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 – 2019
HNDIT2413-Web Application Development

Instructions for Candidates:	No. of questions : 06
Answer any (5) questions.	No. of pages : 05
	Time : Two (3) hours

01.

i. What is web Application? [2 marks]

Any application that uses Web Technologies including web browsers, web servers and Internet protocols.

ii. Explain the functionalities of the following terms.

a. DNS server

A DNS server provides "name resolution service" which means that DNS servers resolve names into IP addresses or vice versa.

b. IP address

An IP address is a number used to identify the logical connection of a computer in a physical network using a 32-bit binary address, composed of four 8-bit numbers.
Eg: 192.168.1.1

[2*2=4 marks]

iii. Write two advantages and disadvantages of client server architecture.

Advantages

- Low coupling of client and server, thus greater independence for maintenance.
- For example, it is possible to replace, repair, upgrade, or even relocate a server while its clients remain both unaware and unaffected by that change.
- Greater security for data stored on the server. Servers can control access and resources.

- Easy to update and administer data, because of centralized nature.

(two of them 02 Marks)

Disadvantages

- More traffic to the server as the number of simultaneous client requests to a given server increases.
- If the server fails under a critical condition, the clients' request will not be fulfilled.

(02 Marks)

iv. Write the output of the following HTML code.

```
<html>
<head><title>HND Courses</title></head>
        <body>
        <h1><U>Our Courses</U></h1>
                <ol type="1">
                <li>HNDA</li>
                        <ul type="square">
                                <li>Full Time Course</li>
                                <li>Part Time Course</li>
                         </ul>
                <li>HNDIT</li>
                        <ul type="circle">
                                <li>Full Time Course</li>
                                        <ol type="A">
                                                <li>Admin Track</li>
                                                <li>Developer Track</li>
                                        </ol>
                                <li>Part Time Course</li>
                  </ul></ol>  </body> </html>
```

<u>Our Courses</u>

1. HNDA
    - Full Time Course
    - Part Time Course
2. HNDIT
    a. Full Time Course
        i. Admin Track
        ii. Developer Track
    b. Part Time Course

[each list give 01 *4=04 marks]

v. Write HTML codes to create the following table.

HNDIT 1st year Semester I		
Module Code	**Module Type**	**Credits**
HNDIT 1201	Database Management Systems	02
HNDIT 1202	Computer Hardware	02
Total		04

```
<table border="2" >
<TR><TH colspan=30>HNDIT 1st year Semester I</TH></TR>
        <TR>
            <TH>Module Code</TH>
            <TH>Module Type</TH>
            <TH>Credits</TH>
        </TR>
        <TR>
            <TD>HNDIT 1201 </TD>
            <TD>Database Management Systems</TD>
            <TD>02</TD>
        </TR>
        <TR>
            <TD>HNDIT 1202 </TD>
            <TD>Computer Hardware</TD>
            <TD>02</TD>
        </TR>
        <TR>
            <TD colspan=2 align=center>Total</TD>
            <TD>04</TD>
        </TR> </table>
```

[06 marks]

02.

i. What are the benefits of using CSS for a web site? [2 marks]

- *It allows much greater degree of layout and display control.*
- *The amount of format coding necessary to control display characteristics can be greatly reduced.*
- *It allows multiple styles to be attached to a document at once.*

- *It also allows for all the style formatting in a document to be changed at once, thus a document can be easily formatted for different purposes (online, brochures, printing, etc.).*

ii. What is the difference between external and inline CSS? [2 marks]

External CSS

An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the <link> tag. The <link> tag goes inside the head section

Inline CSS

To use inline styles you use the style attribute in the relevant tag. The style attribute can contain any CSS property.

iii. What is the usage of selectors in CSS? [2 marks]

Selectors are essentially patterns that enable a user agent to identify what elements get what styles

iv. Explain the following selectors in CSS with an example

a. CSS Universal Selector

The universal selector (*) selects all HTML elements on the page

```
* {
  text-align: center;
  color: blue;
}
```

b. CSS element Selector

The element selector selects HTML elements based on the element name

e.g

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

c. CSS Grouping Selector

Grouping selector selects all the HTML elements with the same style definitions

```
        h1, h2, p {
  text-align: center;
  color: red;
}
```

[3*02=06 marks]

v. Fill in the blanks of the following HTML page which is created by using the instructions given bellow

Instruction for formatting

The background color of the page is blue.

