Ajay Kumar Garg Engineering College, Ghaziabad

Department of CSE

Model Solution- ODD Semester (2017-18)

Sessional Test -2

Subject Code	:	NCS-504
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Section-A

A. Attempt All the parts. (5×2=10)

Q1. Define anchor tag and image tag of HTML with an example of each.

Ans. Anchor tag is used to :. ÷ create a link for the file. It creates hyperlink in the web page.

Example:

```
<a href="fl.html"> click here </A>
```

Anchor tag is written using <a> tag.

Image tag is used to include an image in the web page. <img> tag is used to create or display an image in the web page

```
<img src="Pict.jpg">
```

Q2. Differentiate between HTML and XML.

Ans.

HTML	XML
(i) It uses pre-defined tags	(i) It uses uses defined tag.
(ii) HTML is used to present the data on the web page.	(ii) XML is used to transfer the data from one location to other location.
(iii) closing of tag is optional	(iii) closing of tag is mandatory.

HTML	XML
(iv) It uses CSS (Cascading style sheet) for styling of the web page	(iv) It uses XSL (Extensible style sheet) for presenting XML data on the web page.
(v) It is case-insensitive language	(v) It is case-sensitive language.

Q3. What is use of RegExp object of Java Script? Give an example.

Ans: RegExp object is used to create an object with a pattern. Patterns are used to search the content in the given string.

Example

```
patn = new RegExp("e");
```

patn object consists of pattern "e". The object uses test() method to search the pattern in the given string.

```
patn.test("This is the best engineering college");
```

Q4. Give Difference between Get and Post method.

Ans.

Get Method	Post Method
(i) Get method transfers the data with URL	(i) Post method transfers the data using body of connection.
(ii) Data is visible on URL, it is not secure.	(ii) Data is not visible. It is secure.
(iii) It is used for small amount of data	(iii) It is used for large amount of data
(iv) It is default method. It is easy to implement	(iv) There is need to set this method in form tag.

Q5. Discuss use of frameset and frame tag of HTML using an example.

Ans. Frameset tag defines number of divisions of the web page. It can be column wise or row wise.

Frame tage:- Each division is called frame.

Frame tag displays a web page in the division of the web page

Example

```
<frameset   cols = "50%, 50%">
    <frame   src = "f1.html">
    <frame   src2 = "f2.html">
</frameset>
```

Section-B

B. Attempt all the parts. (5×5=25)

Q6. What is the role of CSS? Explain various styles of CSS that can be used in HTML programming.

Ans. **Role of CSS** :- CSS (Cascading Style Sheet) provide good look and feel of the web page. It presents the data of the web page in attractive and more readable form.

Types of CSS :- There three types of CSS

(i) In-line CSS
(ii) Internal CSS
(iii) External CSS

In-line CSS:- CSS is define within the same tag. Example:

```
<p style="color: blue; font-size: 12px">
    Aligee </P>
```

Internal CSS:- It is defined within Head tag using <style> tag.

Example

Example:

```
<Html>
  <Head>
    <Style>
      P { color: blue; font-size: 12Px }
    </Style>
  </Head>
  <P> AKGEC </P>
</Html>
```

External CSS :- In this case, CSS is defined in a separate file.

Example:

a.css

```
P { color: blue; font-size: 12Px }
```

a.CSS file is linked in a Html file. As given below

```
<Html>
  <Head>
    <link rel="stylesheet" type="text/css"
          href="a.css">
  </Head>
  <body>
    <P> AKGEC </P>
  </body>
</Html>
```

further CSS can be defined using two ways on basis of selector

ID Selector:

```
#ID1 { color: blue }
```

Symbole is used to define ID. It is used in unique tag. like:

```
<P id="ID1"> AKGEC </P>
```

class Selector:

```
.CS1 {color: blue}
```

. Symbol is used to define class. It is applicable on set of tags.

```
<P class="CS1"> AKGEC </P>
```

Q7. Discuss the difference between DOM and SAX parsers. Specify situations in which a particular parser is suitable.

