

Roll No.: _____

Amrita Vishwa Vidyapeetham
Amrita School of Engineering, Coimbatore
B.Tech First Assessment Examinations – August 2022
Seventh Semester
NetCentric Programming
19CSE461-NET CENTRIC PROGRAMMING

Duration: Two hours

Maximum: 50 Marks

Course Outcomes (COs):

Course Outcomes

- CO1: Apply the concepts of responsive web design to customize pages for users need.
- CO2: Apply markup and scripting languages to design and validate dynamic webpages.
- CO3: Evaluate the appropriateness of client/server applications using mean stack architecture.
- CO4: Design, develop and deploy client/server applications.
- CO5: Implement the complete web application development cycle as a term project.

Part-A

10*2=20

1. List down two characteristics of a good design. [2][CO01][BTL1]

Ans:

- Understandable
- Interesting
- Easy to use
- Uniform in look and feel
- Done from a visitor's point of view:

WYSIWYW (What You See Is What You WANT)

Any two points ---2 marks

2. Define a web technology stack ? [2][CO01][BTL1]

Ans:

A tech stack is defined as the set of technologies an organization uses to build a web or mobile application. It is a combination of programming languages, frameworks, libraries, patterns, servers, UI/UX solutions, software, and tools used by its developers

3. Summarize the differences between Mean and MERV stack Development. [2][CO01][BTL2]

Ans :

| Characteristics | Mean Stack | Merv Stack |
|-----------------|--|--|
| Components | Components MongoDB: Document-based NoSQL database used for data storage in the form of JSON files Express.js: Back-end web app that runs on Node.js Angular: Best front-end web framework that runs JS code in user's browser Node.js: It is a JS runtime environment to implement backend applications in JS | Components MongoDB: It is an open-source, document-based database Express.js: It is a fast and minimalist web framework used for Node.js React: It is a frontend JavaScript library used to build user interfaces Node.js: Built on Chrome's V8 JavaScript engine, it is a JavaScript runtime and brings it to the server |
| Language | The single language used throughout this stack is JavaScript | React utilizes JavaScript XML and Virtual DOM, and these components work and implement changes seamlessly |

4. Find the missing code part in the javascript below : [2][CO02][BTL2]

```
<script src="filename" .....></script>
```

Ans:

```
<script src="filename" type="text/javascript"></script>
```

5. Give the output of the following statements in javascript : [2][CO02][BTL2]

7 < "7" is ...False

42 == 42.0 is True

"5.0" == 5 is False

6. Give the output of the following statements in javascript : [2][CO02][BTL2]

```
var a = ["CSE", "IT"]; //CSE,IT
```

```

a.push("EEE");//,CSE,IT,EEE
a.unshift("BME");//BME,CSE,IT,EEE
a.pop();//BME.CSE,IT
a.shift();//CSE,IT

```

7. Give two differences between XML and HTML ? [2][CO02][BTL2]

| HTML | XML |
|---------------------------|---|
| Web page representation | Data representation |
| TAGS <HTML> <TABLE> | Tags: <XML> User defined elements |

8. Write down two main characteristics of HTML 5 for a responsive design ? [2][CO01][BTL2]

Ans:

- View port
- Breakpoint
- MediaQuery

9. Identify the errors in the code below:

[2][CO02][BTL3]

```

<?xml version="1.0" encoding="UTF8"?>

<book>

<name>A Song of Ice and Fire</name>

<author>"George R. R. Martin"</author>

<language>English</language>

<Genre>Epic fantasy</genre>

</Book>

```

Ans : Error is highlighted

```

<?xml version="1.0" encoding="UTF8"?>

<book>

<name>A Song of Ice and Fire</name>

<author>"George R. R. Martin"</author>

