



C.I.T

Partnering in Academic Excellence

WEB TECHNOLOGY LABORATORY WITH MINI PROJECT - 15CSL77



WEB TECHNOLOGY LABORATORY WITH MINI PROJECT
[As per Choice Based Credit System (CBCS) scheme]
(Effective from the academic year 2016 -2017)
SEMESTER - VII

Subject Code: 15CSL77

IA Marks :20

Number of Lecture Hours/Week :01I + 02P

Exam Marks: 80

Total Number of Lecture Hours :40

Exam Hours :03

CREDITS - 02

Course objectives: This course will enable students to

1. Design and develop static and dynamic web pages.
2. Familiarize with Client-Side Programming, Server-Side Programming, Active server Pages.
3. Learn Database Connectivity to web applications.

Description (If any):

NIL

Lab Experiments:

PART A

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:
 - 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
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. Write the PHP programs to do the following:

- a. Implement simple calculator operations.
 - b. Find the transpose of a matrix.
 - c. Multiplication of two matrices.
 - d. Addition of two matrices.
9. 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:
- 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 caseinsensitive comparison. [Note: Passing re.las 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.
10. Write a PHP program to sort the student records which are stored in the database using selection sort.

Study Experiment / Project:

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.

Note:

1. In the examination each student picks one question from part A.
2. A team of two or three students must develop the mini project. However during the examination, each student must demonstrate the project individually.
3. The team must submit a brief project report (15-20 pages) that must include the following
 - a. Introduction
 - b. Requirement Analysis
 - c. Software Requirement Specification
 - d. Analysis and Design
 - e. Implementation
 - f. Testing

Course outcomes: The students should be able to:

1. Design and develop dynamic web pages with good aesthetic sense of designing and latest technical know-how's.
2. Have a good understanding of Web Application Terminologies, Internet Tools other web services.
3. Learn how to link and publish web sites

Conduction of Practical Examination:

1. All laboratory experiments from part A are to be included for practical examination.
 2. Mini project has to be evaluated for 30 Marks.
 3. Report should be prepared in a standard format prescribed for project work.
 4. Students are allowed to pick one experiment from the lot.
 5. Strictly follow the instructions as printed on the cover page of answer script.
 6. Marks distribution:
 - a) Part A: Procedure + Conduction + Viva: $10 + 35 + 5 = 50$ Marks
 - b) Part B: Demonstration + Report + Viva voce = $15 + 10 + 05 = 30$ Marks
- Change of experiment is allowed only once and marks allotted to the procedure part to be made zero.

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

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Calculator</title>
  </head>
  <body>
    <script type="text/javascript">
      operation=-1;
      while (operation != 0)
      {
        var operation=prompt("Which operation do you wish to do?\n0:
        End Program\n1: Addition\n2: Subtraction\n3:
        Multiplication\n4: Division\n", "");
        //addition, subtraction, multiplication, or division
        if (operation>0 && operation<=4)
        {
          var num1=parseInt(prompt("Enter the first number.", ""));
          var num2=parseInt(prompt("Enter the second number.", ""));
          if (operation==1) alert("The sum is "+(num1+num2));
          if (operation==2) alert("The difference is "+(num1-num2));
          if (operation==3) alert("The product is "+(num1*num2));
          if (operation==4) alert("The quotient is "+(num1/num2));
        }
        else
        {
          if (operation!=0) alert("That wasn't one of the options");
        }
      }
    </script>
  </body>
</html>
```

OUTPUT:

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.

Note: This program does not require any input from the user.

```
<!DOCTYPE HTML>
```

```
<html>
```

```
  <head>
```

```
  <script>
```

```
    document.write( "<table> <tr> <th>Number</th> <th>Square</th>  
                   <th>Cube</th> </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>" )
```

```
  </script>
```

```
  </head>
```

```
</html>
```

OUTPUT:

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>Dynamic Positioning</title>
    <script language = "javascript">
      var speed = 5;
      var count = 10;
      var direction = 1;
      var firstLine = "Text growing";
      var fontStyle = [ "serif", "sans-serif", "monospace" ];
      var fontStylecount = 0;
      function start()
      {
        window.setInterval( "run()", 100 );
      }
      function run()
      {
        count += speed;
        if ( ( count % 200 ) == 0 )
        {
          speed *= -1;
          direction = !direction;
          pText.style.color = ( speed < 0 ) ? "red" : "blue" ;
          firstLine =( speed < 0 ) ? "Text shrinking" : "Text growing";
          pText.style.fontFamily = fontStyle[ ++fontStylecount % 3 ];
        }

        pText.style.fontSize = count / 3;
        pText.style.left = count;
        pText.innerHTML = firstLine + "<BR> Font size: " + count + "pt";
      }
    </script>
  </head>
  <body onload = "start()">
    <p id = "pText"  STYLE = "position: absolute; left: 0; font-family: serif; color: blue">
      Welcome!</p>
  </body>
</html>
```

```
</body>  
</html>
```

OUTPUT:

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>
<body>
  <script type="text/javascript">
    var str = prompt("Enter the Input", "");
    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;
      }
      alert("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 )
        alert("The position of the left most vowel is "+(i+1));
      else
        alert("No vowel found in the entered string");
    }
  </script>
</body>
</html>
```

OUTPUT:

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 = "6a.css" ?>
<students>
<VTU>
    <USN> 1CG17IS001 </USN>
    <name> vinay </name>
    <college> CIT </college>
    <branch> ISE</branch>
    <YOJ> 2017 </YOJ>
    <email> vinay@gmail.com </email>
</VTU>
<VTU>
    <USN> 1CG17IS002</USN>
    <name> mayan</name>
    <college> CIT </college>
    <branch> ISE </branch>
    <YOJ> 2017 </YOJ>
    <email> mayan @gmail.com </email>
</VTU>
<VTU>
    <USN>1CG17IS003 </USN>
    <name> sandhya </name>
    <college> CIT </college>
    <branch> ISE </branch>
    <YOJ> 2017</YOJ>
    <email> sandhya@yahoo.com </email>
</VTU>
</students>
<!-- 5.css -->
VTU {
    font-family: "lucida calligraphy", arial, 'sans serif';
    margin-left: 10pt;
    background-color:rgb(200,255,205);
}
USN {
    font-size: 85%;
    background-color:rgb(100,255,105);

```

```
    }  
name {  
    color:blue;  
    font-size: 39pt;  
    font-style: italic;  
    font-weight: bold;  
    }  
college {  
    color:pink;  
    font-size: 25pt;  
    font-style: italic;  
    font-weight: bold;  
    }  
branch {  
    color:red;  
    font-size: 32pt;  
    font-style: italic;  
    }  
YOJ {  
    padding: 0.5cm;  
    }  
email{  
    color:green;  
    font-size: 25pt;  
    font-style: italic;  
    font-weight: bold;  
    }  
}
```

OUTPUT:

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.

6.php

```
<?php
    print "<h3> REFRESH PAGE </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:

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

7.php

```
<!DOCTYPE HTML>
```

```
<html>
<head>
  <meta http-equiv="refresh" content="1"/>
  <style>
    p {
      color:white;
      font-size:90px;
      position: absolute;
      top: 50%;
      left: 50%;
      transform: translate(-50%, -50%);
    }
    body {background-color: yellow;}
  </style>
<p> <?php echo date(" h: i : s A");?> </p>
</head>
```

OUTPUT:

8. Write the PHP programs to do the following:

- a) Implement simple calculator operations.
- b) Find the transpose of a matrix.
- c) Multiplication of two matrices.

d) Addition of two matrices.

8a.php

```

<html>
<head>
<style>
    table, td, th
    {
    border: 1px solid black;
    width: 35%;
    text-align: center;
    background-color: DarkGray;
    }
    table { margin: auto; }
    input,p { text-align:right; }
</style>
</head>
<body>
    <form method="post">
        <table>
        <caption><h2> SIMPLE CALCULATOR </h2></caption>>
        <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'])) // it checks if the input submit is filled
        {
            $num1 = $_POST['num1'];
            $num2 = $_POST['num2'];
            if(is_numeric($num1) and is_numeric($num2) )
            {

```

```

        echo "<tr>
            <td> Addition :</td>
            <td><p>".($num1+$num2)."</p></td></tr>";
        echo "<tr>
            <td> Subtraction :</td>
            <td><p> ".($num1-$num2)."</p></td>></tr>";
        echo "<tr><td> Multiplication :</td>
            <td><p>".($num1*$num2)."</p></td>></tr>";
        echo "<tr><td>Division :</td>
            <td><p> ".($num1/$num2)."</p></td>></tr>";
        echo "</table>";
    }
    else
    {
        echo"<script type='text/javascript' >
            alert(' ENTER VALID NUMBER');
            </script>";
    }
}
?>
</body>
</html>

```

8b.php

```

<?php
    $a = array(array(1,2,3),array(4,5,6),array(7,8,9));
    $b = array(array(7,8,9),array(4,5,6),array(1,2,3));
    $m=count($a);
    $n=count($a[2]);
    $p=count($b);
    $q=count($b[2]);
    echo "the first matrix :"."<br/>";
    for ($row = 0; $row < $m; $row++)
    {
        for ($col = 0; $col < $n; $col++)
            echo " ".$a[$row][$col];
        echo "<br/>";
    }
    echo "the second matrix :"."<br/>";
    for ($row = 0; $row < $p; $row++)

```



```

{
    for ($col = 0; $col < $q; $col++)
        echo " ".$b[$row][$col];
    echo "<br/>";
}
echo "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 "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 " 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:

9. 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:

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.ias 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.

9.php

```
<?php
    $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:

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

Go to Mysql and then type
create database weblab;

use weblab;

create table student(usn varchar(10),name varchar(20),address varchar(20));

10.php

```

<!DOCTYPE html>
<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 = "root";
    $dbname = "weblab";
    $a=[ ];
// Create connection
// Opens a new connection to the MySQL server
    $conn = mysqli_connect($servername, $username, $password, $dbname);
// Check connection and return an error description from the last connection
error, if any
    if ($conn->connect_error)
        die("Connection failed: " . $conn->connect_error);
    $sql = "SELECT * FROM student";
// performs a query against the database
    $result = $conn->query($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)

```

```

{
// output data of each row and fetches a result row as an associative array
while($row = $result->fetch_assoc())
{
    echo "<tr>";
    echo "<td>". $row["usn"]."</td>";
    echo "<td>". $row["name"]."</td>";
    echo "<td>". $row["addr"]."</td></tr>";
    array_push($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 ($result->num_rows> 0)// output data of each row
{
    while($row = $result->fetch_assoc())
    {
        for($i=0;$i<$n;$i++)

```

```
        {
            if($row["usn"]== $a[$i])
            {
                $c[$i]=$row["name"];
                $d[$i]=$row["addr"];
            }
        }
    }
}
echo "<br>";
echo "<center> AFTER SORTING <center>";
echo "<table border='2'>";
echo "<tr>";
echo "<th>USN</th><th>NAME</th><th>Address</th></tr>";
for($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: