Lab Cycle 1

CO1: **Explore markup languages features and create interactive web pages using them**.

Program # 1

1. Create a simple HTML webpage to showcase the use of images, tables, and link within a page.

PROGRAM CODE:

cv.html

```
<html>
<head>
<title>cv</title>
</head>
<body><center>
<h3><b>Jayalekshmi J</b><br>
<b>jjayalekshmi@gmail.com</b> <br>
<b>9678302831</b> <br>
<b>Sreelakam,Haripad Alappuzha Pin:690548</b> <br></h3></p><br>
<img src="jaya.jpg" height="150" width="150"></center>
<a href="#footer">go to bottom</a><br>
<h3><i>Objective:</i></h3></b>Secure a responsible career opportunity to fully utilize my training and skills,
while making a significant contribution to the success of the company.
<h3><i>Qualification</i></h3>
<table  style="width:40%" border="2" cellspacing="3">
<tr>
<th>Level</th>
<th>Board</th>
<th>Marks</th></tr>
```

```
<tr>
<td>BCA</td>
<td>University of Kerala</td>
<td>66%</td></tr>
<tr><
<td>+2</td>
<td>State Higher Secondary</td>
<td>72%</td></tr>
<tr>
<td>10</td>
<td>THSLC</td>
<td>90%</td></tr></table>
<h4><i>Skills<i></h4>
<ul><li>C</li>
<li>C++</li>
<li>Java</li>
<li>HTML</li>
<li>Python</li>
<br><p id="footer">
<a href="cv2.html">next</a>
</body>
</html>
```

cv2.html

```
<html>
<body bgcolor="lightblue"><h3><u>Hobbies</u></h3>
<ol type="1">
<li>Reading</li>
<li>Gardening</li>
<li>Drawing</li></ol>
```

```html
<h3><i>Languages knwon:</i></h3>
<ul>
<li>English</li>
<li>Malayalam</li>
<li>Tamil</li>
<li>Hindi</li>
</ul></p>
<h3><u>Additional information</u></h3>
DOB:09/06/2001<br>
Nationality: Indian<br><br><br>
<a href="cv.html">previous</a></body>
</html>
```

Program # 2

2. Create a webpage of two parts,part 1:MCA student registration form part2:webpage of the college.Use frames and various form element to create the webpage

PROGRAM CODE:

mits.html

```html
<html>
<body>
<h2 align="center"><font color="red">MUTHOOT INSTITUTE OF
TECHNOLOGY AND
SCIENCE</font></h2>
<table ><tr>
<!--<th><a href="placements.html">Placements</a></th>
<td><a href="contact.html">Contact us</a></th></table>-->
<img src="Clg.jfif" height="250" width="700" align="center"><br>
<p><b>Muthoot Institute of Technology and Science (MITS)</b> Muthoot
Institute of Technology and Science (MITS) is
promoted by Muthoot M. George Institute of Technology, a Section 25 Company
within the Muthoot Group. MITS is a self
financing technical institution offering postgraduate and undergraduate engineering
programmes, situated in the industrial
suburb of Kochi, close to the Smart City and Info Park, approximately 15 kms from
Vytilla Junction towards Muvattupuzha on
the Cochin Madurai National Highway.The promoters with their commanding
presence in the domains of Financial Services, Hospitality,
Healthcare, Renewable Energy and Information Technology, are committed to
building MITS as a centre of excellence, focusing purely
on merit. This "temple of learning" will provide to the students, state-of-the-art
infrastructure, highly qualified and proficient
teachers from various faculty of engineering and allied streams, embedded in a
conducive environment where focus will be on their  harmonious
development.</p>
<b>College website: <a href="http://mgmits.ac.in/">http://mgmits.ac.in/</a></b>
<h3><i>VISION</i></h3>
<p><b>To be a centre of excellence for
learning and research  in engineering and
technology, producing intellectually
well-equipped and socially committed
```

citizens possessing   an ethical value
system.<b></p>
<h3><i>COURSES PROVIDED:</i></h3>
<h2>M-tech</h2>

