LAB MANUAL

FOR

FULL STACK DEVELOPMENT

Semester - 1

[Subject Code: 23OMC108]

Master of Computer Applications

Prepared By

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MCA 1st Semester – Full Stack Development Laboratory

Program	Master of Computer Applications
Semester	1
Course Title	Full Stack Development Laboratory
Course Code	23OMC108
Course Credits	2
Course Type	Laboratory

1. Course Summary

The aim of this course is to gain the skills and knowledge necessary to build simple web applications as well as full-stack web applications using modern and scalable web technologies and increase employability as a full-stack developer. The students are taught the basics of HTML, CSS, JavaScript, PHP, and the basic components of Full Stack development using MERN stack widely used in the industry for developing web pages. Students will learn the use of XHTML and CSS for developing presentable web pages. They will also be able to create dynamic web pages by applying event-handling mechanisms using JavaScript. Students will understand the concepts of cookies and sessions in PHP for creating large web applications. Students will learn to develop simple ReactJS applications.

2. Course Outcomes (COs)

After the successful completion of this course, the student will be able to:

CO-1. Demonstrate the usage of XHTML tags, and CSS for developing presentable web pages[L-3]

CO-2. Develop dynamic web pages by applying event-handling mechanisms using JavaScript [L-5]

CO-3. Demonstrate the use of COOKIES and SESSION in PHP [L-3]

CO-4. Develop simple ReactJS applications.[L-5]

3. Course Contents – Full Stack Development Laboratory Programs List

10	Write a PHP program using COOKIE to store the current date and time and on reopening the same web page display the "Last visited date and time".	
11	Write a PHP program to demonstrate the use of SESSIONS to increment a count on each page refresh, and display the same on the web page.	
12	Create a React Application to display the message "Developing using ReactJS, Graphic Era University".	

Full Stack Development Laboratory Programs

1. **Create an XHTML page that provides information about the MCA department, at Graphic Era University. The XHTML page must use the following tags:**
   - **Links - Anchor tag**
   - **Images**
   - **Tables**

   (if needed use other tags for better presentation)

Program 1: "Prg1-main.html"

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html>
<html>
  <head>
      <title>Demonstration of tables, images and links in XHTML
     </title>
  </head>
    <body >
    <h3 align="left">Demonstration of tables, images and links in
XHTML
    </h3> <br />

    <table border="2" cellpadding="10" cellspacing="5" >
     <tr>
         <th>  MCA department </th>
         <td>
            <a href="https://geu.ac.in/course/mca/">Information of
MCA
              Department </a>
         </td>
     </tr>
     <tr>
         <th>  Graphic Era - Gallery </th>
         <td> <a href="prg1-imagesofgeu.html"> Gallery </a>
         </td>
     </tr>
     <tr>
         <th>  Clickable Image as Hyperlink </th>
         <td>
           <a href = "https://geu.ac.in/" target="_self" >
            <img src="geulogo.png" alt="Unable to load image"
                  border="2" width="100" height="100"  />

            </a>
         </td>
     </tr>
    </table>
</body>
<html>
```

"Prg1-imagesofgeu.html"

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html>
<html>
<head>
    <title>Example of using images in XHTML </title>
</head>
<body>
    <p><b> Graphic Era University </b></p>
     <table cellspacing="5">
       <tr>
         <td> <img src="geuimage1.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
          <td> <img src="geuimage2.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
         <td> <img src="geuimage3.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
      </tr>
      <tr>
         <td> <img src="geuimage4.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
          <td> <img src="geuimage5.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
         <td> <img src="geuimage6.jpg" alt="Unable to load image"
                border="2" width="200" height="200"  />
          </td>
     </tr>
     <tr>
        <td> <img src="geuimage7.jpg" alt="Unable to load image"
               border="2" width="200" height="200"  />
        </td>
        <td> <img src="geuimage8.jpg" alt="Unable to load image"
               border="2" width="200" height="200"  />
        </td>
       <td> <img src="geuimage9.jpg" alt="Unable to load image"
               border="2" width="200" height="200"  />
        </td>
      </tr>
    </table>
</body>
</html>
```

Program 1 – Output :

Demonstration of tables, images and links in XHTML

MCA department	Information of MCA department
Graphic Era - Gallery	Gallery
Clickable Image as Hyperlink	

