SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology

Second Year, Second Semester Examination – 2015

HNDIT2413- Web Application Development

Instructions for Candidates: No. of questions : 06

Answer any five (05) questions. No. of pages : 07

Model Answers Time : Three (3) hours

1)

i. What do the following acronyms stand for? (05 Marks)

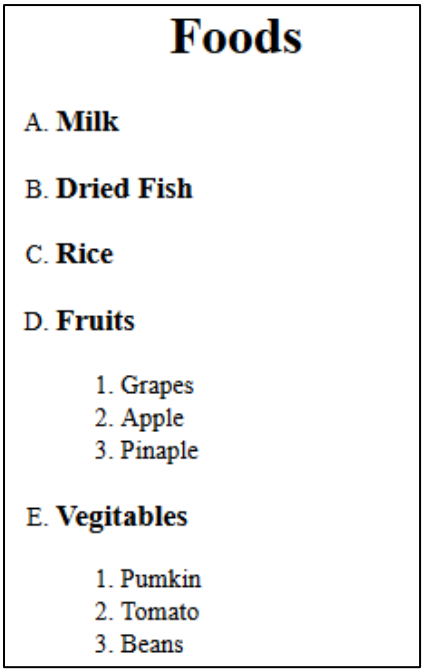
a. WWW -**World Wide Web**
b. URL -**Uniform Resource Locator**
c. HTML -**Hyper Text Markup Laguage**
d. HTTP -**Hypetext Transfer Protocol**
e. XML -**Extensible Markup Language**

ii. Write the basic structure of HTML document. (04 Marks)

```
<html>
<head>
        -----CSS--------
        ---Scripts------
</head>
<body>
        <h1>My Web Site </h1>
            .
            .
            .
         <p>Come Again<p>

</body>
</html>
```

iii. Write the HTML code for the following output. (07 Marks)




```
<Html>
<Head>
</Head>
<body>
<h1><center> Foods</scenter> </h1>
<ol type="A">
  <li><h3>Milk</h3></li>
  <li><h3>Dried Fish</h3></li>
  <li><h3>Rice</h3></li>

  <li><h3>Fruits</h3>
        <ol>
        <li>Grapes</li>
        <li>Apple</li>
        <li>Pinaple</li>

        </ol>
</li>
  <li><h3>Vegitables</h3>
    <ol>
      <li>Pumkin</li>
      <li>Tomato</li>
      <li>Beans</li>
    </ol>
  </li>

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

iv. Give two (02) examples for each of the following. (04 Marks)

a. web browser – **Internet Explorer, Mozilla Firefox, Google Chrom etc.**
b. Search engine - **Google , yahoo, msn etc**.

(Total 20 Marks)

2)

i. How do you insert an External CSS File named as **mystyle.css** in to a web page? Write down the appropriate HTML tag and attributes. (01 Marks)

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

ii. State three advantages of keeping CSS code in an external file? (03 Marks)

- **you can change the look of an entire website by changing just one file**
- **You can create classes of styles that can then be used on many different HTML elements**
- **You can easily group your styles to be more efficient**
- **Code reusability**

iii. "CSS selectors are used to "find" (or select) HTML elements based on their element name, id, class, attribute, and more." Briefly explain the importance of the following selectors with a suitable example.

a. id Selector
b. class Selector (06 Marks)

The id Selector

The id selector uses the id attribute of an HTML element to select a specific element.

An id should be unique within a page, so the id selector is used if you want to select a single, unique element.

To select an element with a specific id, write a hash (#) character, followed by the id of the element.

The style rule below will be applied to the HTML element with id="para1":

Example

```
#para1 {
  text-align: center;
  color: red;
}
```

The class Selector

The class selector selects elements with a specific class attribute.

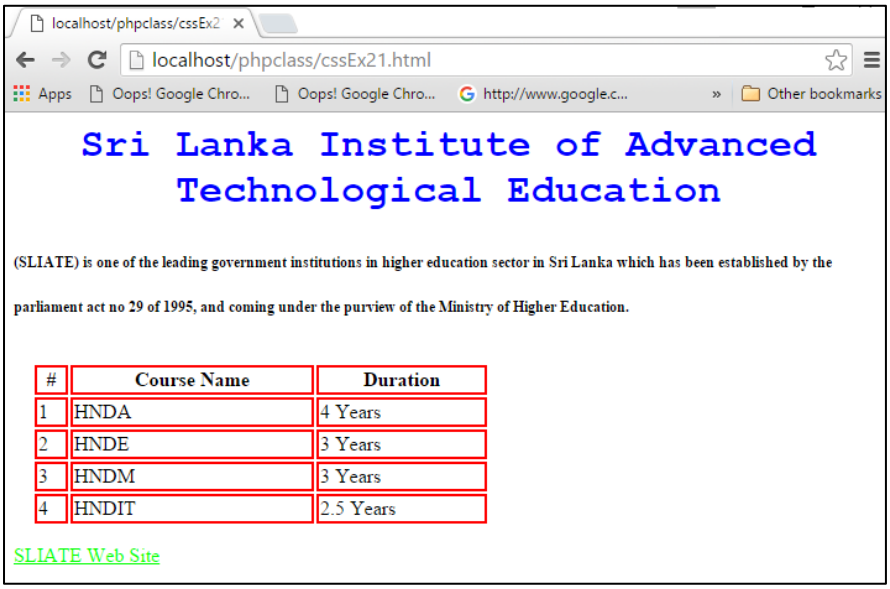
To select elements with a specific class, write a period (.) character, followed by the name of the class.

In the example below, all HTML elements with class="center" will be red and center-aligned:

```
.center {
   text-align: center;
   color: red;
}
```

iv. Consider the following HTML code.

```
<html>
<head>
</head>
<body>
<h1 id="head">Sri Lanka Institute of Advanced Technological Education</h1>
<p class="para1">(SLIATE) is one of the leading government institutions in higher
education sector in Sri Lanka which has been established by the parliament act no
29 of 1995, and coming under the purview of the Ministry of Higher Education.</p>
<table>
<tr><th>#</th><th>Course Name</th><th>Duration</th></tr>
<tr><td>1</td><td>HNDA</td><td>4 Years</td></tr>
<tr><td>2</td><td>HNDE</td><td>3 Years</td></tr>
<tr><td>3</td><td>HNDM</td><td>3 Years</td></tr>
<tr><td>4</td><td>HNDIT</td><td>2.5 Years</td></tr>
</table>
<a href="#">SLIATE Web Site</a>
</body>
</html>
```



Complete the following CSS style definitions by filling the missing code segments at given placeholders to get the above appearance of the HTML page.

<style type="text/css">
# (1) ……..
{
(2) ……... // set font type Courier New, Courier, mono
(3) …… // set text color Blue
(3) ……..// set the center alignment

```
}
.para1{
(4) …….. // set the bold font style;
(5) …….. // set the font size 12px;
(6) …….. // set the paragraph line spacing 3.0
}
table
{
(7) …….. // set the table width 400px
(8) …….. // set the padding 15px
}
th, td
{
(9) …… // set the red color 2px solid border
}
a{
(10) …….. // set the link green color
}
</style>
```

(01*10 = 10 Marks)

