

<b>WEB TECHNOLOGY LABORATORY WITH MINI PROJECT</b> <b>Adichunchanagiri University</b> <b>(Effective from the Academic Year 2019 -20)</b> <b>SEMESTER – VII</b>			
<b>Subject Code</b>	18CSL76	<b>CIE Marks</b>	40
<b>Number of Contact Hours/Week</b>	0:2:2	<b>SEE Marks</b>	60
<b>Total Number of Lab Contact Hours</b>	36	<b>Exam Hours</b>	3Hrs
<b>CREDITS –2</b>			
<b>Course Learning Objectives:</b> This course(18CSL76) will enable students to:			
1. Design and develop web-based applications			
<b>Laboratory Programs:</b>			
<b>PART - A</b>			
1.	Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.		
2.	Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format.		
3.	Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXT- SHRINKING” in BLUE color. Then the font size decreases to 5pt.		
4.	Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems: Parameter: A string Output: The position in the string of the left-most vowel Parameter: A number Output: The number with its digits in the reverse order		
5.	Design an XML document to store information about a student in an engineering college affiliated to VTU. The information must include USN, Name, and Name of the College, Branch, Year of Joining, and email id. Make up sample data for 3 students. Create a CSS style sheet and use it to display the document.		
6.	Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.		
7.	Write a PHP program to display a digital clock which displays the current time of the server.		

8.	<p>Write the PHP programs to do the following:</p> <ol style="list-style-type: none"> <li>Implement simple calculator operations.</li> <li>Find the transpose of a matrix.</li> <li>Multiplication of two matrices.</li> <li>Addition of two matrices.</li> </ol>
9.	<p>Write a PHP program named states.py that declares a variable states with value "Mississippi Alabama Texas Massachusetts Kansas". write a PHP program that does the following:</p> <ol style="list-style-type: none"> <li>Search for a word in variable states that ends in xas. Store this word in element0 of a list named states List.</li> <li>Search for a word in states that begins with k and ends in s. Perform a case in sensitive comparison. [Note: Passing re. Ias a second parameter to method compile performs a case-insensitive comparison.] Store this word in element1 of states List.</li> <li>Search for a word in states that begins with M and ends in s. Store this word in element 2 of the list.</li> <li>Search for a word in states that ends in a. Store this word in element 3 of the list.</li> </ol>
10.	Write a PHP program to sort the student records which are stored in the database using selection sort.
<b>Study Experiment / Project:</b>	
<p>Develop a web application project using the languages and concepts learnt in the theory and exercises listed in part A with a good look and feel effects. You can use any web technologies and frameworks and databases.</p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>In the examination each student picks one question from part A.</li> <li>A team of two or three students must develop the mini project. However, during the examination, each student must demonstrate the project individually.</li> <li>The team must submit a brief project report (15-20 pages) that must include the following             <ol style="list-style-type: none"> <li>Introduction</li> <li>Requirement Analysis</li> <li>Software Requirement Specification</li> <li>Analysis and Design</li> <li>Implementation</li> <li>Testing</li> </ol> </li> </ol>	
<b>Laboratory Outcomes:</b> The student should be able to:	
<ul style="list-style-type: none"> <li>➤ Design and develop dynamic web pages with good aesthetic sense of designing and latest technical know-how's.</li> <li>➤ Understand the concepts of Web Application Terminologies, Internet Tools other webservices.</li> <li>➤ Recall how to link and publish web sites.</li> </ul>	
<b>Conduct of Practical Examination:</b>	
<p>All laboratory experiments, excluding the first, are to be included for practical examination.</p> <p><b>Experiment distribution</b></p> <ul style="list-style-type: none"> <li>▪ For questions having only one part: Students are allowed to pick one experiment from the lot and are given equal opportunity.</li> <li>▪ For questions having part A and B: Students are allowed to pick one experiment from part A and one experiment from part B and are given equal opportunity.</li> <li>▪ Change of experiment is allowed only once and marks allotted for procedure part to be made zero.</li> </ul> <p><b>Marks Distribution:</b></p> <ol style="list-style-type: none"> <li>For questions having only one part – Procedure + Execution + Viva-Voce: 10+40+10 = 100 Marks.</li> <li>For questions having part A and B:             <ul style="list-style-type: none"> <li>• Part A – Procedure + Execution + Viva = 5 + 20 + 5 = 30 Marks.</li> <li>• Part B – Procedure + Execution + Viva = 5 + 20 + 5 = 30 Marks.</li> </ul> </li> </ol>	

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## Part – A

**1. Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.**

```
<!DOCTYPE HTML>
<html>
  <head>
    <style>
      add, mul, div, sub
      {
        background-color: darkcyan;
      }
      table, td, th
      {
        border: 1px solid black;
        width: 33%;
        text-align: center;
        background-color: cadetblue;
        border-collapse: collapse;
      }
      table
      {
        margin: auto;
      }
      input
      {
        text-align: right;
      }
    </style>
    <script type="text/JavaScript">
      function calc(clicked_id)
      {
        var val1 = parseFloat (document. getElementById("value1").value);
        var val2 = parseFloat (document. getElementById("value2").value);
        if (isNaN(val1) || isNaN(val2))
          alert ("ENTER VALID NUMBER");
        else if (clicked_id == "add")
          document. getElementById("answer").value = val1 + val2;
        else if (clicked_id == "sub")
          document. getElementById("answer").value = val1 - val2;
        else if (clicked_id == "mul")
          document. getElementById("answer").value = val1 * val2;
        else if (clicked_id == "div")
          document. getElementById("answer").value = val1 / val2;
      }
      function cls ()
      {
        value1.value = "0";
        value2.value = "0";
      }
    </script>
  </head>
  <body>
    <table border="1">
      <tr>
        <td>+</td>
        <td>-</td>
        <td>*</td>
        <td>/</td>
      </tr>
    </table>
    <div>
      <input type="text" value="0"/>
      <input type="text" value="0"/>
      <input type="button" value="=" />
    </div>
  </body>
</html>
```

```
        answer.value = "";
    }
</script>
</head>
<body>
<table>
    <tr>
        <th colspan="4"> SIMPLE CALCULATOR </th>
    </tr>
    <tr>
        <td>value1</td>
        <td><input type="text" id="value1" value="0" /></td>
        <td>value2</td>
        <td><input type="text" id="value2" value="0" /> </td>
    </tr>
    <tr>
        <td><input type="button" value="Addition" id="add" onclick="calc(this.id)" />
        </td>
        <td><input type="button" value="Subtraction" id="sub" onclick="calc(this.id)" />
        </td>
        <td><input type="button" value="Multiplication" id="mul" onclick="calc(this.id)" />
        </td>
        <td><input type="button" value="Division" id="div" onclick="calc(this.id)" />
        </td>
    </tr>
    <tr>
        <td>Answer:</td>
        <td><input type="text" id="answer" value="" disabled /></td>
        <td colspan="2"><input type="button" value="CLEAR ALL" onclick="cls ()" />
        </td>
    </tr>
</table>
</body>
</html>
```

**OUTPUT:**

SIMPLE CALCULATOR			
value1	0	value2	0
Addition	Subtraction	Multiplication	Division
Answer:		CLEAR ALL	

**Addition:**

SIMPLE CALCULATOR			
value1	5	value2	8
Addition	Subtraction	Multiplication	Division
Answer:	13	CLEAR ALL	

**Subtraction:**

SIMPLE CALCULATOR			
value1	5	value2	8
Addition	Subtraction	Multiplication	Division
Answer:	-3	CLEAR ALL	

**Multiplication:**

SIMPLE CALCULATOR			
value1	5	value2	8
Addition	Subtraction	Multiplication	Division
Answer:	40	CLEAR ALL	

**Division:**

SIMPLE CALCULATOR			
value1	5	value2	8
Addition	Subtraction	Multiplication	Division
Answer:	0.625	CLEAR ALL	

**2. Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format.**

```
<!DOCTYPE HTML>
<html>

<head>
  <style>
    table,tr,td
    {
      border: solid black;
      width: 33%;
      text-align: center;
      border-collapse: collapse;
      background-color: lightblue;
    }
    table
    {
      margin: auto;
    }
  </style>
  <script>
    document.write("<center>")
    document.write("<table><tr><td      colspan='3'>SQUARES      AND      CUBES
</td></tr></table>");

document.write("<table><tr><td>Number</td><td>Square</td><td>Cube</td></tr>");
  for (var n = 0; n <= 10; n++)
  {
    document.write("<tr><td>" + n + "</td><td>" + n * n + "</td><td>" + n * n * n +
"</td></tr>");
  }
  document.write("</table></center>");

  </script>
</head>

</html>
```

**OUTPUT:**

SQUARES AND CUBES		
Number	Square	Cube
0	0	0
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000

**3. Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXT-SHRINKING” in BLUE color. Then the font size decreases to 5pt.**

```
<!DOCTYPE HTML>
<html>
<head>
<title>Text Growing and Shrinking</title>
<style>
  p
  {
    position: absolute;
    top: 50%;
    left: 50%;
    transform: translate (-50%, -50%);
  }
</style>
</head>
<body>
  <p id="demo"></p>
  <script>
    var var1 = setInterval(inTimer, 500);
    var fs = 5;
    var ids = document.getElementById("demo");
    function inTimer()
    {
      ids.innerHTML = 'TEXT GROWING';
      ids.setAttribute('style', "font-size: " + fs + "px; color: red");
      fs += 5;
      if (fs >= 50)
      {
        clearInterval(var1);
        var2 = setInterval (deTimer, 500);
      }
    }
    function deTimer()
    {
      fs -= 5;
      ids.innerHTML = 'TEXT SHRINKING';
      ids.setAttribute('style', "font-size: " + fs + "px; color: blue");
      if (fs === 5)
      {
        clearInterval(var2);
        var1 = setInterval(inTimer, 500);
      }
    }
  </script>
</body>
</html>
```



---

**OUTPUT:**

## **Text Growing and Shrinking**

**TEXT GROWING**

**TEXT SHRINKING**

**4. Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:****a. Parameter: A string****b. Output: The position in the string of the left-most vowel****c. Parameter: A number****d. Output: The number with its digits in the reverse order**

```
<!DOCTYPE HTML>
<html>
<head>
<title>Vowel position and Number reverse</title>
</head>
<body>
<h1 style="text-align: center;color: blue;">Vowel position and Number reverse</h1>
<hr>
<input type="text" id="str">
<button onclick="process()">submit</button>
<h3>Result:</h3>
<h4 id="result"></h4>
<script type="text/javascript">
function process() {
var str = document.getElementById("str").value;
var result = document.getElementById("result");
if (!isNaN(str)) {
var num, rev = 0,
remainder;
num = parseInt(str);
while (num != 0) {
remainder = num % 10;
num = parseInt(num / 10);
rev = rev * 10 + remainder;
}
result.innerHTML = "Reverse of " + str + " is " + rev
} else {
str = str.toUpperCase();
for (var i = 0; i < str.length; i++) {
var chr = str.charAt(i);
if (chr == 'A' || chr == 'E' || chr == 'I' || chr == 'O' || chr == 'U')
break;
}
```

```
}  
if (i < str.length)  
result.innerHTML = "The position of the left most vowel is " + (i + 1) + "and the character is  
<b>" + chr;  
else  
    result.innerHTML = "No vowel found in the entered string";  
}  
}  
</script>  
</body>  
</html>
```