Ans: DOM: (Document Object Model)

- It is a parser to parse data of XML using tree-based structure.
- It first reads entire document, then it starts parsing the XML file.
- It takes large memory for storing entire tree.
- It provides flexibility to move in both directions: forward and reverse directions.
- It allows insertion and deletion of nodes.

SAX :- (Simple API for XML)

- It is event-based parser. Whenever a node of XML is found, an event is fired.
- Call backs are executed on each event firing.
- Start and closing tags are considered as two events.

- Text within the nodes are considered as separate node. Event is fired whenever text is encountered in the XML file.
- It does not store entire document.
- It is unidirectional parser.
- It is easy to use for parsing XML file.
- It uses small memory for parsing.

Situation in which parser is suitable

DOM parser is suitable when there is need to insert and delete nodes in the XML file and both directions of traversing is are required. It is suitable for small documents

SAX parser is suitable when there is need to traverse in the XML document in forward direction. It is suitable for fast traversing of the document. It is suitable large documents.

Q8. Write steps for writing an AJAX Program. Describe various states of readyState property of AJAX.

Ans:- AJAX (Asynchronous Java Script and XML) provides asynchronous communication to web page. Using AJAX, the part of the web page can be updated that increases response time of user.

Steps of writing AJAX Program

Step1: Create an XMLHttp object

```
xmlHttp = new XMLHttpRequest();
```

Step2: Specify a Handler

```
function Handler1 () {
    alert("Within Handler");
}

xmlHttp.onreadystatechange = Handler1;
```

onreadystatechange property is used to specify the Handler of AJAX program.

Step3: Check readyState property. If response from server is received, then process the data.

```
if (xmlHttp.readyState == 4 &&
    xmlHttp.status == 200)
{
  // instructions for processing
}
```

Step4: make a connection with server using open() and send() method.

```
xmlHttp.open("Get", "Result.jsp?name=" + AKSH(), true);
xmlHttp.send();
```

States of readyState property

State	value
Uninitialized	0
Connection established	1
Request sent	2
Processing	3
Request completed and response received	4

Q9. Write a Java Bean program for employee information (EmpNo, Name, Designation). Employee number (EmpNo) should be read only. Create an object of Java Bean and display employee information.

Ans: Java Bean program

```
public class employee {
        int EmpNo;
        String Name;
        String Designation;
    employee() {
        EmpNo = 11;
    }
    public int getEmpNo() {
        return EmpNo;
    }
    public void setName(String n) {
        Name = n;
    }
```

```
public String getName(){
        return Name;
    }
public void setDesignation(String d){
        Designation=d;
    }
public String getDesignation(){
        return Designation;
    }
} // end of java bean
class Test {
public static void main(String args[])
 {
        employee e1 = new employee();
            e1.setName("Rajesh");
            e1.setDesignation("Professor");
        String Name = e1.getName();
        String Design = e1.getDesignation();
        int empno = e1.getEmpNo();
    System.out.println("Emp No. is "+empno);
    System.out.println("Name is"+name);
    System.out.println("Designation is"+Design);
} // end of Test class.
```

A java bean named "employee" is created. It's object is created in the class "Test". Properties of java bean are set using "set" method and values are retrieved using "get" method. No "set" method for "EmpNo" property to make it read only property.

Q10 Define the terms related to VB script (i) Dim (ii) option Explicit (iii) Dynamic Array (iv) Sub procedure (v) Function. Give an example of each.

Ans VB Script:-

(i) Dim:- It is used to define variable in the VB script.

```
Dim carname = "maruti"
```

(ii) option Explicit:- This keyword mandates that variables should be defined using "Dim" keyword.

```
Option Explict
Dim carname = "maruti"
```

In this case, if variable is defined without keyword Dim, then error will occurs

(iii) Dynamic Array :- It facilitates that an array size can be redefined in VB Script using the keyword Redim.

```
Dim cars();
        ↳ No size
Redim cars(10)
        ↳ size 10 is given
Redim cars(100)
        ↳ Now size is 100
Redim Preserve cars(100)
        ↳ Preserve the data also
```

(iv) Sub Procedure :- It defines a procedure

```
Sub Disp()
    alert("AKGEC");
End Sub
```

(v) Function :- It defines a function that returns a value

```
function Sum(a, b)
    Sum = a+b → it returns summation of a+b.
End function
```

Section-C

C. Attempt all the parts. (2×7.5=15)

Q11. What do you mean by scripting language? Write a HTML program with Java Script which validates institute information (InstituteNo, InstituteName, Address, Email). Perform following validations:

(i) InstituteNo should be not empty and must be numeric

(ii) InstituteName should be alphabetic and should have maximum of 15 characters

(iii) Address should be alpha numeric

(iv) Email field should have valid email.

Explain the program in brief.

Ans. **Scripting language:-** Scripting language is used to validate the client data. If client data is correct, then data is submitted to server. It is easy programming language. It saves server processing time because validation is performed at client machine. Scripting is also used for small programs at client side.

HTML Program

```
<html>
  <head>
    <title> validation example </title>
    <script>
     function validate() {

        var Ino = document.f1.Ino.value;
        var Iname = document.f1.Iname.value;
        var Iadd = document.f1.Iadd.value;
        var Iemail = document.f1.Iemail.value;

      Var patt1 = /^[0-9]+$/;
      var patt2 = /^[a-z A-Z]+$/;
      var path3 = /^[0-9 a-z A-Z]+$/;
     Var path4 = /^[\w\-\.]+\@[a-z]+\.[a-z]
                                    {2,3}$/;

   If (Ino.length == 0){
        alert("Institute No is empty");
    }
   If(!Ino.match(patt1)) {
        alert("Institute no should be numeric");
    }
```

```
If (!Iname.match(pattn2)) {
        alert("name should be numeric");
    }
If (!Iname.length<=15){
        alert("should have maximum 15
                characters");
    }
If (!Iadd.match(pattn3)) {
        alert("Address should be alphanumeric");
    }
If (!Iemail.match(pattn4)) {
        alert("Incorrect Email");
    }
} // end of validate function
</script>
</head>
<body>
<form name=f1 action="file1.jsp"
                onsubmit="validate();">
Institute No
<Input type="text" name="Ino">
Institute Name
<Input type="text" name="Iname">
```

Institute Address

<input type="text" name="Iadd" >

Institute Email

<input type="text name="Iemail" >

<input type="submit" >

</body>

</html>

Explanation:

validate() function in java script is created.

It receives users information and stores the data in the variables.

validate() creates various patterns for matching the users input. If users inputs are not matching, it gives alert message to users.

Q12. Write rules of writing a XML program; write an XML file with corresponding DTD for book detail (BookNo, Title, Price) with one attribute 'Copies' in BookNo tag that shows number of copies of the book. XML file should have information for at least three books.

Ans: Rules of XML program

- XML file should have one root tag only.
- XML tags must be closed.
- XML file should be written in a structure format.
- Starting tag name and closing tag name should be same.
- Extension of file should be .xml.
- XML starts with the instruction
  <?xml ?>

XML with DTD

```
<?xml version ="1.0" ?>
<!DOCTYPE Bookdetail [
<!ELEMENT Bookdetail (Book)* >
<!ELEMENT Book (BookNo, Title, Price) >
<!ELEMENT BookNo (#PCDATA) >
<!ELEMENT Title (#PCDATA) >
<!ELEMENT Price (#PCDATA) >
<!ATTLIST BookNo Copies CDATA "1">
]>

<Bookdetail>
    <Book>
        <BookNo Copies ="20"> 123 </BookNo>
        <Title> Java Script </Title>
        <Price> 200 </Price>
    </Book>
    <Book>
        <BookNo Copies = "30"> 267 </BookNo>
        <Title> Java </Title>
        <Price> 400 </Price>
    </Book>
```

```
<Book>
    <BookNo  copies = "15"> 704 </BookNo>
    <Title> Software </Title>
    <Price> 250 </Price>
</Book>

</Bookdetail>
```

Explanation

Three books are created in the XML file. BookNo tag consists of one attribute name copies.