II/IV B.Tech (Regular/supplementary) Degree Examinations

Sub:WebTechnologies(14CS IT406)

April,2017

1.Answer all Questions   **(1*12=12M)**

a) List and Explain any 2 HTML elements.

  Ans: P-Paragraph

       h1-Heading1 style.

  Ex: <p> paragraph text</p>   <h1> heading1 type text</h1>

b) How to link external style sheet in CSS.

    Ans: <link type="stylesheet" href="filename.css" />

c) Write a HTML code to create a web page containg background image.

    Ans: <body bgcolor="url(image.jpg)">-----</body> (or)

            <body style="background-image:url(image)">--</body>

d) How to define functions in java script?

    Ans: function function-name(arguments list)

   {

     ---

    return statement

   }

e) Define the terms DOM Tree &Dom node.

    Ans: The Document Object Model (**DOM**) is a cross-platform and language-independent application programming interface that treats an HTML, XHTML, or XML document as a **tree** structure wherein each **node** is an object representing a part of the document. All nodes can be accessed through the tree. Their contents can be modified or deleted, and new elements can be created.

f) What is the use of <map> tag?

    Ans: The <map> tag is used to define a client-side image-map. An image-map is an image with clickable areas.The required name attribute of the <map> element is associated with the <img>'s usemap attribute and creates a relationship between the image and the map.The <map> element contains a number of <area> elements, that defines the clickable areas in the image map.

g) Differentiate well-formed and valid XML documents.

Ans: Valid XML is XML that succeeds validation against a DTD. Well formed XML is XML that has all tags closed in the proper order and, if it has a declaration, it has it first thing in the file with the proper attributes. In other words, validity refers to semantics, well-formedness refers to syntax.

h) Mentions the 3 technologies included in XSL.

Ans: 1.XSLT   2.XSL-FO   3.X-Path   4.X-Query

i) What are the features of XML?

Ans: 1) XML separates data from HTML 2) XML simplifies data sharing 3) XML simplifies Platform change 4) XML increases data availability.

j) What is jQuery?

Ans: jQuery is a concise and fast JavaScript library that can be used to simplify event handling, HTML document traversing, Ajax interactions and animation for speedy website development.

k) What is the use of XML HttpRequest object?

Ans: The XMLHttpRequest object is used to exchange data with a server behind the scenes. This means that it is possible to update parts of a web page, without reloading the whole page.

l) What is the need of AJAX in developing web sites?

Ans: AJAX stands for Asynchronous JavaScript and XML. It is used for allowing the client side of an application to communicate with the server side of the application. Before AJAX, there was no way for the client side of a web application to communicate directly with the server. Instead, you would have to use entire page reloads. With AJAX, the client and server can communicate without reloading entire page.

<h1 style="text-align:center">UNIT-1</h1>

2.a) Discuss HTML form elements with example. (6M)

      [Element names- 3M   Program--3M]

Ans: Following are the types of HTML form elements :**Any Three form elements --→3M**

<INPUT type="text"> creates a control of text box type.

The following are the various types of INPUT element in form:

1.text	2.tel	3.url	4.email	5.password	6.datetime
7.number	8. Hidden	9.chechbox	10. Radio	11.submit	12.reset.
13.button.					

Select: select element allow user to select single from number of options.

Textarea: Textarea element as same as textbox but it allows multiple lines of text.

Label: It provides description of control.

Fieldset: It is used to group related controls in a single box.

Example: **Any relevant example -------3M**

```
<FORM>
        Enter your Name:        <INPUT type="text" />
        Enter your Password: <INPUT type="password" />
        <INPUT type="submit" value="Submit" />   
        <INPUT type="reset" value="Clear" />
</FORM>
```

b)Create a simple HTML page which demonstrate the use of various types of lists. Try adding a definition list which uses an unordered list. (6M) Types- 2M Example -4M

Ans**:** The following are the various types of lists in html:

   1. Unordered list items   2. Ordered list items   3.Definition lists   **--------> 2M**

Unordered list: <ul> tag is used to create unordered type of list items. In this <li> tag indicates list items.

```
Ex: <ul>
        <li>html</li>  <li>xml</li>   <li>ajax</li>
    </ul>
```

Type is a attribute to specify the symbol of an unordered list. Different types of symbols are none, disc, circle and square.

Ordered list: tag is used to create this type of list <li> indicates list items.

Ex:

      html xml ajax

Type is a attribute to specify the symbol of an ordered list. Different types of symbols are lower-alpha, Lower-latin, lower-greek, lower-roman, upper-alpha, upper-roman, upper-latin and decimal.

Definition List: A description(definition) list, with terms and descriptions.

      <dl>

     <dt>HTML</dt>

         <dd>Hyper text Markup Language</dd>

     <dt>XML</dt>

       <dd>Extensible Markup Language </dd>

      </dl>   **Any relevant example------4M**

3.a) Explain the following terms related to CSS with examples. (6M)

i) Font-size　　　　**ii)font-weight**　　　　**iii)text-decoration**

iv)text-transform　　**v)padding**　　　　**vi) border style**

Ans: **font-size**: property is used to change the size of text. The value of font-size property is often specified in pixels.

Ex: P{ font-size:10px;}　　　　　　　　　　　**--------------> 1 M**

Font-weight: it is used to specify the weight of font such as font boldness or thickness. The possible values for the font-weight are lighter,normal,bold,bolder and number from 100 to 900.

Ex: P{font-weight:bold ;}　　　　　　　　　　**----------------> 1 M**

Text-decoration: this property perform various actions on the text, such as underlining the text,overlining the text, striking out the text and making the text to blink.

Ex: p{text-decoration: underline;}　　　　　　　**----------------> 1 M**

Text-transform: transform the character of text. Following are the possible values

Capitalize: transform the first letter of the each word into upper case

Uppercase: transform to uppercase

Lowercase: transform to lowercase ---------------> **1 M**

Padding: padding in the box model specifies the distance between the border of an element and content with in it. The padding is affected by an background color of an element. Padding can be used with 4 sides such as top,left,right and bottom.

Ex: #container {padding-top:7px} ---------------> **1 M**

Boder-style: indicates the format of the border ,such as solid,dashedor double. It can be used with 4 sides such as top,left,right and bottom. Possible values are dotted dased,insetoutset,groove,solid and hidden. **syntax:** border-style: value.

ex: border-style-bottom: hidden. ---------------> **1 M**

b)Explain CSS border and background properties with example

   [border properties-3M]   [background properties-3M]

Ans: Border: The border specifies a space between the padding and content in a box. The border properties in css define the width,color,and style of border area of the box. This property can also set the style, width and color of the border property in one declaration.

Ex: border: 1px solid red ---------------> **1 M**

CSS3 introduce new properties that display borders of a box like shape such as border-radius, border image and box shadow.

Following are the border properties:

1. border-width 2. Border-color 3.border-style
4. border-radius 5.border-image 6.box-shadow. -----------------> **1 M**

                                        Any relevant Example ---------------> 1 M

Background: Background of a web page is the area on the content of the webpage, such as text,tables,border and image is displayed. For example ,while constructing a web page for an organization, the background can have logo that represents the organization. ------------> **1M**

CSS provides various **properties to set the background** of a web page as follows.

1. Background-color   2.bcakground-image 3.background-repeat 4.background-attachment

5. background-position 6.background-clip 7.background-size 8.background-quantity

9.background-spacing   10.background.   **Any three   -----------------> 1 M**

Any relevant example---------> 1M

UNIT-II

4.A) Briefly explain about the following popup boxes in java script with examples (6m)

i) alert box ii)confirm box iii)prompt box   --------> 2+2+2 M

Ans: A pop up box is a window that display a message along with an OK button. The popup box may also contain a Cancel button.Inaddition,it can prompt users to enter some text.

Alert box: The alert box generally used to display an alert message while executing the javascriptcode.In addition an alert box is used to display error message after validate a form. The alert box can contain a OK button, which the user has to click to continue with the execution of the code.

Ex: alert("hai");   **----------------> 2 M**

Confirm box: The confirm box is an advanced form of alert box. It is used to display message as well as return true or false value. The confirm display dialog box with 2 buttons ,OK and CANCEL. When you click on ok box return true, when you click on cancel it return false.

Ex: confirm("are you sure to submit form");   **----------------> 2 M**

Prompt box: The prompt box is used to input a value from a user. It contains a text box and ok and cancel buttins.user click on either ok or cancel button to continue the execution of the code after entering a input value. If the user clicks the ok button, the input value is return otherwise, the box returns null value.