```
<style type="text/css">
#head
{
font-family:"Courier New", Courier, mono;
color:#0000ff;
text-align:center;
}
.para1{
font-weight:bold;
font-size:12px;
line-height:3.0;
}
table
{
width:400px;
padding: 15px;
}
th, td
{
border: 2px solid red;
}
a{
color: #00ff00;
}
</style>
```

(Total 20 Marks)

3)

i. State the importance of JavaScript in a web application. (02 Marks)

Form verification

Client-side scripts can parse form data prior to the data being submitted to a handler on the server, ensuring that there are no obvious errors (missing or improperly formatted data).

Document animation and automation

Accessing element data and properties via the DOM, client-side scripts can affect changes in elements' content, appearance, size, position, and so forth.

Basic document intelligence

Client-side scripts can embed a base level of intelligence to the document by linking elements to scripts via events (mouse clicks, key presses, and so on).

ii. Write the two (02) methods to include JavaScript in to a web application. (02 Marks)

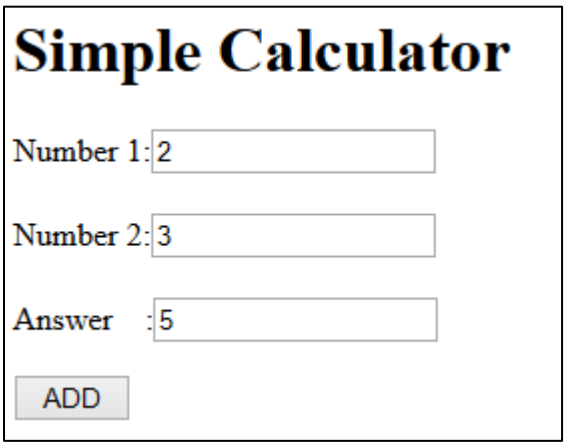
There are two main methods for inserting scripts into a HTML document:
Enclosing the script within script (<script>) tags

```
<script language="JavaScript" type="text/JavaScript">
//Script code here
</script>
```

Use an external script file

```
<script language="JavaScript" src="simple.js"
type="text/javascript"></script
```

iii. Consider the following web page layout.



Following is the HTML code for the above web page.

```
<html>
<head>
</head>
<body>
<h1> Simple Calculator</h1>
<form method="get" action="" name="cal">

Number   1:<input type="text" name="t1"></Br></Br>
Number   2:<input type="text" name="t2"></Br></Br>
Answer    :<input type="text" name="t3"></Br>
<p align="left">
<input type="button" value="  ADD  " onClick="computeAdd();">

</p>
</form>
</body>
</html>
```

a. Write a function "***computeAdd( )*** " for adding two numbers from input boxes and displaying result in an appropriate input box using JavaScript. (05 Marks)

```
function computeAdd()
{
var n1,n2,ans;
n1=parseFloat(cal.t1.value);
n2=parseFloat(cal.t2.value);
ans=n1+n2;
cal.t3.value=ans;

}
```

b. Write the code segment to call the "computeAdd()"function when click "**ADD**" button. (02 Marks)

```
<input type="button" value="  ADD  " onClick="computeAdd();">
```

iv. What will be the output of following JavaScript codes? (09 Marks)

a.

```
var x=2;
y=(x==1)?"Win":"TryAgain";
document.write(y);
```

TryAgain

b.

```
var welcome=new String("Hi! welcome to SLIATE");
```

```
document.write(welcome.length);
document.write("<br>");
document.write(welcome.toUpperCase());
```

21
HI! WELCOME TO SLIATE

c.

```
for(i=1;i<10;i++)
{
if (i==3) continue;
document.write(i);
}
```

12456789

(Total 20 Marks)

4)

i. Briefly explain ***client side scripting*** and ***server side scripting*** with examples. (03 Marks)

Client-side scripts

- **Client-side scripts can modify the pages at runtime, and therefore, they also falls under the heading of DHTML (dynamic HTML).**
- **Client-side scripts have greater access to the information and functions available on the user's computer, whereas for server-side scripts its for the server.**
- **Client-side scripts require that the user's web browser understand the scripting language in which they are written.**

Client side scripting languages
JavaScript
JScript
VBScript
ActionScript
AJAX

Server-side scripting

- **Server-side scripting is a web server technology in which a user's request is fulfilled by running a script directly on the Web server to generate dynamic HTML pages.**
- **Server-side scripting enables the ability to highly customize the response based on the user's requirements, access rights, or queries into data stores.**

PHP
ASP (Active Server Pages) & ASP.NET
JSP (Java Server Pages)

Java Servlets
C++/Java
PERL
XML

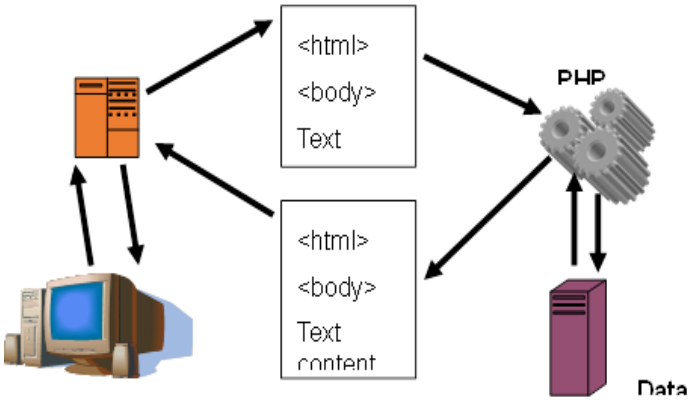
ii. What are the differences between static and dynamic web site? (03 Marks)

- **Static web pages do not change the content or layout depending on user input.**
- **In contrast, dynamic web pages adapt their content depending on user input or computing environment (user, time or data).**
- **Dynamic content can be delivered as a result of two technologies:**

Client-side scripting languages
Server-side scripting languages

iii. Briefly explain how does PHP work? (05 Marks)

A typical PHP page will contain number of PHP elements along with HTML markup elements and other textual content
When a web browser request a PHP page from a web server that is PHP enabled the server will call up the PHP parser to process all the PHP elements on that page
The PHP parser executes the PHP script instructions on the page ,generating a HTML document that is then sent to the web browser as a response to the original request
The PHP parser may also be asked to retrieve information from a database so the entire process appears like the illustration bellow

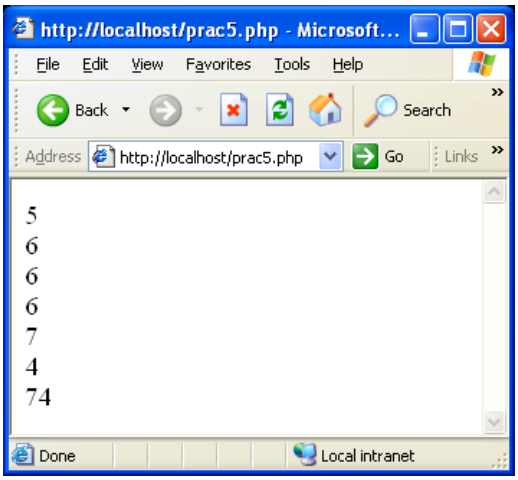


iv. What will be the output of following PHP scripts? (09 Marks)

a.

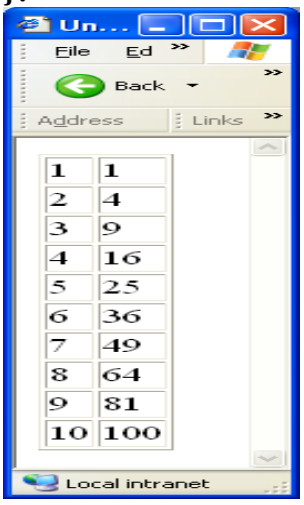
```
<?php
$a = 5;
 echo $a++,"<br>";
echo $a--,"<br>";
$b = 5;
echo ++$b,"<br>";
 echo $b,"<br>";
 $a += 2;
 echo $a,"<br>";
$b -= 2;
 echo $b,"<br>";
```

```
$sentence_c = $a . $b;
 echo $sentence_c;
?>
```



b.