**OUTPUT:**

## Vowel position and Number reverse

**Result:**

**The position of the left most vowel is 2 and the character is A**

**Result:**

**Reverse of 1254 is 4521**

**5. Design an XML document to store information about a student in an engineering college affiliated to VTU. The information must include USN, Name, and Name of the College, Branch, Year of Joining, and email id. Make up sample data for 3 students. Create a CSS style sheet and use it to display the document.**

**5.xml:**

```
<?xml-stylesheet type="text/css" href="5.css"?>
<!DOCTYPE HTML>
<html>
<head>
  <h1> STUDENTS DESCRIPTION </h1>
</head>
<students>
  <student>
    <USN>USN : 4AB16CS001</USN>
    <name>NAME : ABC</name>
    <college>COLLEGE : IIT</college>
    <branch>BRANCH : Computer Science and Engineering</branch>
    <year>YEAR : 2016</year>
    <e-mail>E-Mail : abc@gmail.com</e-mail>
  </student>
  <student>
    <USN>USN : 4AB17CS002</USN>
    <name>NAME : XYZ</name>
    <college>COLLEGE : IIT</college>
    <branch>BRANCH : Computer Science and Engineering</branch>
    <year>YEAR : 2017</year>
    <e-mail>E-Mail : xyz@gmail.com</e-mail>
  </student>
  <student>
    <USN>USN : 4AB18CS003</USN>
    <name>NAME : PQR</name>
    <college>COLLEGE : IIT</college>
    <branch>BRANCH : Computer Science and Engineering</branch>
    <year>YEAR : 2018</year>
    <e-mail>E-Mail : pqr@gmail.com</e-mail>
  </student>
</students>
</html>
```

**5.css**

```
student {  
    display: block;  
    margin-top: 10px;  
    color: Navy;  
}
```

```
USN {  
    display: block;  
    margin-left: 10px;  
    font-size: 14pt;  
    color: Red;  
}
```

```
name {  
    display: block;  
    margin-left: 20px;  
    font-size: 14pt;  
    color: Blue;  
}
```

```
college {  
    display: block;  
    margin-left: 20px;  
    font-size: 12pt;  
    color: Maroon;  
}
```

```
branch {  
    display: block;  
    margin-left: 20px;  
    font-size: 12pt;  
    color: Purple;  
}
```

```
year {  
    display: block;  
    margin-left: 20px;  
    font-size: 14pt;  
    color: Green;  
}
```

```
e-mail {  
    display: block;  
    margin-left: 20px;  
    font-size: 12pt;  
    color: Blue;  
}
```

## OUTPUT:

### STUDENTS DESCRIPTION

USN : 4AB16CS001

NAME : ABC

COLLEGE : IIT

BRANCH : Computer Science and Engineering

YEAR : 2016

E-Mail : abc@gmail.com

USN : 4AB17CS002

NAME : XYZ

COLLEGE : IIT

BRANCH : Computer Science and Engineering

YEAR : 2017

E-Mail : xyz@gmail.com

USN : 4AB18CS003

NAME : PQR

COLLEGE : IIT

BRANCH : Computer Science and Engineering

YEAR : 2018

E-Mail : pqr@gmail.com

---

**6. Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.**

```
<?php
print "<h3> Page View Count </h3>";
$name="counter.txt";

$file = fopen($name,"r");
$hits= fscanf($file,"%d");
fclose($file);

$hits[0]++;

$file = fopen($name,"w");
fprintf($file,"%d",$hits[0]);
fclose($file);

print "Total number of views: ".$hits[0];
?>
```

**OUTPUT:**

**Page View Count**

**Total number of views: 11**



---

**7. Write a PHP program to display a digital clock which displays the current time of the server.**

```
<!DOCTYPE HTML>
<html>
<head>
<meta http-equiv="refresh" content="1" />
<title>Current Time of Server</title>
<style>
p {
color: black; font-size: 90px;
position: absolute; top: 50%;
left: 50%;
transform: translate (-50%, -50%);
}
body {
background-color: white;
}
</style>
<h1 style="text-align: center; color: blue;">Current Time of Server</h1>
<hr>
<p>
<?php
date_default_timezone_set('Asia/Kolkata');
echo date ("h: i : s A");
?>
</p>
</head>
```

**OUTPUT:**

Current Time of Server

---

10: 35 : 51 PM

**8 a. Write the PHP programs to Implement simple calculator operations.**

```

<html>
<head>
<title>Calculator using PHP</title>
<style>
table, td, th
{
border: 1px solid black; width: 35%;
text-align: center; background-color: lightgray;
}
table { margin: auto; } input,p { text-align:right; }
</style>
</head>
<body>
<h1 style="text-align: center;color: blue;">Calculator using PHP</h1>
<hr>
<form method="post">
<table>
<tr>
<td>First Number:</td>
<td><input type="text" name="num1" /></td>
<td rowspan="2"><input type="submit" name="submit" value="calculate"></td>
</tr>
<tr>
<td>Second Number:</td>
<td><input type="text" name="num2" /></td>
</tr>
</form>
<?php
if(isset($_POST['submit']))
{
$num1 = $_POST['num1'];
$num2 = $_POST['num2']; if(is_numeric($num1) and is_numeric($num1) )
{
echo "<tr><td> Addition
:</td><td><p>".($num1+$num2)."</p></td>";
echo "<tr><td> Subtraction :</td><td><p> ".($num1-
$num2)."</p></td>";
echo "<tr><td> Multiplication
:</td><td><p>".($num1*$num2)."</p></td>";
echo "<tr><td>Division :</td><td><p> ".($num1/$num2)."</p></td>";
echo "</table>";
}
else
{
echo"<script type='text/javascript' > alert(' ENTER VALID NUMBER');</script>";
}
}
?>
</body>
</html>

```

**OUTPUT:**

## Calculator using PHP

First Number:	<input type="text"/>	<input type="button" value="calculate"/>
Second Number:	<input type="text"/>	

## Calculator using PHP

First Number:	<input type="text" value="7"/>	<input type="button" value="calculate"/>
Second Number:	<input type="text" value="2"/>	
Addition :	<input type="text" value="9"/>	
Subtraction :	<input type="text" value="5"/>	
Multiplication :	<input type="text" value="14"/>	
Division :	<input type="text" value="3.5"/>	

## Calculator using PHP

First Number:	<input type="text" value="O"/>	<input type="button" value="calculate"/>
Second Number:	<input type="text" value="P"/>	

localhost says

ENTER VALID NUMBER

**8 b. Write the PHP programs to Find the transpose of a matrix, Multiplication of two matrices, Addition of two matrices.**

```
<?php
$a = array(array(1,2,3),array(4,5,6),array(7,8,9));
$b = array(array(9,8,7),array(6,5,4),array(3,2,1));
$m=count($a);
$n=count($a[2]);
$p=count($b);
$q=count($b[2]);
print "<h1 style='text-align: center;color: blue;'>Matrix operations</h1> <hr>";
echo "The first matrix :". "<br/>";
for ($row = 0; $row < $m; $row++)
{
for ($col = 0; $col < $n; $col++)
echo " ".$a[$row][$col];
echo "<br/>";
}
echo "<br/>The second matrix :". "<br/>";
for ($row = 0; $row < $p; $row++)
{
for ($col = 0; $col < $q; $col++)
echo " ".$b[$row][$col];
echo "<br/>";
}
echo "<br/>The transpose for the first matrix is:". "<br/>";
for ($row = 0; $row < $m; $row++)
{
for ($col = 0; $col < $n; $col++) echo " ".$a[$col][$row];
echo "<br/>";
}
if(($m=== $p) and ($n=== $q)) {
echo "<br/>The addition of matrices is:". "<br/>";
for ($row = 0; $row < 3; $row++)
```

```
{
for ($col = 0; $col < 3; $col++)
echo " ".$a[$row][$col]+$b[$row][$col]." ";
echo "<br/>";
}
}
if($n==$p)
{
echo "<br/>The multiplication of matrices: <br/>";
$result=array();
for ($i=0; $i < $m; $i++)
{
for($j=0; $j < $q; $j++)
{
$result[$i][$j] = 0; for($k=0; $k < $n; $k++)
$result[$i][$j] += $a[$i][$k] * $b[$k][$j];
}
}
for ($row = 0; $row < $m; $row++)
{
for ($col = 0; $col < $q; $col++) echo " ".$result[$row][$col];
echo "<br/>";
}
}
?>
```

**OUTPUT:****Matrix operations**

---

The first matrix :

1 2 3  
4 5 6  
7 8 9

The second matrix :

9 8 7  
6 5 4  
3 2 1

The transpose for the first matrix is:

1 4 7  
2 5 8  
3 6 9

The addition of matrices is:

10 10 10  
10 10 10  
10 10 10

**9. Write a PHP program named states.py that declares a variable state with value "Mississippi Alabama Texas Massachusetts Kansas". write a PHP program that does the following:**

- a. Search for a word in variable states that ends in xas. Store this word in element 0 of a list named statesList.**
- b. Search for a word in states that begins with k and ends in s. Perform a case insensitive comparison. [Note: Passing re.I as a second parameter to method compile performs a case-insensitive comparison.] Store this word in element1 of statesList.**
- c. Search for a word in states that begins with M and ends in s. Store this word in element 2 of the list.**
- d. Search for a word in states that ends in a. Store this word in element 3 of the list.**

```
<?php
print "<h1 style='text-align: center;color: blue;'>Regular Expression Operations</h1>
<hr>";

$states = "Mississippi Alabama Texas Massachusetts Kansas";
$statesArray = [];
$states1 = explode(' ', $states); echo "Original Array :<br>"; foreach ( $states1 as $i => $value )
print("STATES[$i]=$value<br>"); foreach($states1 as $state) {
if(preg_match( '/xas$/', ($state)))
$statesArray[0] = ($state);
}
foreach($states1 as $state) { if(preg_match('/^k.*s$/i', ($state)))
$statesArray[1] = ($state);
}
foreach($states1 as $state) { if(preg_match('/^M.*s$/', ($state)))
$statesArray[2] = ($state);
}
foreach($states1 as $state){ if(preg_match('/a$/', ($state)))
$statesArray[3] = ($state);
}
echo "<br><br>Resultant Array :<br>"; foreach ( $statesArray as $array => $value )
print("STATES[$array]=$value<br>");
?>
```



## OUTPUT:

# Regular Expression Operations

---

Original Array :

STATES[0]=Mississippi

STATES[1]=Alabama

STATES[2]=Texas

STATES[3]=Massachusetts

STATES[4]=Kansas

Resultant Array :

STATES[0]=Texas

STATES[1]=Kansas

STATES[2]=Massachusetts

STATES[3]=Alabama

**10. Write a PHP program to sort the student records which are stored in the database using selection sort.**

```
<html>
<body>
  <style>
    table,
    td,
    th {
      border: 1px solid black;
      width: 33%;
      text-align: center;
      border-collapse: collapse;
      background-color: lightblue;
    }
    table {
      margin: auto;
    }
  </style>
  <?php
    $servername = "localhost";
    $username = "root";
    $password = "";
    $dbname = "web";
    $a=[];
    $conn = mysqli_connect($servername, $username, $password, $dbname);
    if (!$conn)
        die("Connection failed: " . $conn->connect_error);
    $crt="create table student1(usn varchar(20),name varchar(20),address varchar(20))";
    $result0= mysqli_query($conn,$crt);
    $crt1="INSERT INTO `student1`(`usn`,`name`,`address`)
    VALUES ('4ra16cs002','name1','add1')";
    $crt2="INSERT INTO `student1`(`usn`,`name`,`address`)
    VALUES ('4ra16cs001','name2','add2')";
    $crt3="INSERT INTO `student1`(`usn`,`name`,`address`)
```

```
VALUES ('4ra16cs003','name3','add3');"
$result1= mysqli_query($conn,$crt1);
$result2= mysqli_query($conn,$crt2);
$result3= mysqli_query($conn,$crt3);
$sql = "SELECT * FROM student1";
$result = mysqli_query($conn,$sql);
echo "<br>";
echo "<center> BEFORE SORTING </center>";
echo "<table border='2'>";
echo "<tr>";
echo "<th>USN</th><th>NAME</th><th>Address</th></tr>"
if ($result->num_rows> 0)
{
while($row = $result->fetch_assoc())
{
    echo "<tr>";
    echo "<td>". $row["usn"]."</td>";
    echo "<td>". $row["name"]."</td>";
    echo "<td>". $row["address"]."</td></tr>";
    array_push($a,$row["usn"]);
}
}
else
    echo "Table is Empty";
    echo "</table>";

$n=count($a);
$b=$a;

for($i=0;$i<($n-1);$i++)
{
    $pos= $i;
    for ( $j = $i + 1 ; $j < $n ; $j++ )
```

```
{
    if ( $a[$pos] > $a[$j] )
        $pos= $j;
}
if ( $pos!= $i )
{
    $temp=$a[$i];
    $a[$i] = $a[$pos];
    $a[$pos] = $temp;
}
}
$c=[];
$d=[];
$result = $conn->query($sql);

if ($result->num_rows> 0)
{
    while($row = $result->fetch_assoc())
    {
        for($i=0;$i<$n;$i++)
        {
            if($row["usn"]== $a[$i])
            {
                $c[$i]=$row["name"];
                $d[$i]=$row["address"];
            }
        }
    }
}
echo "<br>";
echo "<center> AFTER SORTING <center>";
echo "<table border='2'>";
echo "<tr>";
```

```

echo "<th>USN</th><th>NAME</th><th>Address</th></tr>";

for($i=0;$i<$n;$i++)
{
    echo "<tr>";
    echo "<td>". $a[$i]. "</td>";
    echo "<td>". $c[$i]. "</td>";
    echo "<td>". $d[$i]. "</td></tr>";
}
echo "</table>";
$conn->close();
?>
</body>
</html>

```

### OUTPUT:

BEFORE SORTING

USN	NAME	Address
4ra16cs002	name1	add1
4ra16cs001	name2	add2
4ra16cs003	name3	add3

AFTER SORTING

USN	NAME	Address
4ra16cs001	name2	add2
4ra16cs002	name1	add1
4ra16cs003	name3	add3

## Beyond The Syllabus Programs

### 1. Design a Simple Login Page using HTML code

```
<!Doctype Html>
```

```
<Html>
```

```
<Head>
```

```
<Title>
```

Create a Login form

```
</Title>
```

```
</Head>
```

```
<Body>
```

The following tags are used in this Html code for creating the Login form:

```
<form>
```

```
<label>User Id: </label> <br>
```

```
<input type="text"> <br> <br>
```

```
<label>Password:</label> <br>
```

```
<input type="password"> <br> <br>
```

```
<input type="submit" value="Submit">
```

```
</form>
```

```
</Body>
```

```
</Html>
```

### OUTPUT:

The following tags are used in this Html code for creating the Login form:

User Id:

Password:

**2. Design a HTML Program of ordered and unordered list**

```
<!DOCTYPE html>
<html>
<body>
<h2>An Unordered HTML List</h2>
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
<h2>An Ordered HTML List</h2>
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
</body>
</html>
```

**OUTPUT:****An Unordered HTML List**

- Coffee
- Tea
- Milk

**An Ordered HTML List**

1. Coffee
2. Tea
3. Milk

### 3. Design a 2D Translation, Rotation and Scaling program using CSS

#### Translation:

```
<!DOCTYPE html>

<html>

<head>

<style>

div {
  width: 300px;
  height: 100px;
  background-color: yellow;
  border: 1px solid black;
  transform: translate(50px,100px);
}

</style>

</head>

<body>

<h1>The translate () Method</h1>

<p>The translate () method moves an element from its current position:</p>

<div>

This div element is moved 50 pixels to the right, and 100 pixels down from its current position.

</div>

</body>

</html>
```

#### OUTPUT:

## The translate() Method

The translate() method moves an element from its current position:

This div element is moved 50 pixels to the right, and 100 pixels down from its current position.