Ex: prompt("enter a value");   **----------------> 2 M**

b) Briefly explain about array in JavaScript with an example program.(6M)

[Definition -1M   Syntax -2M   Program -3M]

Ans: Array: The array object is used to store multiple values in a single variable.Injavascript,an array can hold different types of data types in a single array slot,

which implies that an array can have a string, a number or an object in a single slot. You can create an empty array by using an array constructor. **Definition** ----------------> **1 M**

syntax: Var myarray =new array();

Array of any given size: var myarray=new array(size);

Array with given element: var   myarray =new array("element1","element2"--------"elementN");

An array can be created bu using the array literal notation. Array literal notation are comma separated list of items enclosed by square brackets.

Var myarray=[];

Var myarray=[6,"hello",false,true];   **Syntax** ---------------> **2 M**

Methods of array object:
concat(),join(),pop(),push(),reverse(),slice(),sort(),tostring(),valueof()

Properties: constructor,length,prototype.   **Any relevant example ------> 3M**

<div align="center">

(OR)

</div>

5.A) Explain the following events with example.   (6M)
i)onclick   ii) onload   iii) onmouseover   3*2=6M

Ans: Events refer to actions that are detected bya programming language when you perform a particular task. Events are generally used in combination with function, implying that when an event occurs, it calls a specified function.

Onclick: It is a form related event which triggers on clicking the mouse button.

Ex: <input type ="button " value="click here" onclick="f1()"/>   ----------------> **1 M**

Onload: Triggers at the time of loading a document.

Ex: <body onload="f1()">--------</body>   ----------------> **1 M**

Onmouseover: Triggers when the mouse pointer move over an element.

Ex: <p onmouseover="f1()">------</p>   ----------------> **1 M**

                                    Any relevant example --------> 3 M

b) What are the properties and methods of document object? Explain HTML DOM tree with an example.(6m)

Ans: The document object is an object that provides access to all html elements. When an html document is loaded in a browser, then it becomes a document object. The document object stores the elements of an html document such as html,head and body as objects.

The document object is a child object of a window object, which refer to a browser. You can access a document object either using a window.document property or using document object.   **Definition ------------> 1M**

Document object properties: cookie, domain, lastModified, documentMode, readyState, title and URL.   **Properties ------------> 1M**

Document object methods: 1. open(),   2. close(),   3. write(),
4. getElementById(), 5. getElementByTagName().   **Methods ------------> 1M**

DOM tree:
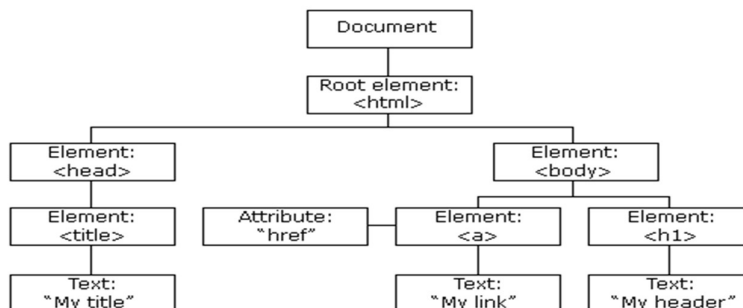
program : The diagram is DOM tree for this simple html program where body and head are child elements to html root element And a,h1 are child elements to body element.

```
<html>
    <head>  <title>My title></title>  </head>
    <body>  <a href="">My link </a> <h1> My header </h1> </body>
</html>
```
                                                        Tree + Program -----------> 3M

UNIT-III

6 A)Write a valid XML document with external DTD. (6M)

Ans: Email.xml

<?xml version="1.0"?>

<!DOCTYPE email SYSTEM "email.dtd">

<email><to>abc</to><from> xyz </from><heading> welcome </heading><body> welcome to our college</body></email>   **Any relevant program ---------->3M**

"email.dtd":

<?xml version="1.0"?>

<!ELEMENT email (to,from.heading,body)>

<!ELEMENT to(#PCDATA)>

<!ELEMENT from(#PCDATA)>

<!ELEMENT heading(#PCDATA)>

<!ELEMENT body(#PCDATA)>   **Any relevant program ---------->3M**

b)Discuss in detail about features of XML. (6M)

Ans:1. Structural language   2. Platform independent   3. Open standard

4. Language independent   5. Web enabled   6.Extensible.

Any four with explanation   ------> 6M

(OR)

7.a) Explain XML Parsing process using XML converters. (6M)

Ans: Sometimes we need to convert the content of an xml document into other formats such as html and pdf to make it more readable. we can use various technologies to convert xml into other format some technologies are DOM,SAX,XSLT,JAXP XSL-FO.

usage   -------> 1M

DOM is a technique to represent an xml document in a tree format containing the root and child nodes. The root node is the parent element;whereas,the element ,attributes and text are defined as the child nodes. we can add or delete any number of child nodes from the DOM tree of an xml document. Whereas root node will always remain the same. We can convert an xml document in DOM based tree like structure by using DOM parser, such as JDOM dom4j**.**

DOM packages: **javax.xml.parser,org.w3c.dom**   **DOM --------> 2M**

parsing xml file:
 File myfile=new File("D:\\XMLfile.xml");
DocumentBuilderFactory mydbf= DocumentBuilderFactory.newInstance();
DocumentBuilder mydb=mydbf.new DocumentBuilder();
Document mydoc=mydb.parse(myfile);   **Code -------> 3M**

b) What is an XSLT? How to convert XML data into XHTML using XSLT. (6M)

Ans: XSLT definition: XSLT is xml based language that transform the xml document into other formats such as html or pdf. It is considered as a declarative language because it declare what the program can perform. To transform xml document into html ,xslt uses parsers and style sheet.

XSLT pasers parse the xml document on the basis of the rules and instructions defined in the XSLT stylesheet**.**   **Definition ----> 1M**

Step 1: Create XSLT document

Create an XSLT document to meet the above requirements, name it as students.xsl and save it in the same location where students.xml lies

```
<?xml version = "1.0" encoding = "UTF-8"?>
<xsl:stylesheet version = "1.0"
xmlns:xsl = "http://www.w3.org/1999/XSL/Transform">
   <xsl:template match = "/">
     <html>
       <body>
         <h2>Students</h2>
         <table border = "1">
           <tr bgcolor = "#9acd32">
```

```
            <th>Roll No</th>
            <th>First Name</th>
            <th>Last Name</th>
            <th>Nick Name</th>
            <th>Marks</th>
         </tr>
       <xsl:for-each select="class/student">
         <tr>
           <td>
             <xsl:value-of select = "@rollno"/>
           </td>
           <td><xsl:value-of select = "firstname"/></td>
           <td><xsl:value-of select = "lastname"/></td>
           <td><xsl:value-of select = "nickname"/></td>
           <td><xsl:value-of select = "marks"/></td>
         </tr>  </xsl:for-each>  </table>  </body>  </html>
   </xsl:template>
</xsl:stylesheet>                                            ------->   2M
```

Step 2: Link the XSLT Document to the XML Document

Update student.xml document with the following xml-stylesheet tag. Set href value to students.xsl.   ---------> 1M

Step 3: View the XML Document in Internet Explorer

students.xml

```
<?xml version = "1.0"?>
<?xml-stylesheet type = "text/xsl" href = "students.xsl"?>
<class>
  <student rollno = "393">
    <firstname>Dinkar</firstname>
    <lastname>Kad</lastname>
    <nickname>Dinkar</nickname>
    <marks>85</marks>
  </student>
```

```
  <student rollno = "493">
    <firstname>Vaneet</firstname>
    <lastname>Gupta</lastname>
    <nickname>Vinni</nickname>
    <marks>95</marks>
  </student>
  <student rollno = "593">
    <firstname>Jasvir</firstname>
    <lastname>Singh</lastname>
    <nickname>Jazz</nickname>
    <marks>90</marks>
  </student>
</class>
```
                                                    ----------> 2M

UNIT-IV

8. a) Give the key difference between traditional synchronous web application and AJAX web applications.   [6 points-6M]

Ans: Synchronous (async: false):

1. Script stops and waits for the server to send back a reply before continuing. There are some situations where Synchronous Ajax is mandatory.

2. A synchronous request blocks the client until operation completes i.e. browser is not unresponsive. In such case, javascript engine of the browser is blocked.

3. In synchronous, Full page is refreshed at request time and user is blocked until request completes.   **Any three relevant points -------> 3M**

Asynchronous (async: true):

1. An asynchronous request doesn't block the client i.e. browser is responsive. At that time, user can perform another operations also. In such case, javascript engine of the browser is not blocked.

2. In An asynchronous request, client need not to wait for the response from the server.
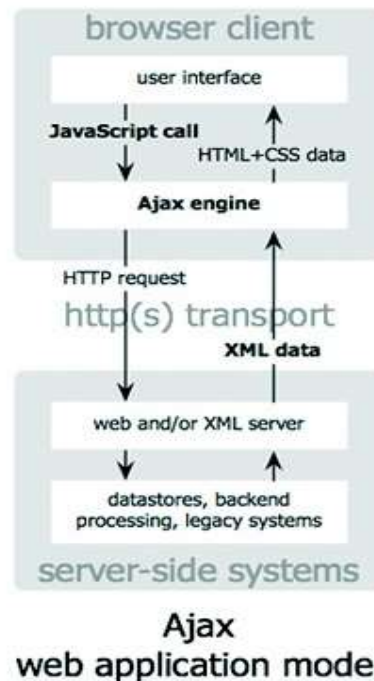
3. In this Full page is not refreshed at request time and user gets response from the ajax engine.

<div align="right">**Any three relevant points -------> 3M**</div>

b) Discuss AJAX working model architecture with XHR objetcs methods.

[4 methods-6M]

Ans: The following diagram represents AJAX web application model:

Ajax
web application model

<div align="right">-------------> **3M**</div>

XMLHttpRequest Methods:

- **abort()**   Cancels the current request.

- **getAllResponseHeaders()**   Returns the complete set of HTTP headers as a string.

- **getResponseHeader(headerName)**   Returns the value of the specified HTTP header.

- **open(method, URL) , open(method, URL, async),open(method, URL, async, userName)**

  open(method, URL, async, userName, password)

The method parameter can have a value of "GET", "POST", or "HEAD". Other HTTP methods, such as "PUT" and "DELETE" (primarily used in REST applications) may be possible.

The "async" parameter specifies whether the request should be handled asynchronously or not. "true" means that the script processing carries on after the send() method without waiting for a response, and "false" means that the script waits for a response before continuing script processing.

- **send(content)-** Sends the request.

- **setRequestHeader(label, value)-** Adds a label/value pair to the HTTP header to be sent. **Any three methods -----------> 3M**

(OR)

9a) Difference between jQuery and java script. any 6 differences-6m

Ans: The following are the differences between jQuery and Java Script:

- JavaScript is a scripting language that works with all web browsers while jQuery is only a framework that is a fast and concise JavaScript library that simplifies the HTML document.
- In case of using JavaScript you are required to writer your own script that can be time consuming. In case of using jQuery you are not required to write much scripting that already exists in libraries.
- JavaScript is combination of both ECMA script and DOM while jQuery has DOM.
- JavaScript has many processes in creating web-based applications while creating a web-based application with the help of jQuery has become easier.
- Animations are not possible using JavaScript while these can be easily created using jQuery.
- jQuery in itself is written in JavaScript.
- JavaScript was first appeared on 1995 while jQuery was initially released in August 26, 2006.
- jQuery support only Firefox, Google Chrome, Safari, Opera, and Internet Explorer while JavaScript is supported by all major web browsers without plug-ins.

- JavaScript is an Object Oriented Programming (OOP) language while jQuery is a cross-platform JavaScript library designed to simplify the client-side scripting of HTML.

<div align="right">

Any four ------> 6M

</div>

b) Write an AJAX application to suggest the google names using jQuery

Ans: The ajax() method is used to perform an AJAX (asynchronous HTTP) request.

All jQuery AJAX methods use the ajax() method. This method is mostly used for requests where the other methods cannot be used.

Syntax

$.ajax(*{name:value, name:value, ... }*)   ----------------> **1M**

The parameters specifies one or more name/value pairs for the AJAX request.

Possible names/values

async	A Boolean value indicating whether the request should be handled asynchronous or not. Default is true
beforeSend(xhr)	A function to run before the request is sent
cache	A Boolean value indicating whether the browser should cache the requested pages. Default is true
complete(xhr,status)	A function to run when the request is finished (after success and error functions)
contentType	The content type used when sending data to the server. Default is: "application/x-www-form-urlencoded"
context	Specifies the "this" value for all AJAX related callback functions
data	Specifies data to be sent to the server

<div align="right">

---------> **3M**

</div>

Index.html:

<!DOCTYPE HTML>

<head> <title> google names</title> </head>

<body>

```
GOOLE SEARCH <input list="goolenames">
        <datalist id="googlenames">
        <option value=" ">
        </datalist>
<input type="submit" value="search" id="result"/>
 <SCRIPT type="text/javascript" src="jquery-1.5.js"></script>
    <script type="text/javascript">

        $.ajaxsetup ({cache:false});

        var ajax-load= $.parseJSON(arrayname);

        var loadurl="file ";

        $("#search").click(function(){

        $(#result").html(ajax-load).load(loadurl);});

    </script>

</body>

</html>                                        ----------> 2M
```

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