There are two headings in maroon in color and font size is 20

Paragraph is left align from 15px

Link is available in the page with following two properties

- link color is green
- visited color is yellow

```
<html>
<head>
        <style type="……(1)……..">
        Body{……(2)…….;}
        h1,h2   {……(3)……;
                ……..(4)……..  ;}
        p    {font-size:11pt;…….(5)…….;}
         a:link    {…….(6)…….;}
        a :…….(7)……. {……(8)……;}
                </style>
```

1) text/css
2) background-color:blue
3) color:maroon
4) font-size:20pt
5) margin-left:15px;
6) color:green;
7) a: visited
8) color:yellow; [8*01=08 marks]

[Total 20 marks]

03.

i. What is the difference between client-side script and server-side script?

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.*
In client-side scripting, the scripts are first downloaded, and then interpreted and ***executed by the Web browser***. [02 marks]

ii. Write three uses of client side scripting languages

•*Form verification*
•*Document animation and automation*
•*Basic document intelligence* [03 marks]

iii. Write the outputs of following java script codes

a.

```
var linebreak = "<br />";
 top:
        for(i = 0; i < 5; i++){
                for(j = 0; j < 5; j++){
           if (j==3) break top;
                document.write(j);
                document.write(linebreak);}}
```

0

1

2 [02 marks]

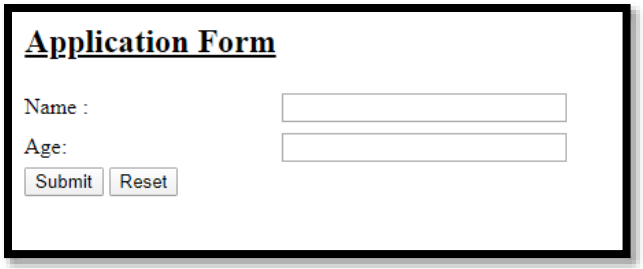
b.

```
 var text=new String("JAVA SCRIPT")
document.write(text.length);
document.write("<br>");
document.write(text.toLowerCase());
document.write("<br>");
document.write(text+" Introduction");
```

11
java script
JAVA SCRIPT Introduction [03 marks]

iv.

a. Write a HTML code to create the following HTML form .




```
<form name=”myform” onsubmit="return validateForm()">
Name : <input type="text"  id="fname" size="20" name="fname"><br>
 Age : <input type="text" id="age" size="20" name="age"><br>
<input type="submit" value="Submit"><input type="reset" value="Reset">
</form>
```

[04 marks]

b. write a Java script function for the following data validations When click the submit button.

```
function validateForm() {
  var x = document.forms["myForm"]["fname"].value;//myform.fname.value;
var y = document.forms["myForm"]["age"].value;//myform.age.value;
 if (x == "") {
   alert("Name must be filled out");
   return false;
 }
 if (y == "") {
   alert("Age must be filled out");
   return false;
 }
 if (isNaN(x) || x < 1 || x > 100) {
   text = "Input not valid";
 } else {
   text = "Input OK";
 }
Alert(text);// document.getElementById("demo").innerHTML = text;
}
```

[02 marks]

[02 marks]

[02 marks]

myForm can be any name.

04.

i. Write three server side scripting technology.

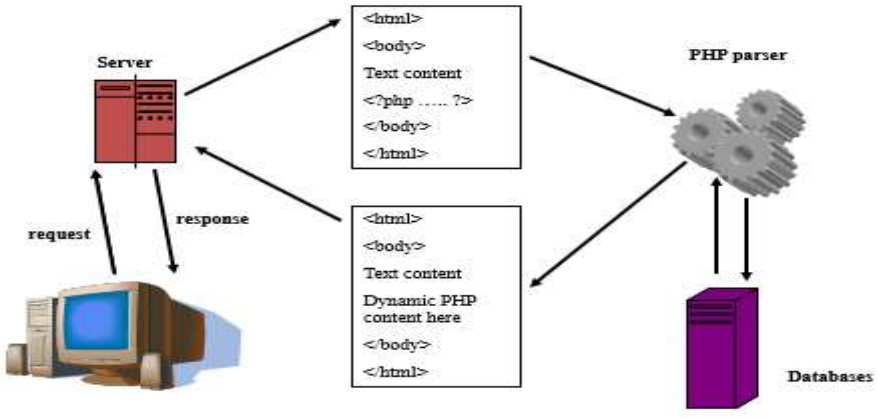
- PHP
- ASP (Active Server Pages) & ASP.NET
- JSP (Java Server Pages)
- Java Servlets
- C++/Java
- PERL
- XML

[Any three give 03 marks]

ii. Illustrate " how does PHP work?"with a diagram.