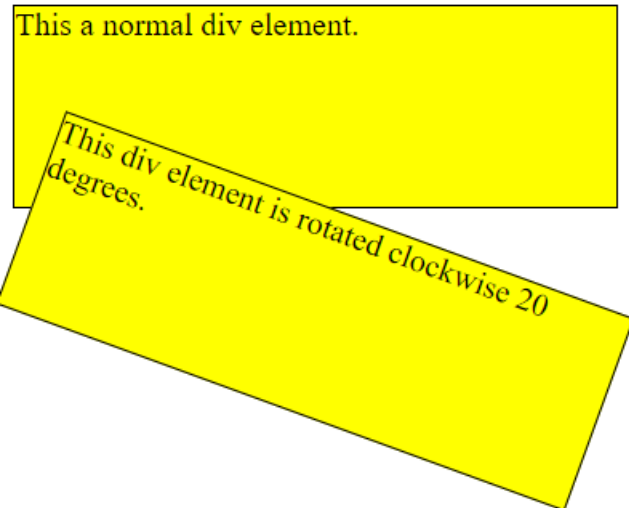
**Rotation:**

```
<!DOCTYPE html>
<html>
<head>
<style>
div
{
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}
div#myDiv
{
    transform: rotate(20deg);
}
</style>
</head>
<body>
<h1>The rotate () Method</h1>
<p>The rotate () method rotates an element clockwise or counter-clockwise. </p>
<div>
This a normal div element.
</div>
<div id="myDiv">
This div element is rotated clockwise 20 degrees.
</div>
</body>
</html>
```

**OUTPUT:**

## The rotate() Method

The rotate() method rotates an element clockwise or counter-clockwise.



**Scaling:**

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
  margin: 150px;
  width: 200px;
  height: 100px;
  background-color: yellow;
  border: 1px solid black;
  transform: scale (2,3);
}
</style>
</head>
<body>
<h1>The scale () Method</h1>
<p>The scale () method increases or decreases the size of an element. </p>
<div>
This div element is two times of its original width, and three times of its original height.
</div>
</body>
</html>
```

**OUTPUT:****The scale() Method**

The scale() method increases or decreases the size of an element.

This div element is two times of its original width, and three times of its original height.

**4. Write a JavaScript program to sort an array**

```
<!DOCTYPE html>
<html>
<body>
<h2>JavaScript Array Sort</h2>
<p>The sort() method sorts an array alphabetically:</p>
<p id="demo1"></p>
<p id="demo2"></p>
<script>
const fruits = ["Banana", "Orange", "Apple", "Mango"];
document.getElementById("demo1").innerHTML = fruits;
fruits.sort();
document.getElementById("demo2").innerHTML = fruits;
</script>
</body>
</html>
```

**OUTPUT:****JavaScript Array Sort**

The sort() method sorts an array alphabetically:

Banana,Orange,Apple,Mango

Apple,Banana,Mango,Orange

**5. Write a switch program using PHP**

```
<!DOCTYPE html>
<html>
<body>

<?php
$favcolor = "red";

switch ($favcolor) {
    case "red":
        echo "Your favorite color is red!";
        break;
    case "blue":
        echo "Your favorite color is blue!";
        break;
    case "green":
        echo "Your favorite color is green!";
        break;
    default:
        echo "Your favorite color is neither red, blue, nor green!";
}
?>

