DESCRIPTION

SUTDENT'S NAME:	Harpreet kaur sidhu
PROGRAM:	**Web design**
DATE:	18 September 2021
TEACHER'S NAME:	Suthakhar
COURSE:	**Data Processing Technologies (TTD)**
TYPE OF EXAM:	**Mid-term**
DURATION:	**3 hours**
AUTHORIZED MATERIAL:	**None**

OTHER INSTRUCTIONS FROM THE TEACHER

The exam has **XX5** pages including the cover page. In accordance with the syllabus, the evaluation is worth **XX20** % of the final grade.

Penalties imposed on a student accused of an attempt at plagiarism could include, but are not limited to, a grade of 0% for examination or for the entire course. The student could also be either put on probation, suspended and / or expelled from the program.

OTHER INFORMATION

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Revised by : **M.-J. Villeneuve**

Approved by : _____

Good luck !

Question 1

/3

What is XML used for?

ANS

a) It is used to seprate the data from the presentation.

b) XML is used to store the data.

c) It is used to structure the data.

d) It is also used for reloading of databases.

e) It eases the creation of HTML documents.

Question 2

/3

Using XML tags, write an example illustrating the XML structure.

```
<root>
<child>
<subchild>    </subchild>
</child>
</root>
```

Example :

<?xml version="1.0" encoding="UTF-8"?>

<school>

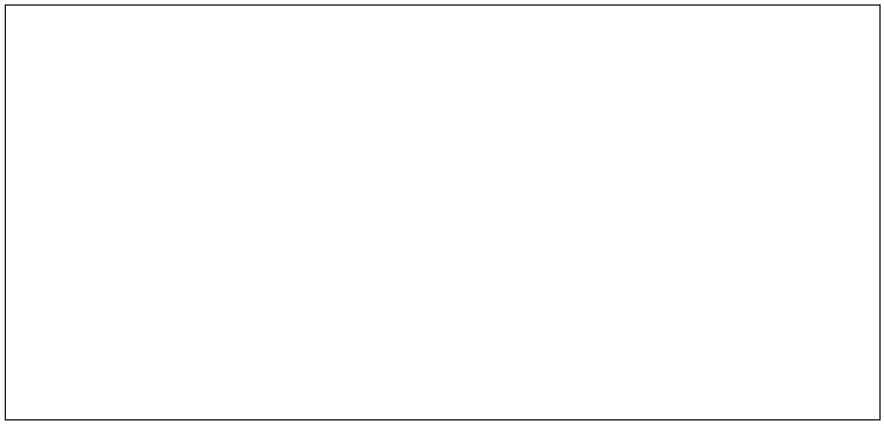
<name> Convent of Jesus and Mary </name>

<classes> Till twelve </classes>

<medium> English </medium>

<teachers> graduates </teachers>

</school>



Question 3

/1

What is an XML prolog?

ANS

<?xml version="1.0" encoding="UTF-8"?>

The above mentioned is the XML prolog

It is a component which is always written at the start of the XML document. It includes declaration , type, processing types etc.

Question 4

/3

Which of the following tags can't be used in a XML document? (Circle the letter corresponding to your answer)

a) <xmlroot>

b) <myTag>

c) <tag>

d) <item15>

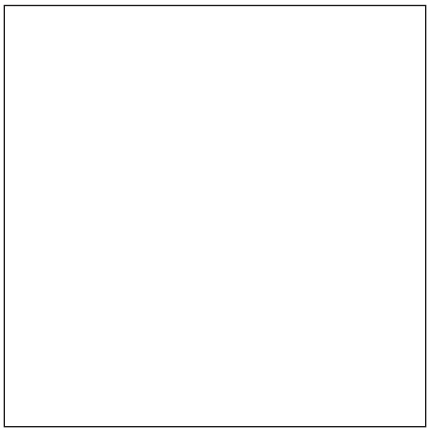
e) None of the above.

Question 5

/5

It is sometimes possible to code elements in two different ways, transforming metadata in data. Re-code the following example to transform metadata in data.

```
<message date="2020-01-22">
<to>Students</to>
<from>Teacher</from>
</message>
```



ANS

<message>

<date>

<year>2020</year>

<month>01</month>

<day>22</day>

</date>

<to>Students</to>

<from>Teacher</from>

</message>

Question 6

/3

Briefly explain what is CDATA used for.

ANS

CDATA refers to character data, It is basically used for text containing the mark up characters.

It is used for distinct purpose in XML as well as SGML

It is used to write XML code as text data within XML document.

Question 7

/2

Briefly explain what is XSL language.

ANS

XSL stands for Extensible Styleshet Language, its like CSS, it describes how to display an XML dcoument.

Example:-

XML:- sample XML to format

<profile>

<student name="student1">Welcome Student! Start asking questions</student>

<expert name="expert1">Welcome Expert! Start answering questions</expert>

</profile>

XSL:- following XSL code formats above XML, make text bold and background color "red" for expert profile

<xsl:template match="student">

<fo:block font-weight:"bold">

<xsl:apply-templates/>

</fo:block>

</xsl:template>

<xsl:template match="expert">

<fo:block font-weight:"bold" background-color="red">

<xsl:apply-templates/>

</fo:block>

</xsl:template>

Question 8

/3

Briefly explain what the following code lines would actually do.

```
<xsl:for-each select="bookstore/book">
<xsl:sort select="year"/>
```

a)- <xsl:for-each select="bookstore/book">

Ans:- this "xsl:for-each" tag, iterates through all sub elements <book> under <bookstore> and then you can apply transformation on each book:-

Example:-

XML:-

<bookstore>

<book><name>Game of Thrones</name><price>200$</price><year>2001</year></book>

<book><name>Harry Potter</name><price>50$</price><year>2010</year></book>

</bookstore>

XSL:- following xsl code iterates through the xml and prints book names and year published in the table

<table>

<tr>

<th>Title</th>

<th>Year</th>

</tr>

<xsl:for-each select="bookstore/book">
<tr>

<td><xsl:value-of select="name"/></td>

<td><xsl:value-of select="year"/></td>

</tr>

</xsl:for-each>

</table>

(b) <xsl:sort select="year">
Example:-

XML:-

<bookstore>

<book><name>Game of Thrones</name><price>200$</price><year>2001</year></book>

<book><name>Harry Potter</name><price>50$</price><year>2010</year></book>

</bookstore>

XSL:- following xsl code will sort the output table by year column

<table>

<tr>

<th>Title</th>

<th>Year</th>

</tr>

```
<xsl:for-each select="bookstore/book">

<xsl:sort select="year"/>
<tr>

<td><xsl:value-of select="name"/></td>

<td><xsl:value-of select="year"/></td>

</tr>

</xsl:for-each>

</table>
```

Question 9

/2

Just like it is mandatory when parsing external files, what is mandatory to parse XML using JavaScript (or jQuery)?

Parsing XML with Java Script

```
<script type="text/javascript">
     // get value of single node
     var descriptionNode = xmlData.getElementsByTagName("description")[0];
var description
= descriptionNode.firstChild && descriptionNode.firstChild.nodeValue;
     // get values of nodes from a set
var relatedItems    = xmlData.getElementsByTagName("related_item");
// xmlData is an XML doc
          var relatedItemVals = [];
       var tempItemVal;
for (var i=0,total=relatedItems.length; i<total; i++){
   tempItemVal = relatedItems[i].firstChild ? relatedItems[i].firstChild.nodeValue
: "";
        relatedItemVals.push(tempItemVal);
}
// set and get attribute of a node
description.setAttribute("language", "en");
description.getAttribute("language"); // returns "en"
</script>
```

/2

/5

Parsing XML with jQuery

```
<script type="text/javascript">
     // get value of single node (with jQuery)
     var description = $("description", xmlData).text();
         // xmlData was defined in previous section
     // get values of nodes from a set (with jQuery)
var relatedItems = $("related_item", xmlData);
var relatedItemVals = [];
$.each(relatedItems, function(i, curItem){
     relatedItemVals.push(curItem.text());
});
</script>
```

/3

Question 10

Write what language has been used to code the following lines of codes.

```
{
     name : "John
Smith",       age : "43",
     city : "Montreal"
```

```
}
```

ANS JSON

Question 11

Based on the following lines of codes, complete the jQuery code so the DIV would show the result « John Smith is 43 ».

```
<div> </div>

<script>
let data = { "name : "John Smith", "age" : "43", "city" : "Montreal" };
let result = JSON.parse(data);

$("div").append(data.name + ' is ' + data.age);

</script>
```

Question 12

Retrieving JSON data from an external file, using jQuery, what shorthand method could be used?

ANS

you can use following **getJSON** function to read external json files

```
$.getJSON('external.json', function(json_data){console.log(json_data);});
```

Question 13

/5

Based on the following JSON data, complete the code so the result showing in DIV would be «Jane Doe»

```
{
    users: [
        {
            one : "John Smith",
            two : "Jane Doe",
        }
    ]
}
```

```
<div> </div>

<script>
$.getJSON('myfile.json', function(data) {

let result = data.users[0].two ;

$("div").append(result);

}
</script>
```