- *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*

[04 marks]



[02 marks]

iii. Write the output of following PHP codes

a.

```
<?php

$a = 10;

echo ++$a. "<br>";;

echo $a++. "<br>";;

echo $a. "<br>";

echo ++$a;

?>
```

OUTPUT 11

11

12

13

[02 marks]

b.

```
<?php

$first=array(“Cat”,”Bat”,”Rat”);

$second=array (1,2,3);

$third=array_merge($first ,$scond);

Foreach ($third as $val){

Print “$val<BR>”;

}

?>
```

OUTPUT Cat

Bat

Rat

1

2

3 [03 marks]

iv. Write PHP code segments to do the following tasks.

a. Hold five numeric values 5,6,15,36 and 10 [2 marks]

$array1=array(5,6,15,36,10);

b. Count the number of elements [1 mark]

count($array1);

c. Find the minimum value [1 mark]

max($array1);

d. Sort the values in ascending order [2 marks]

sort($array1);

05.

i. Define cookies and Session

Cookies

A cookie is often used to identify a user.

Cookie is a small file that the server embeds on the user's computer.

Each time the same computer requests a page with a browser, it will send the cookie too

[02 marks]

Session

- A session is a combination of a server-side file containing all the data you wish to store, and a client-side cookie containing a reference to the server data.

[02 marks]

ii. Write the output of following PHP code segment

```
<?php
class fruit{
var $name, $color;
        function fruit($n,$c) {
        $this->name=$n;
        $this->color=$c;}
 function taste(){
echo $this->name." fruit is taste...<br/>";}
        }
class  Strawberry extends fruit{
        function message(){
        echo $this->name."  is a berry ...";}
        }
         $strawberry = new strawberry("Strawberry", "red");
        $strawberry->message();
        $strawberry->taste();
?
```

Strawberry is a berry ...Strawberry fruit is taste... [04 marks]

iii. What is the difference between $_GET Function and $_POST function in PHP?

*The built-in **$_GET** function is used to collect values from a form sent with method="get".*

*Information sent from a form with the **GET method** is visible to everyone (it will be displayedin the browser's address bar) and has limits on the amount of information to send (max. 100 characters**).*** [02 marks]

*The built-in **$_POST** function is used to collect values from a form sent with method="post".*

*Information sent from a form with the **POST** method is invisible to others and has no limits on the amount of information to send.*

[02 marks]

iv. Considering the following HTML form write PHP codes to do following tasks

a. If name is “kamal” and password is “1234” display message as “welcome Kamal” if not, display the message as “Access denied”

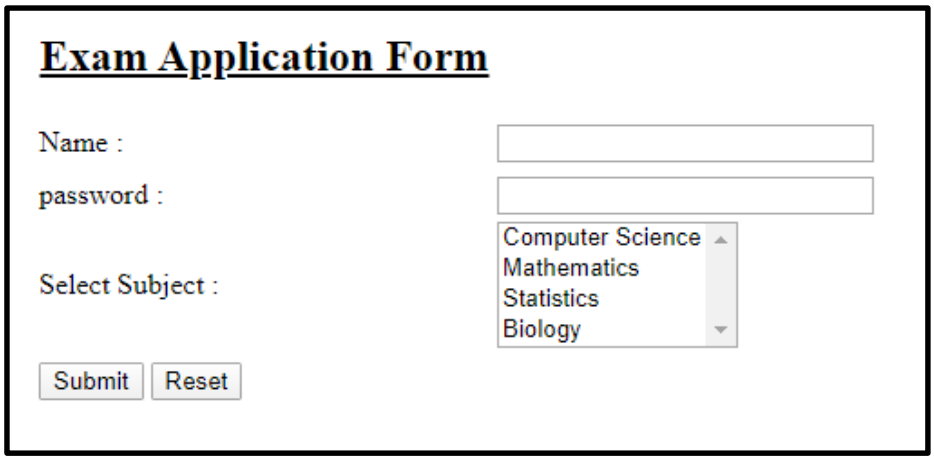
```
<?php
if(($_POST['name']=="kamal") && ($_POST['pass']=="1234"))
echo "<p> Welcome ".$_POST['name']."</p>";
else
echo "<h2> Access Denied </h2>";
?>
```

