

Roll No.: _____

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Amrita School of Engineering, Coimbatore

B.Tech Second Assessment Examinations – October 2022

Seventh Semester

19CSE461-NET CENTRIC PROGRAMMING

Question key

Duration: Two hours

Maximum: 50 Marks

Course Outcomes (COs):

CO	Course Outcomes
1	Apply the concepts of responsive web design to customize pages for users need
2	Apply markup and scripting languages to design and validate dynamic pages
3	Evaluate the appropriateness of client server applications using mean stack architecture
4	Design, develop and deploy client/server applications
5	Implement the complete web application development cycle as a Term project

Part-A

10*2=20

1. How to Convert the JSON data into java object and vice versa using java script? [2][CO03][BTL2]

Ans:

JavaScript has a built in function for converting JSON strings into JavaScript objects:

JSON.parse()

JavaScript also has a built in function for converting an object into a JSON string:

JSON.stringify()

Each method carries 1 mark

2. What are the different data types supported by JSON? Give a JSON example data with 3 different data types. [2][CO03][BTL2]

Ans:

DataType ---1 mark

In **JSON**, *values* must be one of the following data types:

- a string
- a number
- an object
- an array
- a Boolean

- null

JSON Object Example:

```
{
  "actor": {
    "name": "Tom Cruise",
    "age": 56,
    "Born At": "Syracuse, NY",
    "Birthdate": "July 3 1962",
    "photo": "https://jsonformatter.org/img/tom-cruise.jpg"
  }
}
```

Example--- 1 Mark

JSON Array Example

```
{
  "Actors": [
    {
      "name": "Tom Cruise",
      "age": 56,
      "Born At": "Syracuse, NY",
      "Birthdate": "July 3, 1962",
      "photo": "https://jsonformatter.org/img/tom-cruise.jpg"
    },
    {
      "name": "Robert Downey Jr.",
      "age": 53,
      "Born At": "New York City, NY",
      "Birthdate": "April 4, 1965",
      "photo": "https://jsonformatter.org/img/Robert-Downey-Jr.jpg"
    }
  ]
}
```

3. Why JSON is said to be better than XML? Also state the disadvantages of JSON.
[2][CO03][BTL2]

Any two differences each 1 mark

XML is much more difficult to parse than JSON.

JSON is parsed into a ready-to-use JavaScript object.

JSON isn't as robust data structure as XML is

JSON is not well-suited to combining information sets from different systems

JSON does not directly support the extension of base types like what is possible in XML

4. Given below is a XSL code . Find the missing code part marked with “.....”

```
<?xml version="1.0"?>
<xsl:stylesheet xmlns:xsl=".....">
<xsl:template match="/">
  <HTML>
    <BODY>
      <table border="2" bgcolor="yellow">
        <xsl:for-each select="records/purchaseOrder">
          <tr>
            <td><.....="shipTo/name"/></td>
            <td><.....="comment"/></td>
            <xsl:for-each select="items/item">
              <td><.....="price"/></td>
            </xsl:for-each>
          </tr>
        </xsl:for-each>
      </table>
    </BODY>
  </HTML>
</xsl:template>
</xsl:stylesheet>
```

[2][CO03][BTL4]

Ans :

```
<?xml version="1.0"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl">
<xsl:template match="/">
  <HTML>
    <BODY>
      <table border="2" bgcolor="yellow">
        <xsl:for-each select="records/purchaseOrder">
          <tr>
            <td><xsl:value-of select="shipTo/name"/></td>
            <td><xsl:value-of select="comment"/></td>
            <xsl:for-each select="items/item">
              <td><xsl:value-of select="price"/></td>
            </xsl:for-each>
          </tr>
        </xsl:for-each>
      </table>
```

```

</BODY>
</HTML>
</xsl:template>
</xsl:stylesheet>

```

5. Give the purpose of XML Namespace.

[2][CO03][BTL2]

Ans:

Same element names but they have a different content and meaning

6. Identify the purpose of the following directives .

[2][CO03][BTL2]

- a. ng-show
- b. ng-click

Ans:

ng-show --- shows a given control.

ng-click --- represents a AngularJS click event.

