically a conversation between a browser and a server. All the above technologies can save information for the current session for a particular user visiting a site. The session is important, as HTTP is a stateless protocol. This means that the connection between web server and a web browser is not automatically maintained, and that the state of a web session is not saved. State is a general term that includes "everything about your situation" and the specifics vary based on the application. In a word processor, the state of the application would include which windows are open, where they are on the screen, and what files you most recently used. In a web application, the state would include any data that you had entered, the results of any queries that you had run, and your security access information (e.g. whether you have logged in to the site).

## **11. Explain ServletContext**

ServletContext interface is a window for a servlet to view its environment. A servlet can use this interface to get information such as initialization parameters for the web application or servlet container's version. Every web application has one and only one ServletContext and is accessible to all active resource of that application

## **12. What is preinitialization of a servlet?**

A container does not initialize the servlets as soon as it starts up, it initializes a servlet when it receives a request for that servlet first time. This is called lazy loading. The servlet specification defines the <load-on-startup> element, which can be specified in the deployment descriptor to make the servlet container load and initialize the servlet as soon as it starts up. The process of loading a servlet before any request comes in is called preloading or preinitializing a servlet.

## **13. What is the difference between Difference between doGet() and doPost()?**

A doGet() method is limited with 2k of data to be sent, and doPost() method doesn't have this limitation. A request string for doGet() looks like the following:

`http://www.allaplabs.com/svt1?p1=v1&p2=v2&...&pN=vN`

doPost() method call doesn't need a long text tail after a servlet name in a request. All parameters are stored in a request itself, not in a request string, and it's impossible to guess the data transmitted to a servlet only looking at a request string.

#### **14. What is the difference between HttpServlet and GenericServlet?**

A GenericServlet has a service() method aimed to handle requests. HttpServlet extends GenericServlet and adds support for doGet(), doPost(), doHead() methods (HTTP 1.0) plus doPut(), doOptions(), doDelete(), doTrace() methods (HTTP 1.1).

Both these classes are abstract.

#### **15. What is the difference between ServletContext and ServletConfig?**

ServletContext: Defines a set of methods that a servlet uses to communicate with its servlet container, for example, to get the MIME type of a file, dispatch requests, or write to a log file. The ServletContext object is contained within the ServletConfig object, which the Web server provides the servlet when the servlet is initialized .

ServletConfig: The object created after a servlet is instantiated and its default constructor is read. It is created to pass

### **PART B**

1. Explain the concept of Servlets with an example program
2. Explain about applet to servlet communication with example program?
3. Explain about applet-to-applet communication with example program?
4. What is HTTP Tunneling? Explain with an example
5. List down the methods of GenericServlet .Explain ach of them with an example
6. List down the methods of HttpServlet .Explain ach of them with an example
7. Explain about JSP expressions
8. Write down the differences between <jsp: include> and <@include...> with example
9. What are Directives? Explain about JSP diecives.
10. Explain the architechture of a Servlet?
11. Explain life cycle of a Servlet?
12. Explain about session tracking.
13. Two ways of maintaining the sessions:
  - i. Cookies
  - ii. Rewriting URLs
14. What is DOM? Explain its usage with HTML with an example.
15. Write a servlet program to implement session tracking using HTTP session object.
16. Compare JSP with servlets.
17. Explain the servlet life cycle model and explain javax.servlet package
18. Write a HTTP servlet program to authenticate a user and retrieve all information from a  
HTML registration Form and store in a given data base.
19. What is DOM? Draw the detailed DOM objects structure. Explain with its usage.



## **UNIT - IV**

### **PART - A**

#### **1. WHAT IS THE USE OF XML NAMESPACE?**

- ✓ XML allows document authors to create custom elements.
- ✓ This extensibility can result in naming collisions (i.e. different elements that have the same name) among elements in an XML document.
- ✓ An XML namespace is a collection of element and attribute names. Each namespace has a unique name that provides a means for document authors to unambiguously refer to elements with the same name (i.e. prevent collisions).

#### **2. WHAT ARE THE USES OF XML?**

- ✓ CML – Chemical Markup Language – for chemical equations
- ✓ MML - Mathematical Markup Language – for Mathematical equations and derivations.
- ✓ Used in bio medical line.

#### **3. WHAT IS THE USE OF XML?**

- ✓ Extensible Markup Language, derived from SGML (Standard Generalized Markup Language).
- ✓ XML is widely supported open technology (i.e. non-proprietary) for electronic data exchange and storage.
- ✓ XML is actually a language used to create other markup languages to describe data in a structured manner.
- ✓ XML documents contain only data, not formatting instructions, so applications that process XML documents must decide how to manipulate or display the document's data.