According to the text box name, give the marks [04 marks]

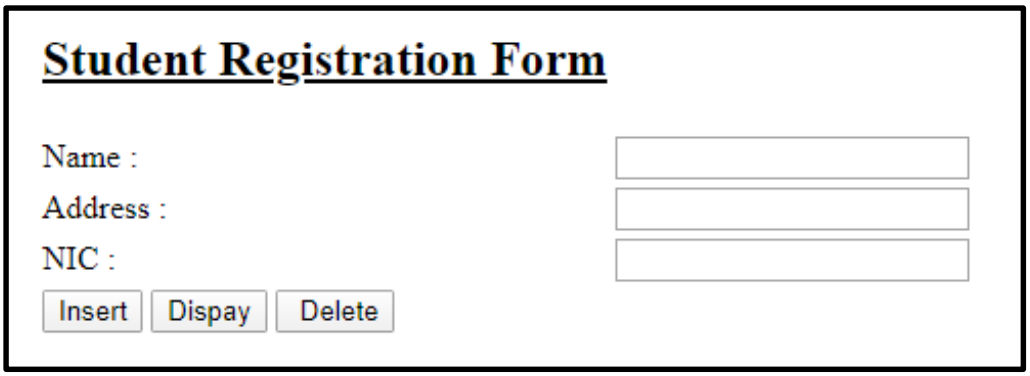
b. Once student select the subjects, display the message as "Your Subject combination is (name of selected subjects)…."

```
<?php
echo "<h1> Your Subject Combination is:</h1>";
if(!empty($_POST['subject']))
{
foreach($_POST['subject'] as $s){
echo "$s<br/>";
}}
else
{
echo "<h1> Select at least one</h1>";
}
?>
```

According to the text box name, give the marks **[04 marks]**



06.



The above form is used to store data into the MYSQL database server using PHP.

Database server: lacalhost

User Name: root

Password: srs123

Database Name: student_Infor

Table Name: Student

i. Write HTML code to create the above form.

```
<form name="myForm" action="action_page.php" onsubmit="return validateForm()"
method="post">
<table>
<tr>
<td align="center"><h2><u><b>Student Registration Form</b></u></h2></td>
</tr>
<tr>
<td >Name :</td>
<td align="center"><INPUT TYPE="TEXT" Size=20
name="fname"></td> </tr>
<tr>
<td>Address : </td>
<td align="left"><INPUT TYPE="TEXT" Size=20
name="age"> </td>
</tr>
```

```
<td>NIC : </td>
<td align="left"><INPUT TYPE="TEXT" Size=20
name="age"> </td>
</tr>
<tr>
<td><INPUT TYPE="Submit" VALUE="Insert">
<INPUT TYPE="Submit" VALUE="Dispay"> <INPUT TYPE="submit" VALUE="
Delete"></td>
</tr>
</table>
</FORM>
```

[06 marks]

ii. Write PHP code segment to do the following

a. Create the connection to the MYSQL database.

```
$con = mysql_connect("localhost","root","srs123");
```

[02 marks]

b. Check the connection and display any MYSQL connection error.

```
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }
```

[02 marks]

c. Insert one record from the above form to the student table .

```
$name=$_POST['name'];
$address=$_POST['address'];
$NIC=$_POST['NIC'];
```

03 marks

```
mysql_select_db("Student_infor", $con); ----------01 mark
mysql_query("INSERT INTO student (Name, Address,  NIC) VALUES
('$name', '$address', '$NIC')");----------01 mark
```

iii. Display the database record of student who's Name is "Kamal"

```
<?php
$con = mysql_connect("localhost","root","srs123");
if(!$con)
{
die('could not connect:'.mysql_error());
}
```

```
        mysql_select_db("student_infor", $con);// Execute query
$result = mysql_query("SELECT * FROM student where name=”Kamal");//Display data.
while($row=mysql_fetch_array($result))
{
echo $row['Name']." ".$row['Address']." ".$row['NIC'];
echo "<br/>";
}
        //Close database connection.
        mysql_close($con);
?>
```

[05 Marks]