7. Which of the following statements are false

[2][CO03][BTL3]

- a. \$dirty – states that value is not a correct value according to its data
- b. \$invalid – states that value entered is error

Ans:

Both **a** and **b** are false

8. There is a JSON file named students.txt. Below is the code for accessing the file using AngularJS.

```

function studentController($scope,$https:) {
    var url = "students.txt";

    $https:.get(url).success( (response) {

        -----

    });
}

```

Write the missing statements and keywords in the code.

[2][CO04][BTL3]

Ans:

```

function studentController($scope,$https:) {
    var url = "students.txt";

```

```

$http.get(url).success( function(response) {
    $scope.students = response;
});
}

```

9. Write the code syntax for using a ng-view directive.

[2][CO04][BTL2]

Ans:

```

<html>

<head>

<title>Angular JS Views</title>

<script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js"></script>

<script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular-route.min.js">

</script>

</head>

<body>

<h2>AngularJS Sample Application</h2>

<div ng-app = "mainApp">

<p><a href = "#addStudent">Add Student</a></p>

<p><a href = "#viewStudents">View Students</a></p>

<div ng-view></div>

<script type = "text/ng-template" id = "addStudent.htm">

<h2> Add Student </h2>

{{message}}

</script>

<script type = "text/ng-template" id = "viewStudents.htm">

<h2> View Students </h2>

{{message}}

```

</script>

</div>

10. Compare the characteristics of JSON and XML.

[2][CO03][BTL2]

Ans:

JSON	XML
It is JavaScript Object Notation	It is Extensible markup language
It is based on JavaScript language.	It is derived from SGML.
It is a way of representing objects.	It is a markup language and uses tag structure to represent data items.
It does not provides any support for namespaces.	It supports namespaces.
It supports array.	It doesn't supports array.
Its files are very easy to read as compared to XML.	Its documents are comparatively difficult to read and interpret.
It doesn't use end tag.	It has start and end tags.
It is less secured.	It is more secured than JSON.
It doesn't supports comments.	It supports comments.
It supports only UTF-8 encoding.	It supports various encoding.

Any two differences each 1 mark

Part-B**5*6=30**

11. Explain the following features of Angular JS [6][CO03][BTL2]

- a. MVC architecture
- b. Data binding
- c. Directives

Each section carries 2 marks

Model View Whatever – MVC is a design pattern for dividing an application into different parts (called Model, View and Controller), each with distinct responsibilities. AngularJS does not implement MVC in the traditional sense, but rather something closer to MVVM (Model-View-ViewModel). The Angular JS team refers it humorously as Model View Whatever.

Data-binding – It is the automatic synchronization of data between model and view components.

Directives – Directives are markers on DOM elements (such as elements, attributes, css, and more). These can be used to create custom HTML tags that serve as new, custom widgets. AngularJS has built-in directives (ngBind, ngModel...)

12. Write an **HTML code with** Angular JS concepts to create an array of objects and display the array contents
The structure of object is

name, age, sex'.

[6][CO03][BTL3]

Ans:

```
<html> <head> <title>AngularJS Directives</title> </head>
<body>
<h1>Sample Application</h1>

<div ng-app = "" ng-init = "students = [ {name:'xxx',age:45, sex:'M'},
    {name:'yyy',age:35, sex:'F'}],
```

```

    {name:'zzz',age:50,sex:'M'}}]">
    <p>Enter your Name: <input type = "text" ng-model = "name"></p>
    <p>Hello <span ng-bind = "name"></span>!</p>
    <p>Details:</p>

    <ol>
        <li ng-repeat = "student in students">
            {{ 'Age: ' + student.age + ', Sex: ' + student.sex }}
        </li> </ol>
    </div>

    <script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js">
    </script>

</body> </html>

```

13. Given below is a code and the expected output using Angular JS . Write the missing code in the program marked with “.....”[6][CO03][BTL3]

Studentdetail.htm	
<pre> <html> <head> <title>Angular JS Controller</title> <script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js"> </script> </head> <body> <h2>AngularJS Student Application</h2> <div ng-app = "mainApp" ng-controller = "studentController"> Enter first name: <input type = "text" ng-model = "student.firstName">

 Enter last name: <input type = "text" ng-model = "student.lastName">
 </pre>	<pre> <script> var mainApp = angular.module("mainApp", []); mainApp.controller('studentContro ller', function(\$scope) { \$scope.student = { firstName: "Ravi ", lastName: "kumar", fullName: function() { \$scope.reset = function() { \$scope.firstName = "Ravi"; \$scope.lastName = "Kumar"; </pre>

<pre>
 You are entering: {{student.fullName()}} </div> </pre>	<pre> \$scope.email = "ravikumar@gmail.com"; } }; }); </script> </body> </html> </pre>
---	--

Angular JS Student Application

Enter first name:

Enter last name:

You are entering:

14. Given below is the XML and XSL code

XML Code	
<pre> <?xml version="1.0"?> <purchaseOrder orderDate="1999-10-20"> <shipTo Country= "US"> <name>Matthias Hauswirth</name> <street>4500 Brookfield Dr.</street> <city>Boulder</city> <state>CO</state> <zip>80303</zip> </shipTo> <billTo country="US"> </pre>	<pre> <comment>Brian pays</comment> <items> <item partNum="123-AB"> <productName>Porsche</productName> <quantity></quantity> <price>129400.00</price> <comment>Need a new one</comment> </item> <item> <productName>Ferrari</productName> </pre>

<name>Brian Temple</name> <street>1234 Strasse</street> <city>Boulder</city> <state>CO</state> <zip>80302</zip> </billTo>	<quantity>2</quantity> <price>189000.25</price> <shipDate>1999-05-21</shipDate> </item> </items> </purchaseOrder>
--	--

XSL code

XSL Code	
<pre> <?xml version="1.0"?> <xsl:stylesheet xmlns:xsl="http://www.org/TR/WD-xsl"> <xsl:template match="/"> <HTML> <BODY> <table border="2" bgcolor="yellow"> <xsl:for-each select="records/purchaseOrder "> <tr> <td><xsl:value-of select="shipTo/name"/></td> <td><xsl:value-of select="comment"/></td> <td><xsl:/></td> <xsl:for-each select="items/item"> <td><xsl:value-of select="price"/></td> </xsl:foreach> </tr> </xsl:for-each> </table> </BODY> </HTML> </pre>	

</xsl:template> </xsl:stylesheet>

The expected output is as below:

Matthias Hauswirth	Brian pays	129400	189000
Brian Temple	problems with brakes, replacement parts	67	

Identify the errors in the program.

[6][CO03][BTL4]

15. Given below is a XML code . Write the equivalent JSON file for the same.

[6][CO04][BTL3]

XML Code	
<bookstore> <book category="COOKING"> <title lang="en">Everyday Italian</title> <author>Giada De Laurentiis</author> <year>2005</year> <price>30.00</price> </book> <book category="CHILDREN"> <title lang="en">Harry Potter</title> <author>J K. Rowling</author> <year>2005</year> <price>29.99</price> </book>	<book category="WEB"> <title lang="en">Learning XML</title> <author>Erik T. Ray</author> <year>2003</year> <price>39.95</price> </book> </bookstore>

Ans:

```
{
  "bookstore": {
    "book": [
      {
        "title": "Everyday Italian",
        "author": "Giada De Laurentiis",
```

```

    "year": 2005,
    "price": 30
  },
  {
    "title": "Harry Potter",
    "author": "J K. Rowling",
    "year": 2005,
    "price": 29.99
  },
  {
    "title": "Learning XML",
    "author": "Erik T. Ray",
    "year": 2003,
    "price": 39.95
  }
]
}
}

```

Faculty name	Questions for correction
S.Thangavelu	Part-A 1,2,3,4,5,6 Part-B 11,12
T.Senthil Kumar	Part-A 7,8,9,10 Part-B 13,14,15

CO	Marks	BTL	Marks
CO01		BTL 1	
CO02		BTL 2	20
CO03	40	BTL 3	22
CO04	10	BTL 4	8
CO05		BTL 5	

Course Outcome /Bloom's Taxonomy Level (BTL) Mark Distribution Table