DESCRIPTION

SUTDENT'S NAME:	PRINCEPREET SINGH
PROGRAM:	**Web design**
DATE:	18/SEP/2021
TEACHER'S NAME:	Suthakar
COURSE:	**Data Processing Technologies (TTD)**
TYPE OF EXAM:	**Mid-term**
DURATION:	**3 hours**
AUTHORIZED MATERIAL:	**None**

OTHER INSTRUCTIONS FROM THE TEACHER

The exam has **5** pages including the cover page. In accordance with the syllabus, the evaluation is worth **20** % 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

Prepared by : **Jean-Guy Turgeon**

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

Approved by : _____

Good luck !

Question 1

/3

What is XML used for?

ANSWER: XML(Extensible Markup Language) is a markup language used to store and transport data that is readable and understandable by both human and machines. However, it has been less used and replaced by JSON, but still, it plays an important role in many different IT systems, and it is used in many aspects of web development. XML resembles HTML , but XML using a self-describing syntax, so there will be no predefining tags and created according to database needs.

Question 2

/3

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

Answer: XML structure:

```
<root>
        <child>
            <subchild>……</subchild>
        </child>
    </root> //This is a sample.
```

The proper coding will be following:

```
<?xml version="1.0" encoding="UTF-8">
<bookstore> //root
    <book>
        <title>Any name</title> //Sub child
    </book> //child
    <book>
        <title>Any name</title>
    </book> // 2nd child
</bookstore>
```

Question 3

/1

What is an XML prolog?

Answer:<?xml version="1.0" encoding="UTF-8"?>
This is an XML prolog, and it tells the browser about the language being used, its version number and characters encoding. It must come in the first line in XML document, and it won't have any closing tags.

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>

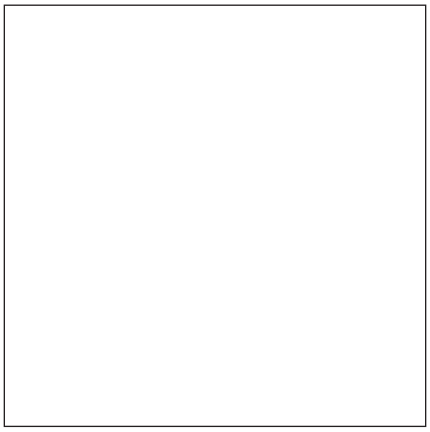
e) None of the above.

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>
```



Answer: The other method could be:

```
<message id="1">
    <date>
        <year>2021</year>
        <month>08</month>
        <day>01</day>
    </date>
    <to>Students</to>
    <from>Teacher</from>
</message>
```

Question 6

/3

Briefly explain what is CDATA used for.

Answer: CDATA stands for Character Data, it defined as blocks of plain text which are not parsed and would be recognized as markup. When using CDATA, you are telling the parser a specific section of the document contains no markup and has to be treated as a plain text. This is especially useful for text containing symbols and special characters.
For example: <![CDATA[<message>Example…..</message> //Tags would be treated as a plain text.]]>

Question 7

/2

Briefly explain what is XSL language.

Answer: XSL stands for eXtensible stylesheet language. It is basically like CSS; it represents the style like how XML webpage should be displayed. Declaration can be used using two syntax either <xsl:stylesheet> or <xsl-transform> Representation of XSL in the coding is:
<xsl:stylesheet version="1.0"

Xmlns:xsl=http://www.w3.org/1999/XSL/Transform>
OR
<xsl:transform version:“1.0"
Xmlns:xsl=http://www.w3.org/1999/XSL/Transform>
It will be represented in XML document as same as users use CSS in HTML document. For example:

```
<?xml version=“1.0” encoding=“UTF-8"?>
<?xml:stylesheet type=“text/xsl” href=“stylesheet.xsl”?>
<root>
<child>
<sub child>….</subchild>
</child>
</root>
```

Question 8

/3

Briefly explain what the following code lines would actually do.

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

Answer: These attributes are used to make the templates using XML document. In the above example, the first code line uses the book element to display the sub elements(written in the code) of all the book elements that would be contained in the specific XML document.
The second code in the example is used to sorts the results to display on screen based on the selection by the users. As in example, user wants to sort the year. So, the document will sort only the “year” from the given XML document and displays on the screen.

Question 9

/2

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

Answer: In order to parse an XML document using java script or jQuery, an AJAX request first be made. Using find() method, the external XML file to searched to find the child within the root. Variables will be used to find and store the child's values. And finally, an output will be made using concatenation method.

Question 10

/2

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

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

Answer: The language used is JSON.

Question 11

/5

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(_____);

</script>
```

Answer: The code would be:

```
<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

/3

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

Answer: The method is shown below:

```
<div id="results"> </div>
<script language="JavaScript">
$.get("my_xml-02.xml", function(data) { // AJAX request shorthand
var i = 0;
$(data).find('bookstore').children('book').each(function(){
var sTitle = $(this).find('title').text();
var sAuthor = $(this).find('author').text();
var sYear = $(this).find('year').text();
var sPrice = $(this).find('price').text();
$("<p></p>").html("<b>" + sTitle + "</b>, " + sAuthor + ", " + sYear + ", " +
sPrice).appendTo("#results");
i++;
});
var sTotalBooks = i;
$("<p></p>").html('<b>Total of books:</b> '+ sTotalBooks).prependTo("#results");
});
</script>
```

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 =_____;

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

}
</script>
```

Answer: The code will be: $(“div”).append(data.users[0].two)