

UNIT 1

1. List & describe any 5 html tags with example?

→

i) `<a>` Tag

The `<a>` tag defines a hyperlink, which is used to link from one page to another.
e.g. ` visit `

ii) `<body>` Tag

The `<body>` tag defines the document's body. The `<body>` element contains all the contents of an HTML document, such as headings, paragraphs, images, tables, lists, etc.

e.g. `<body>`

`<h1>This is a heading </h1>`

`<p>This is a paragraph </p>`

`</body>`

iii) `<div>` Tag

The `<div>` tag defines a division or a section in an HTML document.

The `<div>` tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript.

e.g.

`<div class="myDiv">`

`<h2> Heading in a div element </h2>`

`<p> Some text in a div element </p>`

`</div>`

iv) <header> tag

The <header> element represents a container for introductory content or a set of navigation links.

e.g. <header>

```
<h1>Main page heading here </h1>  
<p> Posted by J.D. </p>  
</header>
```

v) <p> tag

The <p> tag defines a paragraph.

e.g.

```
<p>This is same text in a paragraph </p>
```

2. Define the terms.

i) Website :- A website is a collection of web pages and related content i.e identified by a common domain name & published on at least one web server.
e.g. amazon.com, wikipedia.org

ii) Web Page :- A web page is a hypertext document provided by a websites & displayed to a user in a web browser. A website typically consists of many web pages linked together in coherent fashion.

iii) Web Server :- A web server is SW & h/w that uses HTTP. The main

job of webserver is to display websites content through storing, processing and delivering webpages to users. The web server process is an example of the client/server model. web server used in web hosting or web applications.

IV) URL :- URL stands for Universal Resource Locator, include the protocol, the domain name and additional path information.

V) Home Page - A home page is a webpage that serves as the starting point of websites. It is the default webpage that loads when you visit a web address that only contain a domain name.

3. What are XML-Schemas? How are they better than DTD's?

→ XML Schema is commonly known as XML Schema defⁿ (XSD). It is used to describe & validate the structure and the content of XML data. XML Schema defines the elements, attributes & data types. XML Schema is an XML based alternative to DTD.

XML Schemas are better than DTD's:

- Support for primitive data types, which facilities using XML in conjunction with other typed data, including relational data.
- Compatibility other XML technologies for example web services Xquery & LT & other technologies can optionally be Schema aware.
- DTD provides less control on XML structure whereas XSD provides more control.

4. Explain Difference betⁿ external & internal DTD's

→ Internal DTD

External DTD

1) A DTD is referred to as an internal DTD if elements are declared within XML files.

2) To refer it as internal DTD 2) Standalone attribute in XML declaration must be set as no.

3) You can write rules inside XML document using separate file (with .dtd extension)

4) The syntax of internal DTD is shown

<!DOCTYPE root-element [elements declarations]>

4) Following is Syntax for external DTD.

<!DOCTYPE root-element SYSTEM 'file-name'>

UNIT 2

1. Explain the difference betⁿ Javascript and JQuery?

→ Javascript

Meaning

1. Javascript is the most popular Scripting language on the internet & works in all major browsers.

JQuery

Meaning

1. JQuery is a fast and concise Java Script library that simplifies HTML document

2. composed of

Javascript is combination of ECMA Script & Document object model (DOM)

2. composed of

JQuery has document object model (DOM)

3. Animation creation

Animations aren't possible using Javascript.

3. Animation creation.

Animations can be easily created using JQuery

4. Javascript was designed

to add interactivity to HTML tags.

Javascript without purchasing a licence

4. JQuery implements a high level interface to do

Ajax req.

JQuery, Add plugin or directly call link.

2. List & describe any five function in javascript.

→ i) apply() - It is used to call a function contain this value and a single array or arguments.

- ii) `Window` - It is used to create new function
- iii) `call()` - It is used to call function contain this value & an argument list
- iv) `toString()` - It returns the result in a form of string.
- v) `eval()` - Evaluates a string & executes it as if it was script code

3. How to create the objects in javascript
Explain with suitable example.

- There are 3 ways to create objects
- 1) By object literal.
 - 2) By creating instance of object directly
 - 3) By using an object constructor.

i) Object by object literal -

Syntax -

`Object = {property value1 ... propertyN: valueN}`

As you can see property & value is separated by `:` (colon)

e.g. `<script>`

`emp = { id: 102, name: "Komal", salary: 40000 }`

```
document.write(emp.id + " " + emp.name +
    " " + emp.salary);
</script>
```

2) By creating instance of object

Syntax - var objectname = new object();

Here, new keyword is used to create object

e.g. <Script>

```
var emp = new object();
```

```
emp.id = 101;
```

```
emp.name = "XYZ";
```

```
emp.salary = "50000";
```

```
document.write(emp.id + " " + emp.name +  
" " + emp.salary);
```

</Script>

3) By using an object constructor

Here, you need to create function with arguments. Each argument value can be assigned in the current object by using keyword.

The this keyword refers to the current object

e.g. <Script>

```
function emp(id, name, salary) {
```

```
this.id = id;
```

```
this.name = name;
```

```
this.salary = salary;
```

}

```
e = new emp(103, "XYZ", 50000);
```

```
document.write(e.id + " " + e.name + " "  
e.salary);
```

</Script>

4. Explain the different datatypes available in javascript

→ There are two types of data types

1. Primitive data type
2. Non-primitive data type

1. primitive data types

- String
- number
- boolean
- undefined

2. Non-primitive data types:

- 1) Object
- 2) Array
- 3) RegExp

JavaScript is a dynamic type language, means you don't need to specify type on the variable because it is dynamically used by javascript engine. You need to use var here to specify the datatype. It can hold any type of values such as numbers, string etc.

e.g.

```
var a = var a = 40; // holding number  
var b = "xyz"; // holding number.
```

UNIT 3

1. List and discuss any three HTTP commands
→
 1. GET method
 2. HEAD method
 3. POST method.

1. GET method -

A GET retrieves data from a web server by specifying parameters in the URL portion of the request. GET request can be cached and remain in the browser history. GET request should never be used when dealing with sensitive data and it has length restrictions.

2. HEAD method -

Same as GET, but transmits the status line & header section only.

The head method asks for a response identical to that of a 'get' request, but without the response body.

3. POST method -

POST method is used when you want to send some data to the servers for example, file, update, form data etc. POST method never cached & do not remain in the browser history. POST method can't be bookmarked & have no restrictions on data length.

2. List and elaborate any 5 JSP without objects with example

→ 1) JSP out implicit object
for writing any data to the buffer.
JSP provides an implicit object named out.
It is the object of JSP writer.

e.g. <html>
 <body>
 <% out.print("Today is :" + java.util.Calendar.
 .getInstance().getTime()); %>
 </body>
 </html>

2) JSP config implicit object:-

In JSP, config is an implicit object type ServletConfig. This object can be used to get initialization parameters for a particular JSP page.

The config object is created by web container for each JSP page.

3) Session implicit object -

In JSP, session is an implicit object of type HttpSession.

- The Java developer can use this object to set, get or remove attribute or to get session information.

e.g. welcome.jsp → <html> <body> <%
 String name = request.getParameter("name");%>

```

out.print ("Welcome" + name);
session.setAttribute ("use", name);
<a href = "second.jsp" > second.jsp page </a>
</> </body> </html>
Second.jsp
<html> <body> </>
String name = (String) session.getAttribute ("use");
out.print ("Hello" + name);
</body> </html>

```

4) Application implicit object:-

In JSP, application is an implicit object of type `ServletContext`.

- The instance of `ServletContext` is created only once by the web container when app or project is deployed on the server.
- This object can be used to get initialization parameter from configuration file (i.e XML)
- This initialization parameter can be used by all JSP pages.

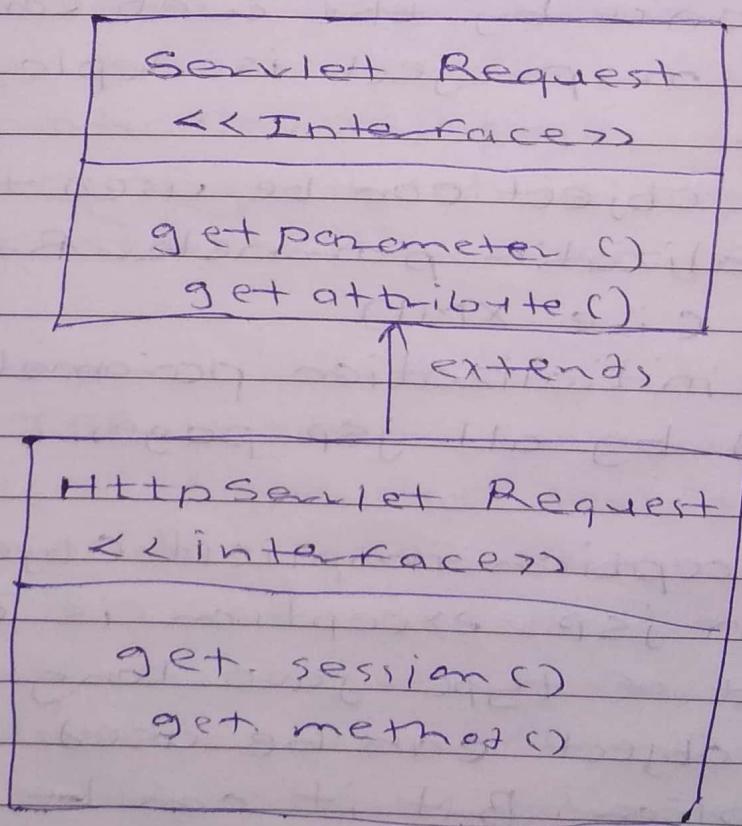
5) Exception implicit Object:-

In JSP, exception is an implicit object of type `java.lang.Throwable` class.

- This object can be used to print the exception. But it can be only be used in error pages.

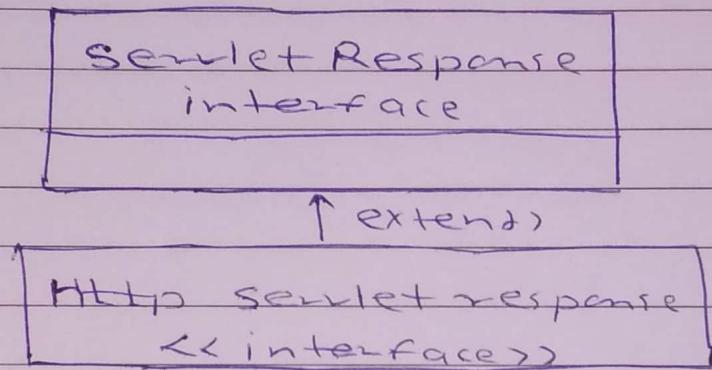
Q. 3) Explain HttpServlet request & HttpServlet response with suitable example

- Servlet API provides two important interfaces javax.servlet.ServletRequest & javax.servlet.http.HttpServletRequest to encapsulate client request.
- Implementation of these interfaces provide important information about client req to a servlet http servlet req interface adds the methods that relates to http protocol.
- The servlet container creates an HttpServletRequest object & passes it as an argument to the servlet's service methods (doGet, doPost) etc.



HttpServlet Request

Servlet API provides two different interfaces `Servlet Response` and `HttpServlet Response` to assist in sending response to client. `HttpServlet Response` interface adds the methods that relate to http response.



(Q 4) Write difference betⁿ include action & include directives.

Include Directive

1. In include directive the code of one JSP page is inserted into other JSP.
2. The destination must be JSP page only.
3. In JSP include directive we have both HTML & XML syntax for tag.
4. `<% include file = " " %>`

Include Action

1. In include action, the response of one page will be inserted into another page.
2. The destination can be JSP, servlet or HTML.
3. In include action, we have only XML syntax but there is one HTML syntax.
4. `</JSP include page = " " %>`