Aritificial Intelligence and Data Science
Cyber Security
<h2>B-tech</h2>

Computer Science
Civil Engineering
Mechanical Engineering
EEE
Cyber Security
EC
Artificial Intelligence and data science
<h2>MCA</h2>

Computer Application
</body>
</html>

registration.html

```
<html>
<body>
<h1><u>REGISTRATION FORM</u></h1>
Name: <input
type="text"><br><br>
Phone: <input
type="text"><br><br>
email: <input
type="text"><br><br>
Address: <textarea rows="7" cols="25" placeholder="Enter your current
address"></textarea><br><br>
Date of birth:<input type="text" placeholder="dd/mm/yyyy"><br><br>
Gender:<input type="radio" name="gender" value="gender">
<label for="gender">Male</label>
<input type="radio" name="gender">
<label for="gender">Female</label><br><br>
UG stream: <input
type="text"><br><br>
Percentage: <input
type="text"><br><br>
Course opted: <select name="course">
<option value="MCA">MCA</option>
<option value="MSc">MSc</option>
```

Lab Cycle 2

CO2: **Learn and design client-side validation using scripting languages**

Program # 6

6.Create a HTML page to explain the use of various predefined functions in a string and math object in java script.

PROGRAM CODE:

Math.html

```
<html>
<head>
<title>Math Functions</title>
</head>
<body bgcolor="orange">
<h2><i><center>MATH FUNCTIONS</center></i></h2>
<label for="userInput">Enter a number:</label>
<input type="text" id="userInput"><br>
<button onclick="performMathFunctions()">Submit</button>
<p id="output"></p>
<script>
function performMathFunctions() {
var userInput = document.getElementById("userInput").value;
var number = parseFloat(userInput);
var squareRoot = Math.sqrt(number);
var logValue=Math.log(number);
var logtenValue=Math.log10(number);
var absoluteValue = Math.abs(number);
var rounded = Math.round(number);
var ceilvalue=Math.ceil(number);
var floorvalue=Math.floor(number);
var r=Math.random();
var t=Math.trunc(number);
var s=Math.sign(number);
var output= "Square Root: " + squareRoot + "<br>";
output += "Logarithm: " + logValue+ "<br>";
output += "Logarithm to base 10: " +logtenValue+ "<br>";
output += "Absolute Value: " + absoluteValue + "<br>";
output += "Rounded Value: " + rounded+"<br>";
output += "Ceil Value: " + ceilvalue + "<br>";
output += "Floor Value: " + floorvalue + "<br>";
output += "Random Value: " + r+"<br>";
```

```
        output += "Trunc Value: " + t+"<br>";
        output += "Sign Value: " + s+"<br>";
        document.getElementById("output").innerHTML = output;
        }
</script>
<h4>Min and Max Calculator</h4>
<label for="numbers">Enter a list of numbers:</label>
<input type="text" id="numbers"><br>
<button onclick="calculateMinMax()">Calculate</button>
<p id="result"></p>
<script>
function calculateMinMax() {
const inputElement = document.getElementById("numbers");
const resultElement = document.getElementById("result");
const input = inputElement.value;
const numbers = input.split(',').map(item => parseFloat(item));
const min = Math.min(...numbers);
const max = Math.max(...numbers);
resultElement.innerHTML = `Minimum: ${min}<br>Maximum: ${max}`;
}
</script>
<h4>Power Calculator</h4>
<label for="base">Enter the base number:</label>
<input type="text" id="base"><br><br>
<label for="power">Enter the exponent:</label>
<input type="text" id="power"><br>
<button onclick="calculatePower()">Calculate</button>
<p id="res"></p>
<script>
function calculatePower()
{
        var baseElement = document.getElementById("base");
        var powerElement = document.getElementById("power");
        var resultElement = document.getElementById("result");
        var base = parseFloat(baseElement.value);
        var power = parseFloat(powerElement.value);
        var res1 = Math.pow(base, power);
    res= "Power: " + res1 + "<br>";
        document.getElementById("res").innerHTML = res;
}
</script>
</body>
</html>
```

String.html

```
<head>
  <title>String Functions</title>
  </head>
 <body bgcolor="orange">
<h2><i><center>STRING FUNCTIONS</center></i></h2>

  <label for="inputString">Enter a string:</label>
  <input type="text" id="inputString"><br><br>

  <label for="concatString">Enter a string to concatenate:</label>
  <input type="text" id="concatString"><br><br>
  <label for="replacePattern">Enter a pattern to replace:</label>
  <input type="text" id="replacePattern"><br><br>

  <label for="replacementString">Enter a replacement string:</label>
  <input type="text" id="replacementString"><br><br>

  <label for="start">Enter the starting index:</label>
  <input type="number" id="start"><br><br>

  <label for "end">Enter the ending index:</label>
  <input type="number" id="end"><br><br>
  <button onclick="performStringFunctions()">Submit</button>
  <p id="output"></p>
  <script>
   function performStringFunctions() {
     var inputString = document.getElementById("inputString").value;
     var length = inputString.length;
     var uppercase = inputString.toUpperCase();
     var lowercase = inputString.toLowerCase();
     var concatString = document.getElementById("concatString").value;
     var replacePattern = document.getElementById("replacePattern").value;
     var replacementString = document.getElementById("replacementString").value;
     var start = parseInt(document.getElementById("start").value);
     var end = parseInt(document.getElementById("end").value);
     var concatenatedString = inputString.concat(concatString);
     var replacedString = inputString.replace(replacePattern, replacementString);
     var substrResult = inputString.substr(start, end - start);
     var sliceResult = inputString.slice(start, end);
     var substringResult = inputString.substring(start, end);
    var output = "Length: " + length + "<br>";
     output += "Uppercase: " + uppercase + "<br>";
     output += "Lowercase: " + lowercase + "<br>";
     output += "Substring : " + substringResult + "<br>";
```

Program # 7

7. Generate the calendar using JavaScript code by getting the year from the user.

PROGRAM CODE:

```html
<html>
<head>
 <title>calendar</title>
</head>
<style>
 table,
 th,
 td {
   border: 2px solid black;
   color: black;
 }

 .myDiv {
   border: 6px;

 }

 tr:nth-child(odd) {
   background-color: lightyellow;
 }
</style>

<body style="background-color:powderblue;">
 <div class="myDiv">
   <h2 style="color:green; text-align:center;"><u><b>Calendar</b></u></h2>
 </div>
 <center>
   Enter the year:
   <input type="text" placeholder="yyyy" id="t1"><br><br>
   Enter the month:
   <input type="text" placeholder="mm" id="t2"><br><br>
   <button type="button" onclick="call()">Submit</button>
   <center>
    <h2 style="color:black;" id="h1"></h2>
   </center>
   <br>
   <br>
```

```
      <div id="demo"></div>

    <script>
     function createCalendar(elem, year, month) {
       let mon = month - 1;
       let d = new Date(year, mon);
       let table = '<h3>' + getMonthName(mon) + ' ' + year + '</h3>';
       table +=
  '<table><tr><th>MO</th><th>TU</th><th>WE</th><th>TH</th><th>FR</th><th>
  SA</th><th>SU</th></tr><tr>';
       for (let i = 0; i < getDay(d); i++) {
        table += '<td></td>';
       }

       while (d.getMonth() == mon) {
        if (getDay(d) % 7 != 6)
          table += '<td>' + d.getDate() + '</td>';
        else
          table += '<td style="color:red;">' + d.getDate() + '</td>';
        if (getDay(d) % 7 == 6) {
          table += '</tr><tr>';
        }

        d.setDate(d.getDate() + 1);
       }
       if (getDay(d) != 0) {
        for (let i = getDay(d); i < 7; i++) {
          table += '<td></td>';
        }
       }
       table += '</tr></table>';

       elem.innerHTML = table;
      }

      function getDay(date) {
       let day = date.getDay();
       if (day == 0) day = 7;
       return day - 1;
      }

      function getMonthName(month) {
       const monthNames = ["January", "February", "March", "April", "May", "June",
  "July", "August", "September", "October", "November", "December"];
       return monthNames[month];
      }

      function call() {
       var year = document.getElementById("t1").value;
       var month = document.getElementById("t2").value;
```

Program # 8

8. Create a HTML registration form and to validate the form using JavaScript code.

PROGRAM CODE:

```html
<html lang="en">
<head>

 <title>Registration Form</title>
 <style>
   body{
display:flex;
flex-direction: column;
    justify-content: center;
    align-items: center;
    justify-content: center;
    height: 90vh;
    margin: 0;
    background-color: pink;
   }
   form {
    text-align: left;
background-color: white;
   }
 h1 {
    text-align: center;
    color: black;
   }
 </style>
</head>
<body>
 <h1><u>REGISTRATION FORM</u></h1>

 <form name="reg" onsubmit="return validateform()">
<!--<h1>REGISTRATION FORM</H1>-->
   Name *:              
<input type="text" name="fname" >
<br><br>
Date of Birth:   
<input type="text" name="dob"><br><br>
Gender:           
<input type="radio" name="gender">
<label name="Male">Male</label>
<input type="radio" name="gender">
<label name="Female">Female</label><br><br>
```

Address: <textarea rows="5" cols="30" placeholder="Enter full address "></textarea>

Email *:
<input type="text" name="mail">

Phone *:
<input type="text" name="mobile">

Course opted: <input type="text" name="course">

<input type="submit"> <input type="reset">
  </form>

  <script>
    function validateform()
{
var fname = document.forms["reg"]["fname"].value;
var dob = document.forms["reg"]["dob"].value;
var mail = document.forms["reg"]["mail"].value;
var mobile = document.forms["reg"]["mobile"].value;
var course = document.forms["reg"]["course"].value;
if (fname === "")
{
     alert("Name is required");
     return false;
     }
if (dob === "")
     {
     alert("Please enter your dob ");
     return false;
}
if (mobile === "" || isNaN(mobile) || mobile.length !== 10)
  {
     alert("Invalid Mobile Number");
     return false;
    }
if (course === "")
{
    alert("Please enter course");
     return false;
     }
if (mail === "" || !isValidEmail(mail))
{
     alert("Invalid Email Address");
     return false;
    }
return true;
}

function isValidEmail(mail)

Program # 10

10. Develop a JavaScript Event Handling mechanism to change the background colour of a HTML page.

PROGRAM CODE:

```
<html>
<head >
<title>We Can Change the Background Colours</title>
<style>
body { font-family: arial; }
#container { width: 600px;
height: 400px;
margin: 50px auto;
padding: 20px;
text-align: center;
border: 1px solid #ccc;}
</style>
</head>
<body>
<div id="container">
<h1>To change background colors</h1>
<p>Click Here</p> </div>
<script>
const container = document.getElementById('container');
container.addEventListener('click', () => {
const colors = ['orange', 'gray', 'yellow', 'pink', 'green', 'lightblue'];
const randomColor = colors[Math.floor(Math.random() * colors.length)];
container.style.backgroundColor = randomColor; });
</script></body></html>
```

Program # 11

11. Create a HTML page to display a new image and text when the mouse comes over the existing content in the page using JavaScript Event Handling

PROGRAM CODE:

```html
<html>
<head>
<meta charset="UTF-8">
<title>Image and Text Hover</title>
<style>
#image-container {
position: relative;
width: 300px;
height: 200px;
background-color: #ccc;
text-align: center;
}
#image-container img {
width: 100%;
height: auto; }
#hidden-content {
position: absolute;
top: 0;
left: 0;
width: 100%;
height: 100%;
background-color: rgba(0, 0, 0, 0.5);
color: white;
text-align: center;
```

```
display: none; }
</style>
</head>
<body>
<center>
<div id="image-container">
<img src="apple.avif" alt="Image 1">
<p id="image-text">I see an apple here !!</p>
<div id="hidden-content">
<img src="straw.jpg" alt="Image 2">
</div>
</div>
<script>
const imageContainer = document.getElementById('image-container');
const hiddenContent = document.getElementById('hidden-content');
const imageText = document.getElementById('image-text');
imageContainer.addEventListener('mouseover', () => {
hiddenContent.style.display = 'block';
imageText.textContent = 'Hey! I am a strawberry now!!'; });
imageContainer.addEventListener('mouseout', () => {
hiddenContent.style.display = 'none';
imageText.textContent = 'I see an apple here !!'; });
</script>
</center>
</body>
</html>
```

Program # 12

12. Create a HTML page and develop an online exam using JavaScript.

PROGRAM CODE:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Web Programming Quiz</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      background-color: lightblue;
    }

    #examContainer {
      background-color: white;
      border: 1px solid white;
  padding: 20px;
    }

    form {
      text-align: left;
    }

    #result {
      margin-top: 20px;
      text-align: left;
    }
  </style>
</head>
<body>
<div id="examContainer">
  <h1 align="center"><u>Web Programming Quiz</u></h1>
<form id="examForm">
  <h3>1. What does HTML stand for?</h3>
```

```
<label>
  <input type="radio" name="q1" value="Hypertext Markup Language">Hypertext
Markup Language
</label>
<label>
  <input type="radio" name="q1" value="Hyperlink Markup Language">Hyperlink
Markup Language
</label>
<label>
  <input type="radio" name="q1" value=" Home tool Markup Language ">Home
tool Markup Language
</label>

<h3>2. Who is the father of HTML?</h3>
<label>
  <input type="radio" name="q2" value=" Rasmus Lerdorf ">Rasmus Lerdorf
</label>
<label>
  <input type="radio" name="q2" value=" Tim Berners-Lee ">Tim Berners-Lee
</label>
<label>
  <input type="radio" name="q2" value=" Brendan Eich ">Brendan Eich
</label>

<h3>3. input tag is an: </h3>
<label>
  <input type="radio" name="q3" value=" a format tag ">a format tag
</label>
<label>
  <input type="radio" name="q3" value=" an empty tag ">an empty tag
</label>
<label>
  <input type="radio" name="q3" value=" All of the above ">All of the above
</label>

  <br>
  <br>
  <input type="button" value="Submit" onclick="submitExam()">
</form>

<div id="result" style="display: none;">
  <h2>Result:</h2>
  <p id="score"></p>
  <h3>Correct Answers:</h3>
  <ul id="correctAnswers"></ul>
</div>
```

```
        </div>
        <script>

function submitExam() {
            const correctAnswers = {
                q1:'Hypertext Markup Language',
                q2:'Tim Berners-Lee',
                q3:'an empty tag',
            };

            const userAnswers = {
                q1: document.querySelector('input[name="q1"]:checked').value,
                q2: document.querySelector('input[name="q2"]:checked').value,
                q3: document.querySelector('input[name="q3"]:checked').value,
            };

          let score = 0;
            for (const question in correctAnswers) {
                if (correctAnswers[question] === userAnswers[question]) {
                    score++;
                }
            }

         document.getElementById('score').innerText = `Score: ${score} out of 3`;
            const correctAnswersList = document.getElementById('correctAnswers');
            correctAnswersList.innerHTML = '';

            for (const question in correctAnswers) {
                const li = document.createElement('li');
                li.innerHTML    =    `<strong>Question    ${question.slice(1)}:</strong>
${correctAnswers[question]}`;
                correctAnswersList.appendChild(li);
            }
            document.getElementById('result').style.display = 'block';
        }
</script>
</body>
</html>
```