```
<?php
for ($i=1;$i<11;$i++)
{
 $j=$i*$i;
?>
<tr>
  <td><?echo $i?></td>
   <td><?echo $j ?></td>
</tr>
<?
}?>
```



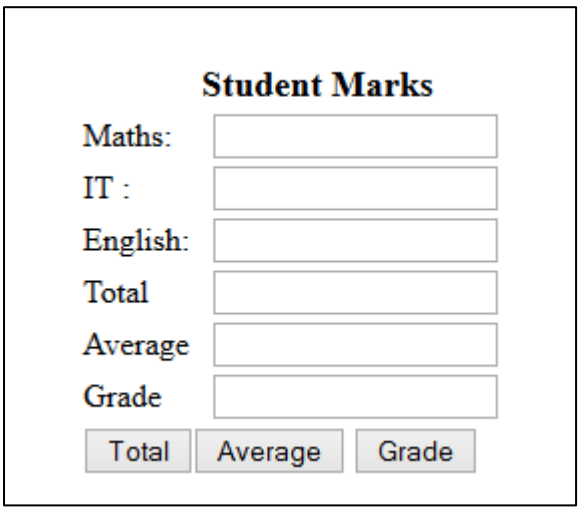
c.

```
<?php
$a=2;
$y= ($a==1)?"one":"other";
echo ($y);
?>
```

other

5)

i. Consider the following web page layout.



a. Write PHP functions for the followings

1. Total of three subject marks (05 Marks)

```
Function addsub ( )
{
$m1=$_POST['maths'];
$m2=$_POST['it'];
$m3=$_POST['english'];
$Total=($m1+$m2+$m3);
Return $Total;
}
```

2. Average of marks (05 Marks)

```
Function avgsub ( )
{
$m1=$_POST['maths'];
$m2=$_POST['it'];
$m3=$_POST['english'];
$Avg=($m1+$m2+$m3)/3;
Return $Avg;
```

}

3. Grade of the student (06 Marks)

Grading Criteria:

A	**>=90**	**C**	**>=55**
B	**>=75**	**D**	**>=45**
C+	**>=65**	**F**	**< 45**

```
Function grade( )
{
if($avg>=90)
$ans="A";
else if ($avg>=75)
$ans="B";
elseif($avg>=65)
$ans="C+";
else if ($avg>=55)
$ans="C";
else if($avg>=45)
$ans="D";
else if($avg<45)
$ans="F";
else
$ans="invalide";
Return $ans;
}
```

ii. Write the output of following PHP code. (04 Marks)

```
<?php
$ATI=array("Kandy","Kurunegala","Galle","Dehiwala");
foreach($Students as $temp){
        echo $temp, "<BR>";
        }
?>
```

Kandy
Kurnegala
Galle
Dehiwala

(Total 20 Marks)

6)

i. Write HTML code to construct the following form. When click the submit button, the form should submit to a script called "**register.php**". (06 Marks)


```
<html>
<head>
<title>Employee Registration</title>
</head>
<body>
<h1>Employee Registration Form</h1>
<form metod="post" action="register.php">
Employee No:  <input type="text" name="empno"><br>
Name      :  <input type="text" name="emname"><br>
Contact No :  <input type="text" name="contno"><br>
Address    :  <input type="text" name="address"><br>
<input type="submit">    <input type="reset">
</form>
</body></html>
```

ii. The database server (MYSQL) has a database named **Register**, with a single table named "**Employee**". You may assume the web server and the database server are hosted on the same computer. "Employee" table holds details of the above form.

Write the code segment to create the connection to the database and verify the connectivity.

```
$con = mysql_connect("localhost","root","");
if (!$con)
{
        die('Could not connect: '.mysql_error()); }
```

(04 Marks)

iii. Write the code segment to insert an employer record to Employee table.

```
$sql="INSERT INTO
employee(empno,name,contact,address)VALUES('$eno','$ename','$econt','$eadd')";

mysql_query($sql,$con);
```

(05 Marks)

iv. Write the code segment to change the employer address to “Colombo” on employer record no 75.

```
$sql1="UPDATE employee set address='Colombo' WHERE empno='75'";

mysql_query($sql1,$con);
```

(05 Marks)

(Total 20 Marks)