#### **4. WHAT DO YOU MEAN BY DTD IN XML?**

- ✓ DTD means Document Type Definition.
- ✓ DTD file is similar to CSS file, because DTD also contains only styles.
- ✓ DTD contains various styles which are to be applied in XML document .
- ✓ Like .CSS file .DTD file also should be linked with XML program.

Styles in XML program should be save with .xsl (Xml Style Sheet Language) extension.

#### **5. Define XML.**

XML is a meta-markup language that provides a format for describing structured data. This facilitates more structured declarations of content and more meaningful search results across multiple platforms.

## **6. Define DTD.**

A DTD is a set of rules that specifies how to use XML markup. It contains specifications for each element, including what the element's attributes are, what values the attributes can take on and what elements can be contained in others.

## **7. What are the XML rules for distinguishing between the content of a document and the XML markup element?**

- ✓ The start of XML markup elements is identified by either the less than symbol (<) or
- ✓ the ampersand (&) character
- ✓ Three other characters, the greater than symbol (>), the apostrophe or single quote (')
- ✓ and the double quotation marks (") are used by XML for markup.
- ✓ To use these special characters as content within your document, you must use the corresponding general XML entity.

## **8. What are the different XSLT elements?**

- ✓ Stylesheet
- ✓ Value-of
- ✓ For-each
- ✓ Sort
- ✓ Text

## **9. What is VoiceXML?**

VoiceXML is an emerging standard for speech-enabled applications. Its XML syntax defines elements to control a sequence of interaction dialogs between a user and an implementation platform. VoiceXML uses XML text to drive voice dialogs.

## **10. What is XQuery?**

XQuery is a W3C initiative to define a standard set of constructs for querying and searching XML documents. XQuery brings database query processing to XML.

## **11. What is XForm?**

XForm is an XML approach that overcomes the limitations of HTML forms. XForm includes a variety of buttons, scrollbars and menus. It generates XML form data as output. XForm's model has the capability to work with the variety of user interfaces.

## **12. What is XPath?**

Xpath is used to navigate XML tree structures. XPath gets its name from its use of a path notation to navigate through the hierarchical tree structure of an XML document. It is an important XML technology due to its role in providing a common syntax and semantics for functionality in both XSLT and XPointer.

## **13. what are complex types?**

complex types are an important aspects of xml schema that allow application developers to define application-specific datatypes that can be checked by programs that check XML document for validity. XML schema divides complex types into two categories: those with simple content & those with complex content.

## **14. What all are the presentation technologies?**

- ✓ CSS - cascading style sheets
- ✓ XSL - provides users with ability to describe how xml data & document are to be formatted.
- ✓ Xforms - it is a GUI toolkit for creating user interfaces & delivering the results in XML.
- ✓ Xhtml - it is used to replace HTML with more flexible approach to display webcontent.
- ✓ VoiceXML - it is an emerging standard for speech enabled application.

## **15. what are all the Transformation techniques?**

XSLT - it is an XML-based language used to transform XML documents into other formats such as HTML for web display.

XLINK - highlighting that element or taking the user directly to that point in the document. XPATH - xpath gets its name from its use of a path notation to navigate through the hierarchical tree structure of an XML document

XQUERY - it is a W3C initiative to define a standard set of constructs for querying & searching XML document.

## **16. Explain any two XForm implementations?**

X-Forms - it is a Java-based XML browser. It implements a large part of X-Forms & uses X-Form together with XSL-FO on the user interface side. Mozilla XForms preview - is an XML-based Web development software that implements XForms & gives current Web browser the ability to send, receive & process XML document.

## **17. what are the Important of SAX?**

- ✓ SAX is an event-driven.
- ✓ SAX supports processing pipelines.
- ✓ SAX requires programmers to maintain state.

## **18. What is metadata?**

Literally data about data. XML element and attribute names are considered metadata in that they may be used to describe the data contained in a document. Metadata isn't needed but it certainly helps.

## **19. What is DTD? How is it different from XML?**

- ✓ DTD stands for Document Type Definition
- ✓ DTD is a description of the structure & the elements and attributes that define a class of XML document.
- ✓ DTD can be declared both internally in a XML document and as an external reference.
- ✓ DTD Xml Schema
- ✓ Dtd is used to define the structure of an xml document.
- ✓ Xml schema is used to define the structure of an xml document.
- ✓ Data type for elements limited to text. 2. Numerous predefined data types available.
- ✓ Complex data types cannot be defined. 3. Ability to define complex type that map to application data structure.
- ✓ Dtd document is stored as "filename.dtd" 4.Xml schema document is stored as "filename.xml"

## **20. What is XML? How it is different from HTML?**

Xml is the text based make up language that stores the data in a structured format using meaningful tags. It allows computers to store and exchange data in a format that can be interpreted by any other computer with different hardware or software specification.

XML HTML

- ✓ xml stands for Extensible markup language
- ✓ HTML stands for Hyper Text Mark Up
- ✓ Language.2.Several languages are derived from xml & wml
- ✓ HTML can be derived from xml.
- ✓ Xml uses indefinite, user defined,
- ✓ meaningful set of tags which can be used to include XML data in the webpage.
- ✓ HTML uses a fixed set of tags which can be used to specify the appearance of the webpage.

## **21. Define Directives.**

Directives are JSP elements that provide global information about an entire JSP page.

## **22. Write down the various attributes for the page directives in JSP.**

- ✓ The page directive defines information that will be globally available for that Java Server Page,
- ✓ language
- ✓ extends
- ✓ import
- ✓ session
- ✓ buffer
- ✓ contenttype

## **23. What is a Hidden Comment?**

A comments that documents the JSP page but is not sent to the client. The JSP engine ignores a hidden comment, and does not process any code within hidden comment tags. A hidden comment is not sent to the client, either in the displayed JSP page or the HTML page source. The hidden comment is useful when you want to hide or \"comment out\" part of your JSP page.

## **24. What is a Expression?**

An expression tag contains a scripting language expression that is evaluated, converted to a String, and inserted where the expression appears in the JSP file. Because the value of an expression is converted to a String, you can use an expression within text in a JSP file. Like

```
<%= someexpression %>
```

```
<%= (new java.util.Date()).toLocaleString() %>
```

You cannot use a semicolon to end an expression

## **25. What is a Declaration?**

A declaration declares one or more variables or methods for use later in the JSP source file.

A declaration must contain at least one complete declarative statement. You can declare any number of variables or methods within one declaration tag, as long as they are separated by semicolons. The declaration must be valid in the scripting language used in the JSP file.

```
<%! somedeclarations %>
```

```
<%! int i = 0; %>
```

```
<%! int a, b, c; %>
```

## **26. What is a Scriptlet?**

A scriptlet can contain any number of language statements, variable or method declarations, or expressions that are valid in the page scripting language. Within scriptlet tags, you can

1. Declare variables or methods to use later in the file (see also Declaration).
2. Write expressions valid in the page scripting language (see also Expression).

3. Use any of the JSP implicit objects or any object declared with a `<jsp:useBean>` tag.

You must write plain text, HTML-encoded text, or other JSP tags outside the scriptlet.

Scriptlets are executed at request time, when the JSP engine processes the client request. If the scriptlet produces output, the output is stored in the out object, from which you can display it.

## **27. What are implicit objects? List them?**

Certain objects that are available for the use in JSP documents without being declared first. These objects are parsed by the JSP engine and inserted into the generated servlet. The implicit objects are listed below

- ✓ request
- ✓ response
- ✓ pageContext
- ✓ session
- ✓ application
- ✓ out
- ✓ config
- ✓ page
- ✓ exception

## **28. Difference between forward and sendRedirect?**

When you invoke a forward request, the request is sent to another resource on the server, without the client being informed that a different resource is going to process the request. This process occurs completely within the web container. When a `sendRedirect` method is invoked, it causes the web container to return to the browser indicating that a new URL should be requested. Because the browser issues a completely new request any object that are stored as request attributes before the redirect occurs will be lost. This extra round trip a redirect is slower than forward.

## **29. What are the different scope values for the `<jsp:useBean>`?**

The different scope values for `<jsp:useBean>` are

- ✓ page
- ✓ request
- ✓ session
- ✓ application.

### **30. Explain the life-cycle methods in JSP?**

The `jspInit()`- The container calls the `jspInit()` to initialize the servlet instance. It is called before any other method, and is called only once for a servlet instance.

The `_jspService()`- The container calls the `_jspService()` for each request, passing it the request and the response objects.

The `jspDestroy()`- The container calls this when it decides to take the instance out of service. It is the last method called on the servlet instance.

### **31. Define ASP.**

Active Server Pages (ASP) is a server-side scripting technology that can be used to create dynamic and interactive web applications.

### **32. What are the ASP objects?**

1. Application -It manages your web application.
2. Session -It manages and tracks individual user sessions.
3. Server -It controls behavior of your web server
4. Response -It transmits information from the web server to web browser
5. Request -It retrieves information from the browser for processing at the server.

### **33. What is global.asa file?**

The `global.asa` file is an Active Server Application file you can track and manage the application and session events, variables and objects. When you start the application the server will load the `global.asa` file into memory.

### **34. Define response object and list its methods.**

The response object transmits information from the web server to browser.

Methods are:

1. Write
2. BinaryWrite
3. Redirect
4. AppendToLog
5. AddHeader
6. Clear
7. Flush

### **35. Define JSP.**

Java Server Pages (JSP) are simple technology used to generate dynamic HTML on the server side.

### **36. Define Directives.**

Directives are JSP elements that provide global information about an entire JSP page,

### **37. Write down the various attributes for the page directives in JSP.**

The page directive defines information that will be globally available for that JSP,

1. language
2. extends
3. import
4. session
5. buffer
6. contenttype

### **38. Define XML.**

XML stands for EXtensible Markup Language  
XML is a markup language much like HTML  
XML was designed to carry data, not to display data  
XML tags are not predefined. You must define your own tags  
XML is designed to be self-descriptive  
XML is a W3C Recommendation

### **39. Define DTD.**

A Document Type Definition (DTD) defines the legal building blocks of an XML document. It defines the document structure with a list of legal elements and attributes.

A DTD can be declared inline inside an XML document, or as an external reference.

### **Part –B**

1. Explain XML & DTD.
2. Explain briefly XML Schema and Transformation?
3. Explain Simple API for XML (SAX):
4. Short notes on XML Namespaces?
5. Explain briefly DTD?
6. Explain about JSP with example program.
7. JSP Directives.
8. Write an ASP/JSP code to access a table and records from a student database to obtain the result of a student.
9. List out objects associated with JSP/ASP and highlight the features of each object. Explain the various JSP elements.
10. Create a XML document to store voter ID, voter name, address and date of birth details. Create a DTD to validate the document.



## **UNIT - V**

### **PART - A**

#### **1.What is SOAP? (Simple Object Access Protocol)**

- ✓ SOAP is an XML based protocol that allows applications to easily over the internet using XML documents called SOAP message.
- ✓ A SOAP message contains an envelope, which is a structure that describes a method call.
- ✓ A SOAP message's body contains either a request or a response.
- ✓ A request message's body contains a Remote Procedure Call (RPC), which is a request for another machine to perform task.
- ✓ The RPC specifies the method to be invoked and any parameters the method takes.
- ✓ The application sends the SOAP message via an HTTP POST. A SOAP response message is an HTTP response document that contains the results from the methods call (e.g. return values, error messages.)

#### **2. What is the use of web services?**

- ✓ Web services encompass a set of related standards that can enable two computer
- ✓ The data is passed back and forth using standard protocols such as HTTP, the same protocol used to transfer ordinary web pages.
- ✓ Web services operate using open, text-based standards that enable components written in different languages and on different platforms to communicate.
- ✓ They are ready to use pieces of software on the Internet. XML, SOAP, Web Services Description Language (WSDL) and Universal Description, Discovery and Integration (UDDI) are the standards on which web services rely.
- ✓ UDDI is another XML based format that enables developers and business to publish and locate Web services on a network.

#### **3. What do you mean by JDBC?**

JDBC Part of the Java Development Kit which defines an application-programming interface for Java for standard SQL access to databases from Java programs.

#### **4. Define ODBC.**

It is a standard for accessing different database systems. There are interfaces for Visual Basic, Visual C++, SQL and the ODBC driver pack contains drivers for the Access, Paradox, dBase, Text, Excel and Retrieve databases.

## **5. What are the advantages of web services?**

- ✓ Reusable application-components.
- ✓ Web services can offer application-components like: currency conversion, weather reports, or even language translation as services.
- ✓ Connect existing software.
- ✓ Web services can help to solve the interoperability problem by giving different applications a way to link their data.
- ✓ With Web services you can exchange data between different applications and different platforms.

## **6. List out some web service technologies?**

- a. XML,
- b. SOAP,
- c. WSDL

## **7. What is XML ?**

Extensible markup language. It offer a standard, flexible and inherently extensible data format, XML significantly reduces the burden of deploying the many technologies needed to ensure the success of Web services.

## **8. What is SOAP?**

SOAP stands for Simple Object Access Protocol

- SOAP is a communication protocol
- SOAP is for communication between applications
- SOAP is a format for sending messages
- SOAP communicates via Internet
- SOAP is platform independent
- SOAP is language independent
- SOAP is based on XML
- SOAP is simple and extensible
- SOAP allows you to get around firewalls

## **9. What is WSDL?**

Web Services Description Language.

WSDL is a language for describing Web services. WSDL describes Web services starting with the messages that are exchanged between the requester and provider agents. The messages themselves are described abstractly and then bound to a concrete network protocol and message format.

## **10. What are Web Services?**

- ✓ Web services are application components
- ✓ Web services communicate using open protocols
- ✓ Web services are self-contained and self-describing
- ✓ Web services can be discovered using UDDI
- ✓ Web services can be used by other applications
- ✓ XML is the basis for Web services

## **11.How Does web services Work?**

The basic Web services platform is XML + HTTP.

XML provides a language which can be used between different platforms and programming languages and still express complex messages and functions.

The HTTP protocol is the most used Internet protocol.

## **12. What are the various web services platform elements?**

- ✓ SOAP (Simple Object Access Protocol)
- ✓ UDDI (Universal Description, Discovery and Integration)
- ✓ WSDL (Web Services Description Language)

## **13. What are the types of web services and its uses?**

- ✓ Reusable application-components.
- ✓ There are things applications needs very often. So why make these over and over again?
- ✓ Web services can offer application-components like: currency conversion, weather reports, or even language translation as services.
- ✓ Connect existing software.
- ✓ Web services can help to solve the interoperability problem by giving different applications a way to link their data.
- ✓ With Web services you can exchange data between different applications and different platforms.

## **14. Write short notes on web services technologies?**

Web service architecture involves many layered and interrelated technologies.

There are many ways to visualize these technologies, just as there are many ways to build and use Web services.

## **15. Write short notes on SOAP.**

SOAP 1.2 provides a standard, extensible, compos able framework for packaging and exchanging XML messages. In the context of this architecture, SOAP 1.2 also provides a convenient mechanism for referencing capabilities (typically by use of headers).

[SOAP 1.2 Part 1] defines an XML-based messaging framework: a processing model and an extensibility model. SOAP messages can be carried by a variety of network protocols; such as HTTP, SMTP, FTP, RMI/IIOP, or a proprietary messaging protocol.

## **16. Define WSDL.**

WSDL 2.0[WSDL 2.0 Part 1] is a language for describing Web services.

WSDL describes Web services.

rating with the messages that are exchanged between the requester and provider agents. The messages themselves are described abstractly and then bound to a concrete network protocol and message format.

## 17. Write short notes on UDDI

Universal Description, Discovery, and Integration (UDDI) The directory shown in the above figure could be a UDDI registry. The UDDI registry is intended to eventually serve as a means of "discovering" Web Services described using WSDL . The idea is that the UDDI registry can be searched in various ways to obtain contact information and the Web Services available for various organizations. How much "discovery" will be used in the early days of Web Services is open to discussion. Nevertheless, even without the discovery portion, the UDDI registry is a way to keep up-to-date on the Web Services your organization currently uses. More on Universal Description, Discovery, and Integration (new window). An alternative to UDDI is the XML Registry (new window).

## 18. Explain DTD For Xml Schemas

- ✓ XML documents are processed by applications
- ✓ Applications have assumptions about XML documents
- ✓ DTDs allow to formalize some of these constraints
- ✓ Part of the constraint checking must still be programmed

## 19. What are modeling DTDs?

- ✓ Data models can be mapped to many different DTDs♣
- ✓ What is a good DTD? What is a bad DTD?♣
- ✓ How does the DTD affect further processing♣

## 20. What are the SOAP related technologies?

SOAP is a simple XML-based protocol to let applications exchange♣ information over HTTP.

In our SOAP tutorial, you will learn what SOAP is, and how it uses XML to♣ exchange information between applications.

## PART B

1. Explain the concept of web services.
2. Explain xml schema with an example.
3. Explain SOAP concepts.
4. What are the various session tracking mechanisms. Explain with example .
5. Develop the web page for student management system using web services.
6. Develop the web page for library management system using web services.
7. Develop the web page for railway reservation system using web services.
8. Explain web services architecture.
9. Write a program for any two web services.
10. How to store the java objects as files
11. Explain databases and Servlet concepts.