Graphic Era University

2. Create an XHTML page that demonstrates the usage of lists and tables.

Program 2 –

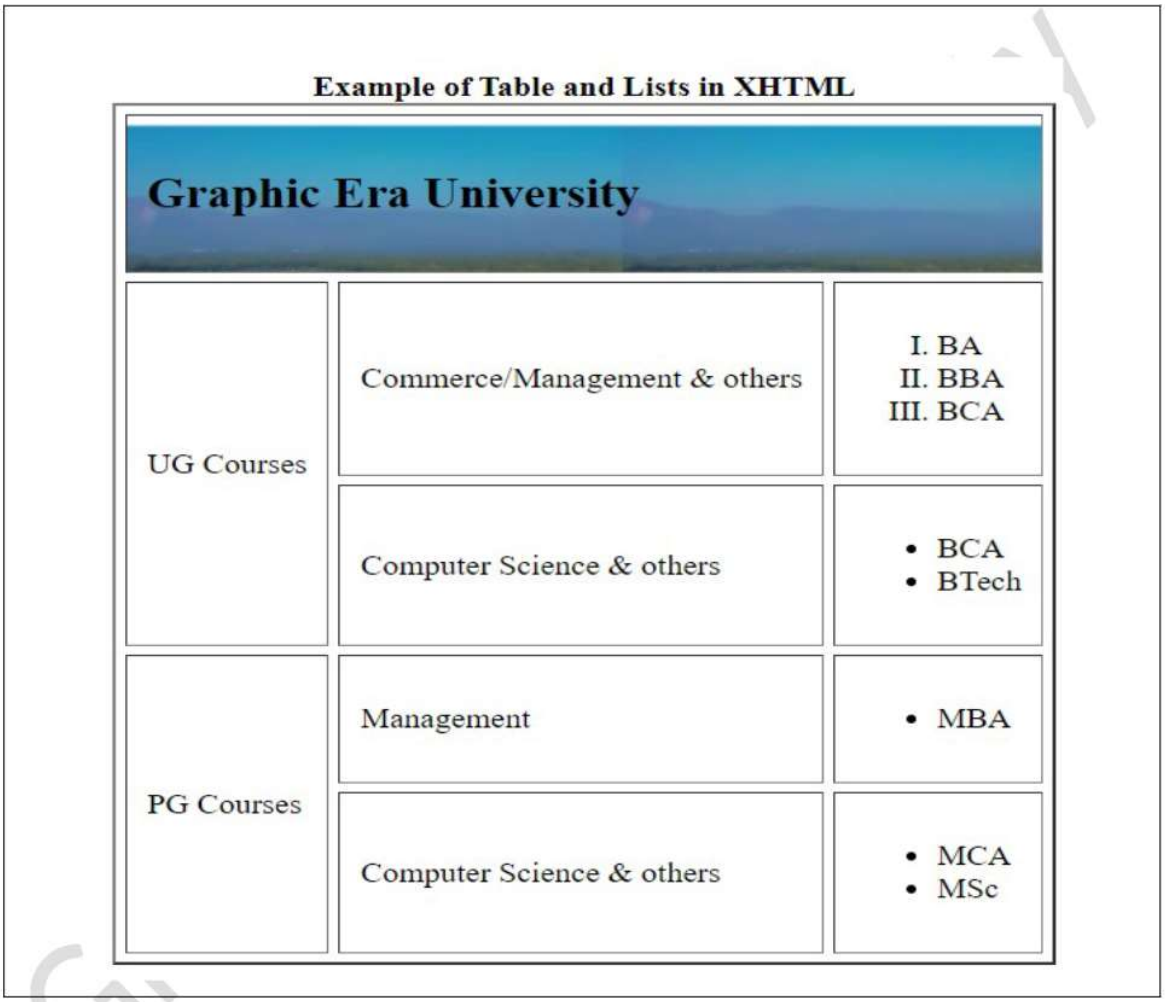
"Prg2-tableandlist.html"

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html>
<html>
   <head>
       <title>Example of Table and Lists in XHTML</title>
   </head>
<body>
  <!-- use of border, cellpadding, cellspacing attributes with table tag
-->

  <table border="2" cellpadding="10" cellspacing="5"  >
  <caption><b> Example of Table and Lists in XHTML </b></caption>
     <tr>
         <!-- Use of colspan and background attributes -->

         <td colspan="3"  background="geuhospital1.png">
             <h2>Graphic Era University</h2>
         </td>

     </tr>
     <tr>
         <td rowspan="2" >UG Courses</td>  <!-- Use of rowspan
attribute -->
        <td > Commerce/Management & others  </td>
         <td>
            <ol type="I">                    <!-- Use of ordered list -->
                 <li> BA </li>
                <li> BBA</li>
                <li> BCA </li>
           </ol>
```

```
        </td>
    </tr>



     <tr>
        <td>Computer Science & others </td>
        <td>
           <ul>                              <!-- Use of unordered list
-->
              <li>BCA</li>
             <li> BTech </li>
           </ul>
        </td>
    </tr>

    <tr>
        <td rowspan="2">PG Courses</td>     <!-- Use of rowspan
attribute -->
        <td>Management </td>
        <td>
            <ul>
                <li> MBA </li>
            </ul>
         </td>
    </tr>

    <tr>
        <td>Computer Science & others </td>
         <td>
              <ul>                          <!-- Use of unordered
list -->
                  <li> MCA </li>
                 <li> MSc </li>
               </ul>
         </td>
     </tr>
```

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

Program 2 - Output:



Example of Table and Lists in XHTML

Graphic Era University

UG Courses	Commerce/Management & others	I. BA II. BBA III. BCA
	Computer Science & others	• BCA • BTech
PG Courses	Management	• MBA
	Computer Science & others	• MCA • MSc

3. **Create an XHTML page that displays a Form with all types of controls (Text Boxes, Radio buttons, Checkboxes, Dropdown, Submit, and Reset buttons) with proper formatting.**

Program 3:

"prg3-formwithallcontrols.html"

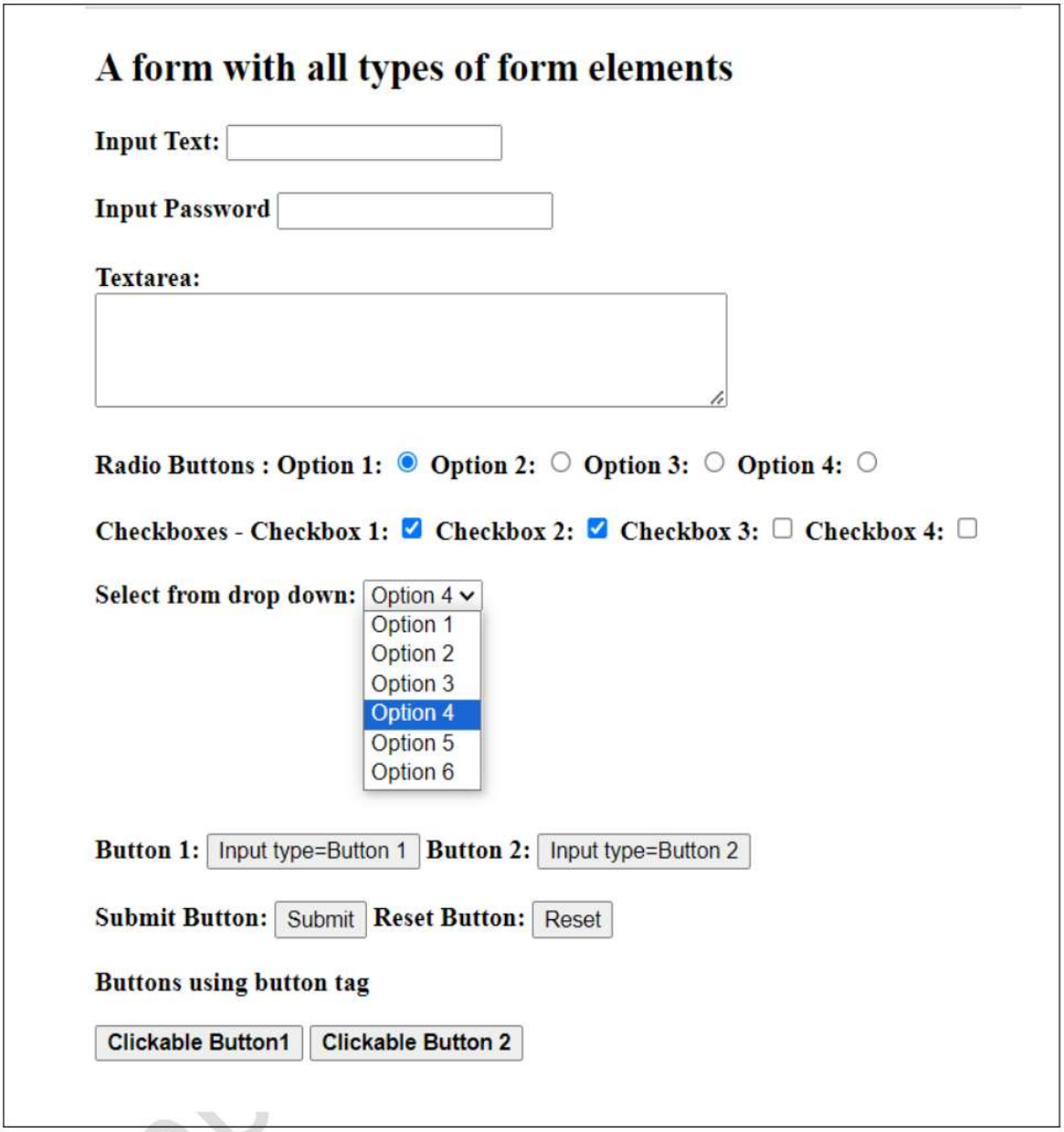
```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html >
<html>
<head>
    <title>Form Controls Example</title>
</head>
<body>
  <h2> A form with all types of form elements   </h2>
  <form action="#" method="post" >