</body>
</html>
```

**OUTPUT:**

Your favorite color is red!

## **VIVA-VOICE QUESTIONS:**

### **1) What is HTML?**

HTML stands for Hyper Text Markup Language.

It is a language of World Wide Web.

It is a standard text formatting language which is used to create and display pages on the Web.

It makes the text more interactive and dynamic.

### **2) What is formatting in HTML?**

The HTML formatting is a process of format the text for a better look and feel.

It uses different tags to make text bold, italicized, underlined.

### **3) How many types of heading does an HTML contain?**

The HTML contains six types of headings which are defined with the <h1> to <h6> tags.

Each type of heading tag displays different text size from another.

So, <h1> is the largest heading tag and <h6> is the smallest one.

### **4) What is the difference between HTML elements and tags?**

HTML elements communicate to the browser to render text.

When the elements are enclosed by brackets <>, they form HTML tags.

Most of the time, tags come in a pair and surround content.

### **5) What is an image map?**

Image map facilitates you to link many different web pages using a single image.

It is represented by <map> tag.

You can define shapes in images that you want to make part of an image mapping.

### **6) What is a style sheet?**

A style sheet is used to build a consistent, transportable, and well-designed style template.

You can add these templates on several different web pages.

It describes the look and formatting of a document written in markup language.

### **7) What is a marquee?**

Marquee is used to put the scrolling text on a web page.

It scrolls the image or text up, down, left or right automatically.

You should put the text which you want to scroll within the <marquee>.....</marquee> tag.

### **8) What are empty elements?**

HTML elements with no content are called empty elements.

For example: <br>, <hr> etc.

**9) What is the use of a span tag? Give one example.**

The span tag is used for following things:

For adding color on text

For adding background on text

Highlight any color text

**10) What is the use of an iframe tag?**

An iframe is used to display a web page within a web page.

**11) What are the entities in HTML?**

The HTML character entities are used as a replacement for reserved characters in HTML.

You can also replace characters that are not present on your keyboard by entities.

These characters are replaced because some characters are reserved in HTML.

**12) Why is a URL encoded in HTML?**

An URL is encoded to convert non-ASCII characters into a format that can be used over the Internet because a URL is sent over the Internet by using the ASCII character-set only.

If a URL contains characters outside the ASCII set, the URL has to be converted.

The non-ASCII characters are replaced with a "%" followed by hexadecimal digits.

**13) What is JavaScript?**

JavaScript is a scripting language. It is different from Java language.

It is object-based, lightweight, cross-platform translated language.

It is widely used for client-side validation.

The JavaScript Translator (embedded in the browser) is responsible for translating the JavaScript code for the web browser.

**14) List some features of JavaScript.**

Some of the features of JavaScript are:

Lightweight

Interpreted programming language

Good for the applications which are network-centric

Complementary to Java

Complementary to HTML

Open source

Cross-platform

**15) List some of the advantages of JavaScript.**

Some of the advantages of JavaScript are:

Server interaction is less

Feedback to the visitors is immediate

Interactivity is high

Interfaces are richer

**16) List some of the disadvantages of JavaScript.**

Some of the disadvantages of JavaScript are:

No support for multithreading

No support for multiprocessing

Reading and writing of files is not allowed

No support for networking applications.

**17) Name the types of functions**

The types of function are:

Named - These type of functions contains name at the time of definition.

Anonymous - These type of functions doesn't contain any name. They are declared dynamically at runtime.

**18) In JavaScript what is an argument object?**

The variables of JavaScript represent the arguments that are passed to a function.

**19) Is JavaScript case sensitive language?**

Yes, JavaScript is a case sensitive language.

**20) How to write a comment in JavaScript?**

There are two types of comments in JavaScript.

Single Line Comment: It is represented by // (double forward slash)

Multi-Line Comment: Slash represents it with asterisk symbol as /\* write comment here \*/

**21) How to create a function in JavaScript?**

To create a function in JavaScript, follow the following syntax.

```
function function_name(){  
    //function body  
}
```

**22) What is the difference between == and ===?**

The == operator checks equality only whereas === checks equality, and data type, i.e., a value must be of the same type.



**23) How to write HTML code dynamically using JavaScript?**

The innerHTML property is used to write the HTML code using JavaScript dynamically.

Let's see a simple example:

```
document.getElementById('mylocation').innerHTML="<h2>This is heading using JavaScript</h2>";
```

**24) How to write normal text code using JavaScript dynamically?**

The innerText property is used to write the simple text using JavaScript dynamically.

Let's see a simple example:

```
document.getElementById('mylocation').innerText="This is text using JavaScript";
```

**25) How to create objects in JavaScript?**

There are 3 ways to create an object in JavaScript.

By object literal

By creating an instance of Object

By Object Constructor

Let's see a simple code to create an object using object literal.

```
emp={id:102,name:"Rahul Kumar",salary:50000}
```

**26) How to create an array in JavaScript?**

There are 3 ways to create an array in JavaScript.

By array literal

By creating an instance of Array

By using an Array constructor

Let's see a simple code to create an array using object literal.

**27) What does the isNaN() function?**

The isNaN() function returns true var emp=["Shyam","Vimal","Ratan"];

if the variable value is not a number.

**28) Is JavaScript faster than ASP script?**

Yes, because it doesn't require web server's support for execution.

**29) What is PHP?**

PHP stands for Hypertext Preprocessor.

It is an open source server-side scripting language which is widely used for web development.

It supports many databases like MySQL, Oracle, Sybase, Solid, PostgreSQL, generic ODBC etc.

**30) What is PEAR in PHP?**

PEAR is a framework and repository for reusable PHP components.

PEAR stands for PHP Extension and Application Repository.

It contains all types of PHP code snippets and libraries.

**31) Who is known as the father of PHP?**

Rasmus Lerdorf

**32) What was the old name of PHP?**

The old name of PHP was Personal Home Page.

**33) Explain the difference b/w static and dynamic websites?**

In static websites, content can't be changed after running the script.

You can't change anything on the site. It is predefined.

In dynamic websites, content of script can be changed at the run time.

Its content is regenerated every time a user visit or reload.

Google, yahoo and every search engine is the example of dynamic website.

**34) What is the name of scripting engine in PHP?**

The scripting engine that powers PHP is called Zend Engine 2.

**35) What is the name of scripting engine in PHP?**

The scripting engine that powers PHP is called Zend Engine 2.

**36) What are the popular frameworks in PHP?**

CakePHP

CodeIgniter

Yii 2

Symfony

Zend Framework etc.

**37) Which programming language does PHP resemble to?**

PHP has borrowed its syntax from Perl and C.

**38) What is "echo" in PHP?**

PHP echo output one or more string. It is a language construct not a function. So the use of parentheses is not required. But if you want to pass more than one parameter to echo, the use of parentheses is required.

Syntax: void echo ( string \$arg1 [, string \$... ] )

**39) What is “print” in PHP?**

PHP print output a string. It is a language construct not a function. So the use of parentheses is not required with the argument list. Unlike echo, it always returns 1.

Syntax: `int print ( string $arg)`

**40) What is the difference between "echo" and "print" in PHP?**

Echo can output one or more string but print can only output one string and always returns 1.

Echo is faster than print because it does not return any value.

**41) How a variable is declared in PHP?**

A PHP variable is the name of the memory location that holds data. It is temporary storage.

Syntax: `$variableName=value;`

**42) What is the difference between \$message and \$\$message?**

\$message stores variable data while \$\$message is used to store variable of variables.

\$message stores fixed data whereas the data stored in \$\$message may be changed dynamically.

**43) What is the use of count() function in PHP?**

The PHP count() function is used to count total elements in the array, or something an object.

**44) What does isset() function?**

The isset() function checks if the variable is defined and not null.

**45) What is the array in PHP?**

An array is used to store multiple values in a single value. In PHP, it orders maps of pairs of keys and values. It saves the collection of the data type.

**46) How many types of array are there in PHP?**

There are three types of array in PHP:

Indexed array: an array with a numeric key.

Associative array: an array where each key has its specific value.

Multidimensional array: an array containing one or more arrays within itself.

**47) What are the methods to submit form in PHP?**

There are two methods GET and POST.

**48) How can you submit a form without a submit button?**

You can use JavaScript submit() function to submit the form without explicitly clicking any submit button.

**49) Write syntax to open a file in PHP?**

PHP fopen() function is used to open file or URL and returns resource. It accepts two arguments: \$filename and \$mode.

Syntax:

```
resource fopen ( string $filename , string $mode [, bool $use_include_path = false [, resource $context ]] )
```

**50) How to read a file in PHP?**

PHP provides various functions to read data from the file. Different functions allow you to read all file data, read data line by line, and read data character by character.

**51) How to write in a file in PHP?**

PHP fwrite() and fputs() functions are used to write data into file. To write data into a file, you need to use w, r+, w+, x, x+, c or c+ mode.

**52) How to delete file in PHP?**

The unlink() function is used to delete a file in PHP.

**53) How do you connect MySQL database with PHP?**

There are two methods to connect MySQL database with PHP. Procedural and object-oriented style.

**54) How to create connection in PHP?**

The mysqli\_connect() function is used to create a connection in PHP.

```
resource mysqli_connect (server, username, password)
```

**55) How to create database connection and query in PHP?**

Since PHP 4.3, mysql\_reate\_db() is deprecated. Now you can use the following 2 alternatives.

```
mysqli_query()
```

```
PDO::_query()
```

**56) What are the different types of errors in PHP?**

There are 3 types of error in PHP.

Notices: These are non-critical errors. These errors are not displayed to the users.

Warnings: These are more serious errors, but they do not result in script termination. By default, these errors are displayed to the user.

Fatal Errors: These are the most critical errors. These errors may cause due to immediate termination of script.

**57) How to stop the execution of PHP script?**

The exit() function is used to stop the execution of PHP script.

**58) What is CSS?**

CSS stands for Cascading Style Sheet. It is a popular styling language which is used with HTML to design websites.

**59) What is the origin of CSS?**

SGML (Standard Generalized Markup Language) is the origin of CSS. It is a language that defines markup languages.

**60) What are the advantages of CSS?**

Bandwidth

Site-wide consistency

Page reformatting

Accessibility

Content separated from presentation

**61) What are the limitations of CSS?**

Ascending by selectors is not possible

Limitations of vertical control

No expressions

No column declaration

Pseudo-class not controlled by dynamic behavior

Rules, styles, targeting specific text not possible

**62) What are the CSS frameworks?**

CSS frameworks are the preplanned libraries which make easy and more standard compliant web page styling. The frequently used CSS frameworks are: -

Bootstrap

Foundation

Semantic UI

Gumby

Ulkit

**63) What is Embedded Style Sheet?**

An Embedded style sheet is a CSS style specification method used with HTML. You can embed the entire stylesheet in an HTML document by using the STYLE element.

**64) What are the advantages of Embedded Style Sheets?**

You can create classes for use on multiple tag types in the document.

You can use selector and grouping methods to apply styles in complex situations.

No extra download is required to import the information.

**65) Name some CSS style components.**

Some CSS Style components are:

Selector

Property

Value

**66) Which command is used for the selection of all the elements of a paragraph?**

The p[lang] command is used for selecting all the elements of a paragraph.

**67) What is the use of % unit?**

It is used for defining percentage values.

**68) Name the property used to specify the background color of an element.**

The background-color property is used to specify the background color of the element. For example:

```
<style>
h2,p{
    background-color: #b0d4de;
}
</style>
```

**69) What is the use of ruleset?**

The ruleset is used to identify that selectors can be attached with other selectors. It has two parts:

Selector - Selector indicates the HTML element you want to style.

Declaration Block - The declaration block can contain one or more declarations separated by a semicolon.

**70) What is the difference between inline, embedded and external style sheets?**

**Inline:** Inline Style Sheet is used to style only a small piece of code.

Syntax: <htmltag style="cssproperty1:value; cssproperty2:value;"> </htmltag>

**Embedded:** Embedded style sheets are put between the <head>...</head> tags.

Syntax: style>

```
body {
    background-color: linen;
}
h1 {
    color: red;
    margin-left: 80px;
```

```
}
```

```
</style>
```

**External:** This is used to apply the style to all the pages within your website by changing just one style sheet.

Syntax

```
<head>
```

```
<link rel="stylesheet" type="text/css" href="mystyle.css">
```

```
</head>
```