

**Q.1 a. What is the purpose of Marquee tag?****Answer:**

Text included within the <marquee> tag moves continuously from right to left. For e.g.

<Marquee> The globe is moving </Marquee>

It is used actually to highlight the message.

**b. Write advantages of DHTML over HTML.****Answer:**

1. Creates interactive web pages.
2. It removes the load of processing data from the server to the client.
3. It can be embedded in an HTML file.
4. It is a combination of HTML, scripting and OOP that creates beautiful web pages.
5. DHTML document displays on its own structure called as DOM model.

**c. Differentiate between JavaScript and Java.****Answer:**

1. JavaScript uses simple text while java applets should be compiled into class files for using it in web page.
2. Java applets have its own shape i.e. rectangle while JavaScript formats the web according to your choice.
3. Java applets can be used for creating complex programs that is not possible in JavaScript.

**d. Write a Javascript program using switch statement to change the background colors.****Answer:**

```
<HTML>
  <HEAD>
    <Title> Switch </Title>
    <Script language = "Javascript">
      var color = prompt(Enter the background color", "color");
    </Script>
  </head>
  <Body>
    <H1> Changing background colors using switch </H1>
    <Script language = "Javascript">
      Switch (color)
      {
        case "red":
          document.bgColor = "red";
          break;
        case "green":
          document.bgColor ="green";
          break;
        case "yellow":
```

```
        document.bgColor = "yellow";
        break;
    default:
        window.alert("This " + Color + " is not available");
}

</script>
</Body>
</Html>
```

**f. List atleast five basic operations that a socket can perform.**

**Answer:**

Sockets can perform five basic operations as follows:-

1. Connect to a remote machine.
2. Send data.
3. Receive data.
4. Close a connection.
5. Bind to a port.

**g. What are XSLT documents and JSONS?**

**Answer:**

XSLT is an XML based language designed to transform an XML document into another data form. XSLT documents are nothing more than specialized XML documents. Hence, they must conform to the same rules as all XML documents follow. The most popular use of XSLT is to transform XML documents into HTML documents. XSLT is a template based language and the processor works on an XML document by matching template rules.

JSON stands for JavaScript Object Notation. It is a very light weight data format based on a subset of the JavaScript syntax namely array and object literals. Thus, JSON definitions are included within javascript files and accessed without the extra parsing that comes with XML based languages.

**Q.2 a. Write a java program using Socket class to find out which of the first 1024 ports seem to be hosting TCP servers on a specified host.**

**Answer:**

```
import java.net.*;
import java.io.*;
public class LowPortScanner {
    public static void main(String [] args) {
        String host = "localhost";
        if(args.length > 0) {
            host= args[0];
        }
        for(int i=1; i<1024; i++) {
            try{
                Socket s = new Socket(host , i);
```

```

System.out.println("There is a server on port " + i + "of" + host);
}
Catch(UnknownHostException ex) {
    System.err.println(ex);
    Break;
}
Catch(IOException ex) {
    //must not be a server on this port
}
} //end for
} //end main
} //end portscanner

```

- b. Write a java program to read the list of hostnames from the command-line and then it prints the remote host, the remote port, the local address and the local port.**

**Answer:**

```

// program to get sockets information
import java.net.*;
import java.io.*;
public class SocketInfo {
public static void main(String [] args) {
    for(int i =0; i<args.length; i++) {
        try{
            Socket theSocket = new Socket( args [i], 80);
            System.out.println("connected to" + theSocket.getInetAddress ( ) + "on port" +
theSocket.getPort( ) + "from port" + the Socket.getLocalPort() + "of" +
theSocket.getLocalAddress());
        } // end try
        Catch(UnknownHostException ex) {
            System.err.println("I can't find" + args[i]);
        }
        Catch(SocketException ex) {
            System.err.println("Could not connect to" + args[i]);
        }
        Catch ( IOException ex) {
            System.err.println(ex);
        }
    } //end for
} //end main
} //end SocketInfo

```

- Q.3 a. "A Server Socket's job is to sit by the phone and wait for the incoming call". Explain this statement.**

**Answer:**

For servers that accept connections, Java provides a Server Socket class that represents server sockets. More technically, a server socket runs on server and listens for incoming TCP connections. Each server socket listens on a particular port on the server machine. When a client on a remote host attempts to connect to that port, the server wakes up, negotiates the connection between the client and the server and returns a regular socket address representing a socket between two hosts. In other words, server sockets wait for connections while client sockets initiate connections. Once a ServerSocket has set up the connection, the server uses a regular socket object to send data to the client. Data always travels over the regular socket.

**b. What is Session Tracking? Write the help of Servlet code explain how browser display the current date and time information using session state?**

**Answer:** Page Number 927-928, The Complete Reference, 7<sup>th</sup> Edition, Herbert Schildt

**Q.4 b. What is the role of XPATH in an Internet Explorer? How it works with a Name space Resolver?**

**Answer:**

Microsoft's implementation of XPath is a part of MSXML 3.0 and later. If you are using any version of window XP or have IE 6.0 or higher installed, then your browser has this capability. If not, you will need to download and install latest MSXML package. Before using XPath, it is important to set the Selection n Language n property. In MSXML the default Selection Language is XML Pattern, not XPath. This is done as follows:-

```
oXmlDom.setProperty("SelectionLanguage", "XPath");
```

Once Selection Language is set , it is safe to use XPath to select nodes.

#### **Working with namespace resolver**

A namespace resolver translates an element's namespace prefix in an XPath expression into the namespace URI associated with the prefix. The W3C consortium specification states that an XPathNResolver object can be used as a resolver but it also states that you can define a function to handle the translation. This particular function can have any name.

For eg. The following code function uses the values from IE :-

```
Function nsResolver(sPrefix) {  
    Switch(sPrefix) {  
        Case "na":  
            return http://site1.com;  
            Break;  
        Case "pub":  
            Return http://site2.com;  
            break;  
        Default:  
            return null;  
            break;  
    }  
}
```

**Q.5 a. Describe various Ajax communication techniques.****Answer:****1. The Hidden Frame Technique**

With the introduction of HTML frames, the hidden frame technique was born. The basic idea is to create a frameset that has a hidden frame that is used for client-server communication. A frame can be hidden by setting its width or height to 0 pixels, its sole purpose being to initiate communication with the server.

**2. XMLHttpRequests**

XMLHttpRequest was created to enable developers to initiate HTTP requests from anywhere in an application. These requests were intended to return XML so the XMLHttpRequest object provided an easy way to access this information in form of an XML document.

**Q.6 a. What is submission throttling? Explain.****Answer:**

**The process of buffering the data to be sent to the server on the client and then sends the data at predetermined times is known as submission throttling.** It begins either when the website or application first loads or because of user specific action. Then, a client-side function is called to begin the buffering of data. The user's status is checked to see if he or she is idle. If the user is still active data continues to be collected. When the user is idle it's time to decide whether to send data. This determination varies depending on your use case; you may want to send data only when it reaches a certain size or you may want to every time the user is idle. After the data is sent, the application typically continues to gather data until either a server response or some other user action signals to stop the data collection. The submission throttling pattern should never be used for mission critical data. If information must be posted to the server within a specific amount of time, then it is better to use traditional form to ensure the correct and timely delivery of data.

**b. Explain the following Ajax methods:-**

- (i) load() method**
- (ii) \$.ajax() method**
- (iii) ajaxStart() and AjaxStop() methods**

**Answer:****load() method**

This method can be called on any element or group of elements in jQuery and has 2 modes:- GET and POST. To use GET mode, provide a URL with an optional callback function. For a post, provide a URL, an associative array of values and an optional callback function.

**The \$.ajax() method**

This method accepts a single argument, which is an associative array of options. This method provides more fine-grained control over requests and responses.

**ajaxstart() and ajaxStop() methods**

This ajaxStart ( ) method fires when there are no Ajax requests pending and one has started. Likewise, the ajaxStop ( ) method is called when all ajax requests have completed. Both methods accept a function that should be called when an event occurs. For use </div> element one may write:-

```
$(“div#divstatus”) . ajaxStart(function ( ) {  
    $(this).html (“contacting the server.....”);  
}). ajaxStop(function ( ) {  
    $(this).html (“Response received.”);
```

This code calls both methods on divStatus. These two methods may be chained together.

- Q.7 a. Write short notes on:-**  
**(i) Cross-Browser XPath**  
**(ii) XParser**

**Answer:**

**(i) Cross-browser XPath**

The zXml library provides cross-browser XPath functionality through a common interface. The object responsible for providing XPath functionality is zXPath. It has two methods: selectSingleNode( ) and selectNodes ( ). The first method returns the first node that matches the pattern. The second method returns a node set much like the IE selectNodes ( ) method.

**(ii) XParser**

It is a javascript library that parses RSS and atom feeds into javascript objects making the feeds data easy to access in web applications. Its primary goal is to provide an interface for javascript developers to quickly access a feed's most important elements. The code is object-oriented, broken into abstract classes that the Atom and RSS specific classes inherit from.

**Text Books**

1. Java Network Programming, 2<sup>nd</sup> Edition by Merlin Hughes Visit Amazon's Merlin Hughes Pagesearch results Learn about Author Central (Author), Michael Shoffner (Author), Derek Hamner (Author)
2. Professional AJAX by Nicholas Zakas et alia, Wrox Press