```

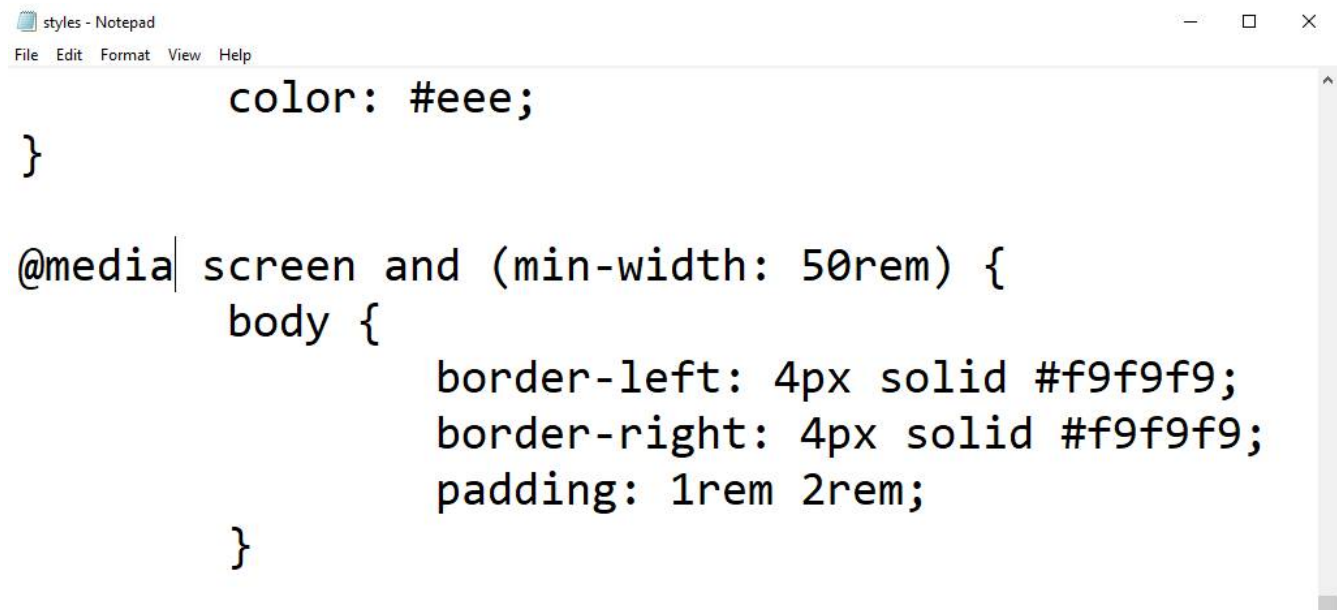
<language>English</language>

<Genre>Epic fantasy</genre>

</Book>

10.Explain the tags used for handling media content in a web design ? [2][CO01][BTL2]

Ans:



```
color: #eee;
}

@media screen and (min-width: 50rem) {
  body {
    border-left: 4px solid #f9f9f9;
    border-right: 4px solid #f9f9f9;
    padding: 1rem 2rem;
  }
}
```

- The @media directive tells the browser we are starting a media query, the screen part
- It tells the browser these rules should be applied to all screen types and the and (min-width: 50em) tells the browser that the rules should be limited to all viewports above 50em of size.

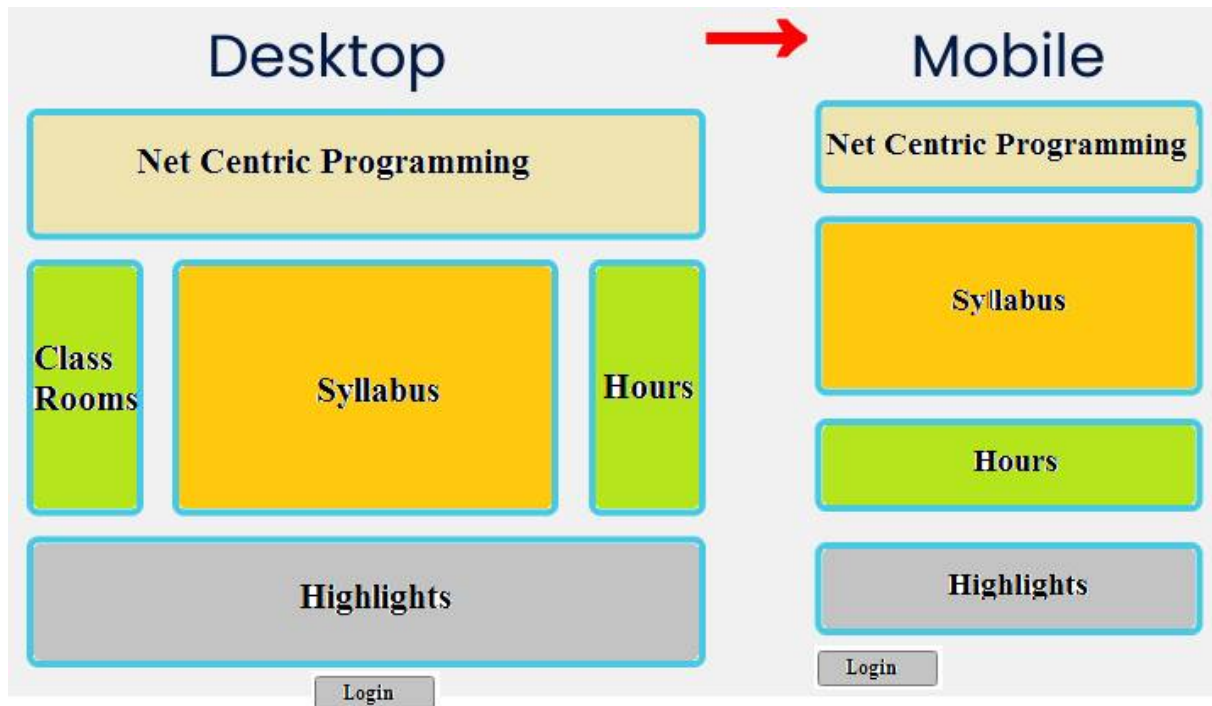
Part-B

3*10=30

11.

11. Given below is a HTML output . Write the code block for the same using HTML and CSS 3.

[10][CO01][BTL3]



Have a control name labelled **Align** and align the text in a flexible manner for all the text in the output

Ans:

.css file

5 Marks

.top{

background-color: burlywood;

color: black;

text-align: center;

padding: 5px;

border-radius: 10px;

flex-wrap: wrap;

```
text-align: center;
border: 4px solid navy;
}
```

```
.bottom{
background-color: grey;
color: black;
text-align: center;
padding: 5px;
border-radius: 10px;
flex-wrap: wrap;
text-align: center;
border: 4px solid navy;
}
```

```
.my-button{
display: flex;
align-items: center;
justify-content: center;
margin: auto;
width: 100px;
}
```

```
.mid {
display: flex;
flex-direction: row;
text-align: center;
```

```
height: 200px;  
}
```

```
.mid-left{  
  display: flex;  
  text-align: center;  
  background-color: lawngreen;  
  border: 4px solid navy;  
  padding: 5px;  
  border-radius: 10px;  
  flex: 25%;  
  margin-left: 5px;  
  align-items: center;  
  justify-content: center;  
}
```

```
.mid-mid{  
  display: flex;  
  background-color: orange;  
  text-align: center;  
  border: 4px solid navy;  
  padding: 5px;  
  border-radius: 10px;  
  flex: 50%;  
  margin-left: 5px;  
  align-items: center;  
  justify-content: center;
```

```
}
```

```
.mid-right{
```

```
display: flex;
```

```
background-color: lawngreen;
```

```
text-align: center;
```

```
border: 4px solid navy;
```

```
padding: 5px;
```

```
border-radius: 10px;
```

```
flex: 25%;
```

```
margin-left: 5px;
```

```
align-items: center;
```

```
justify-content: center;
```

```
}
```

```
@media (max-width: 500px) {
```

```
.mid {
```

```
flex-direction: column;
```

```
}
```

```
.mid-mid,.mid-right{
```

```
margin-top: 6px;
```

```
}
```

```
[hidden]{
```



```
display: none;
}
}
```

.HTML file

--- 5 Marks

```
<!DOCTYPE html>

<html>

  <head>

    <meta charset="utf-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <link rel="stylesheet" type="text/css" href="Q1-Style.css">

    <title>Periodical Exam </title>

  </head>

  <body>

    <div class="top">

      <h3>Net-Centric Programming</h3>

    </div>

    <br>

    <div class="mid">

      <div class="mid-left" hidden>

        <h3>Class Rooms</h3>

      </div>

      <div class="mid-mid">

        <h3>Syllabus</h3>

      </div>

      <div class="mid-right">
```

```

        <h3>Hours</h3>

    </div>

</div>

<br>

<div class="bottom">

    <h3>Highlights</h3>

</div>

<br>

<button class="my-button">Login</button>

</body>

</html>

```

12. Design a calculator form that takes input of two number and perform the following output for the controls below using JavaScript: [10][CO02][BTL3]

| Control Name | Example |
|--------------|---------|
| Add | 5+3 |
| Sub | 5-3 |
| Div | 5/3 |
| Square | 5*5 |
| Mul | 5*3 |

Ans:

.HTML file

3 Marks

=====

```
<html lang="en" dir="ltr">
```

```
<head>
```

```
    <meta charset="utf-8">
```

```
    <title>Calculator</title>
```

```
    <link href="Calculator \style.css" rel="stylesheet">
```

```
<script src="Calculator \script.js" defer></script>

<div class="calculator-grid">

  <div class="output">

    <div class="previous-operand"></div>

    <div class="current-operand"></div>

  </div>

  <button class="span-two">AC</button>

  <button>DEL</button>

  <button>÷</button>

  <button>1</button>

  <button>2</button>

  <button>3</button>

  <button>*</button>

  <button>4</button>

  <button>5</button>

  <button>6</button>

  <button>+</button>

  <button>7</button>

  <button>8</button>

  <button>9</button>

  <button>-</button>

  <button>.</button>

  <button>0</button>

  <button class="span-two">=</button>

</div>

</head>
```

<body>

</body>

</html>

.js file

--- 7 marks

// accept the number from the user through prompt box

const number1 = parseFloat(prompt ('Enter the first number: '));

const number2 = parseFloat(prompt ('Enter the second number: '));

| | Code |
|--------|--|
| Add | { // use + (addition) operator to add two numbers result = number1 + number2; } |
| Sub | { // use - result = number1 - number2; } |
| Div | { // use / result = number1 / number2; } |
| Square | { // use result = number1 * number1; } |
| Mul | { // use * result = number1 * number2; } |

13.

Given below is the data representation for student details in a school. [10][CO02][BTL3]

| ColumnName | Example | Constraint |
|------------|---------------|--|
| RollNo | TW123 | First two letters represent standard |
| Name | "S.Ravikumar" | Can have a maximum of 10 characters Should have a "." |

| | | |
|-------------------|------------|--|
| NRI | Yes/No | Should have a default value as "No" |
| Fees Amount | 20000 | Should have a fixed value as 20000. Cannot be modified by the user |
| Section | A/B/C | Should be under section A or B or C |
| Date of Admission | 12/03/2022 | Should be in a date format |

Write the XML code and DTD for the student details provided below.

.XML file

--- 5 marks

Ans:

<XML>

<RollNo>

TW123

</RollNo>

<Name>

S.Ravikumar

</Name>

<NRI>

yes

</NRI>

<Fees_Amount>

20000

</Fees_Amount>

<Section>

A

</Section>

<Date_Of_Admission>

12/3/2022

</Date_Of_Admission>

</XML>

DTD file

5 marks

| ColumnName | Example | Constraint |
|-------------------|---------------|--|
| RollNo | TW123 | First two letters represent standard Ans: CDATA ,#REQUIRED |
| Name | "S.Ravikumar" | Can have a maximum of 10 characters Should have a "." Ans: CDATA |
| NRI | Yes/No | Should have a default value as "No" Ans: ATTLIST NRI (yes/No) |
| Fees Amount | 20000 | Should have a fixed value as 20000. Cannot be modified by the user ATTLIST FeesAmount CDATA #Fixed 20000 |
| Section | A/B/C | Should be under section A or B or C ATTLIST Section (A/B/C) |
| Date of Admission | 12/03/2022 | Should be in a date format CDATA |

Correction Split:

| Faculty Name | Question |
|-----------------|----------------------|
| S.Thangavelu | Qno.1,2,3,4,5,6,7,11 |
| T.Senthil Kumar | Q.No .8,9,10,12,13 |

| CO | Marks | BTL | Marks |
|-----------|--------------|------------|--------------|
| CO01 | 20 | BTL 1 | 4 |
| CO02 | 30 | BTL 2 | 14 |
| CO03 | | BTL 3 | 32 |
| CO04 | | BTL 4 | |
| CO05 | | BTL 5 | |

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