  <!-- Input - textbox -->

    <label for="input_text"><b>Input Text: </b></label>
    <input type="text" id="input_text" name="input_text" />
    <br /><br />

 <!-- Input -  password  -->

    <label for="input_password"><b>Input Password </b></b></label>
    <input type="password" id="input_password"
name="input_password" />
    <br /><br />

<!-- Input - textarea - -->
```

```
    <label for="textarea_input"><b>Textarea: </b></b></label><br />
    <textarea id="textarea_input" name="textarea_input" rows="4"
          cols="50">
    </textarea>
    <br /><br />


<!-- Input - radio button -->

    <label for="input_radiooption1"><b> Radio Buttons : Option
1:</b>
    </label>
    <input type="radio" id="input_radiooption1"
name="input_radiooption"
           value="option1" />

    <label for="input_radiooption2"><b> Option 2:</b></label>
    <input type="radio" id="input_radiooption2"
name="input_radiooption"
           value="option2" />

    <label for="input_radiooption3"><b> Option 3:</b></label>
    <input type="radio" id="input_radiooption3"
name="input_radiooption"
           value="option3" />

    <label for="input_radiooption4"><b> Option 4:</b></label>
    <input type="radio" id="input_radiooption4"
name="input_radiooption"
           value="option4" /> <br /><br />

<!-- Input - checkboxes  -->

    <label for="input_checkbox1"><b>Checkboxes  - Checkbox 1:
</b></label>
    <input type="checkbox" id="input_checkbox1"
```

```
name="input_checkbox1" />

    <label for="input_checkbox2"><b>Checkbox 2: </b></label>
    <input type="checkbox" id="input_checkbox2"
name="input_checkbox2" />

    <label for="input_checkbox3"><b>Checkbox 3: </b></label>
    <input type="checkbox" id="input_checkbox3"
name="input_checkbox3" />

    <label for="input_checkbox4"><b>Checkbox 4: </b></label>
    <input type="checkbox" id="input_checkbox4"
name="input_checkbox4" />
    <br /><br />


<!-- Input - drop-down  -->

    <label for="input_select"><b>Select from drop down:</b></label>
    <select id="input_select" name="input_select">
         <option value="option1">Option 1</option>
         <option value="option2">Option 2</option>
         <option value="option3">Option 3</option>
        <option value="option4">Option 4</option>
        <option value="option5">Option 5</option>
        <option value="option6">Option 6</option>
    </select>
    <br /><br /><br /> <br /><br /> <br /><br /> <br />


<!-- Input - Button -->

    <label for="input_button1"><b> Button 1: </b></label>
    <input type="button"  value="Input type=Button 1"  />

    <label for="input_button2"><b>Button 2: </b></label>
    <input type="button"  value="Input type=Button 2"  /><br
```

```
/><br />


<!-- submit and reset buttons -->

    <label for="submit_button"><b>Submit Button:</b></label>
    <input type="submit" id="submit_button" name="submit_button"
           value="Submit" />

    <label for="reset_button"><b>Reset Button: </b></label>
    <input type="reset" id="reset_button" name="reset_button"
           value="Reset" />
    <br />



<!-- buttons -->

     <p><b>Buttons using button tag </b><p>
      <button type="button"  >
              <b> Clickable Button1 </b>
      </button>
       <button type="button" >
              <b>   Clickable Button 2 </b>
      </button>

  </form>

</body>
</html>
```

Program 3 - Output:



4. Develop a web page and demonstrate the usage of inline style, internal style, and external style sheets using CSS.

Program 4 –

"prg4-Styles.html"

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html>
<html>
  <head>
   <style type="text/css">

       @import url(pr4styles.css);        <!--  external level  -->

       p.p1 {                             <!--  document level  -->
                    color:blue;
              font-size:16pt;
              font-weight:bold;
          }

       p.p3 {
              font-size:24pt;
              font-weight:bold;
              color:purple;
           }

       #p4  {
              color:red;
           }
    </style>
  </head>
  <body>
      <!-- inline-level css -->
      <p style="color:red;background-color:cyan;font-size:20pt">
            Welcome to GEU (inline style)
      </p>
```

```
      <p class="p1"> Document Level Style used here </p>

      <p class="p3"> External Style used here</p>

      <p id="p4" style="font-size:12pt"> Levels and precedence
<br />
          (inline-level has precedence over document and document
has
            precedence than external)
      </p>

  </body>
</html>
```

"pr4styles.css"

```
  p3 {
       font-size:20pt;
       font-weight:bold;
       color:blue;
     }
 #p4 {
       color:green;
       font-size:18pt
     }
```

Program 4 - Output: