



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 – 2017
HNDIT2413 – Web Application Development

Instructions for Candidates:

Answer five (05) questions.

All questions carry equal marks. Model Answers

No. of questions : 06

No. of pages : 08

Time : Three (03) hours

1)

i. What does WWW stand for? Define it.

(02 marks)

ANSWER

- World Wide Web (01 Mark)

- Definition: (01 Mark)

One of the main service provided by the internet

A system of interlinked hypertext documents accessed via the Internet

ii. Write HTML codes to create following table by considering the given formatting.

Table caption : Student Marks

Table alignment : Center (horizontally)

Table header rows : Shaded in blue

(10 marks)

Student Marks

Student	Subject		Total
	IT	English	
A	19	39	
B	19	39	

ANSWER

```
<TABLE border=1 cellspacing="0" align="center" width="25%">
```

```
<caption><b>Student Marks</b></caption>
```

```
<tr bgcolor="blue">
```

```

<th rowspan="2">Student</th>
<th colspan="2">Subject</th>
<th rowspan="2">Total</th>
</tr>
<tr bgcolor="blue">
<th>IT</th>
<th>English</th>
</tr>

<tr align="center">
<td>A</td>
<td>19</td>
<td>39</td>
<td></td>
</tr>

<tr align="center">
<td>B</td>
<td>19</td>
<td>39</td>
<td></td>
</tr>
</table>

```

iii. Differentiate between web browser and search engine and give examples for each. (04 marks)

ANSWER

A software application for retrieving, presenting, and traversing information resources on the World Wide Web where as search engine is a software system that is designed to search for information on the World Wide Web

web browser : Internet Explorer, Firefox, Google Chrome, Apple Safari, and Opera.

search engine : Google,Bing,Yahoo,Ask.com,AOL.com,Baidu,Wolframalpha,DuckDuckGo.

iv. Explain the Client Server Architecture (04 marks)

ANSWER

- Client-server architecture (client/server) is a network architecture in which each computer or process on the network is either a client or a server
- The client is defined as the requester of services and the server is defined as the provider of services
- A Server a host that is running one or more server programs which can be sharing of information or resources
- Client does not share any of its resources, but requests a server's content or service function.

(Total 20 marks)

2)

- i. What does CSS stand for? Mention 02 ways of inserting CSS in a web page. (02 marks)

ANSWER

Cascading Style Sheet

- Inline CSS
- Internal CSS
- External CSS

- ii. List down three differences between Internal CSS and External CSS. (03 marks)

ANSWER

Internal	External
Defined inside <code><style></code> elements.	Linked via the <code><link rel="stylesheet"></code> element.
Embedded directly inside the page.	Exists as a separate file linked to website.
Can be applied to one page only	Can be applied to several pages
browser doesn't need to make an additional <code>GET</code> request to download the <code>.css</code> file	browser need to download the <code>.css</code> file

- iii. What are the advantages of using CSS for a web site (03 marks)

ANSWER

- Can control the style of many different elements with a single command.
- Separation of function: HTML can focus on content while CSS handles styling.
- Save more time by reducing repetitive works
- Maintain the consistency of web site

- iv. The following banner is created by using a `Banner.html`.

(12 marks)



Fill in the blanks of the following banner.html which is created by using the following instructions.

Instructions for a formatting:

- ✓ Technosoft banner has a background color, a border and a exact width and height
- ✓ Banner header (“TechnoSoft 2017 SOFTWARE COMPETITION”) text is in blue color and has a background color
- ✓ “On 18th and 19th January 2018” is a bold text in red color.

Banner.html

```
<html>
  <head>
    <.....(1).....type="text/css">
    h3{
      .....(2)..... :blue;
      .....(3)..... :verdana;
      .....(4).....: #abfae1;
      text-align:....(5).....;
    }

    p{
      .....(6)..... :12px;
      text-align:center;
    }

    Div.container{
      .....(7).....:300;
      Height:250;
      .....(8).....: 3px solid;
      .....(9).....: #fafbe5;
    }
```

```

ul{
    .....(10).....:square;

}
</style>
</head>
<body>
<div class="container">
<h3> TechnoSoft 2017 <br> SOFTWARE COMPETITION</h3>
<p> Inter ATI, University, Higher Education Institutes and School</p>
<ul>
    <li>Software Competition</li>
    <li>Exhibition</li>
    <li>Gaming Competition</li>
</ul>

<div .....(11)....="color:red; ....(12).....:bold; text-align:center;">On 18th and 19th
January 2018<br>
at ATI Gampaha</p></div>
</div>
</body>
</html>

```

ANSWER

1. style
2. color
3. font-family
4. background-color
5. center
6. font-size
7. width
8. border
9. background-color
10. list-style-type
11. style
12. font-weight

(01 marks x 12)

(Total 20 marks)

3)

i. Differentiate between Static and Dynamic websites.

(02 marks)

ANSWER

Static websites	Dynamic websites
do not change the content or layout depending on user input	adapt their content depending on user input or computing environment
usually written in plain HTML	written using a server-side scripting language ASP, JSP
Quick to develop	Take time to develop
Cheap to develop	more expensive to develop
Cheap to host	Hosting costs a little more
Requires web development expertise to update	Much easier to update
Not much functional website as a dynamic	Much more functional website
Speed	Slower

ii. Define and give two examples for each;

(04 marks)

- client-side scripting
- Server-side scripting

ANSWER

client-side scripting :

The source code is transferred from the web server to the users computer over the internet and run directly in the browser.

JavaScript ,VBScript ,HTML ,CSS,AJAX ,jQuery etc.

Server-side scripting:

runs a scripting language is a web server.

A user's request is fulfilled by running a script directly on the web server to generate dynamic HTML pages.

PHP ,ASP.NET,C++ ,Java and JSP ,Python ,Ruby

iii. Write the output of following JavaScript codes

a.

```
<script language="javascript" type="text/javascript">
for(i=1;i<9;i++) {
if(i==4) Continue;
document.write(i);
}
</script>
```

(02 marks)

ANSWER

1235678

b.

```
<script language="javascript" type="text/javascript">
var x="Welcome you all";
document.write(x);
document.write("<br>");
document.write(x.length+"<br>");
document.write(x.toUpperCase());
document.write("<br>");
document.write(x+=" to 2018");
</script>
```

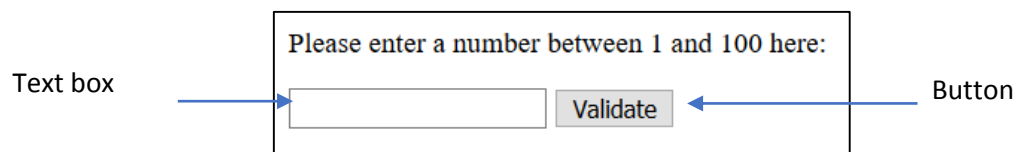
(04 marks)

ANSWER

Welcome you all
15
WELCOME YOU ALL
Welcome you all to 2018

iv. Write a html program to create the form and JavaScript function to check the following.

- Only numbers between 1 and 100 can be inserted. When an invalid number is entered, the message must be appeared as “Invalid input”. If it is a valid number, the message must be appeared as “Valid input”.
- The function should be called on the button “Validate”.



ANSWER

```
<html>
<head>
<script>
function validateForm() {
    var x =myForm.fname.value;
    if (x<1 || x>100) {
        alert("invalid number ");}
    else
    {
        alert("invalid number ");
    }
}
}</script>
```

[04 Marks]

```
</head>
<body>
<form name="myForm" >
Enter NUMBER: <input type="text" name="fname"><br>
<input type="button" value="Submit" onclick="validateForm();">
</form>
</body>

</html>
```

[04 Marks]

(Total 20 marks)

4)

i. What does PHP stand for and the latest version of PHP?

(02 marks)

ANSWER

Hypertext Preprocessor

PHP 7 version

ii. What is the difference between “Switch” and “If” Statements

(02 marks)

ANSWER

The if statement uses a Boolean expression to execute the function and can often be used to check multiple conditions at a time. but switch evaluates only one expression, executing different code according to the result of that expression, as long as the expression evaluates to a simple type (a number, string, or Boolean).

iii. Write the output of following PHP codes

a.

[02 Marks]

```
<?php
$color = "red";
echo "My car is " . $color . "<br>";
echo "My house is " . $COLOR . "<br>";
echo "My boat is " . $coLOR . "<br>";
?>
```

ANSWER

My car is red
My house is
My boat is

b.

```
<?php
$first = array("a", "b", "c");
$second = array(1,2,3);
$third = array_merge( $first, $second );
foreach ( $third as $val )
{
    print "$val<BR>";
}
?>
```

ANSWER

abc123

c.

```
<?php
function add_subt($val1,$val2){
    $add = $val1 + $val2;
    $sub = $val1 - $val2;
    $result = array ($add,$sub);
    return $result;
}
$func_result = add_subt(12,5);

echo "Add: “. $func_result [0].”</br>”;
echo "Subt: “. $func_result [1].”</br>”;

?>
```

ANSWER

Add:17
Subt:7

[03 Marks]

[03 Marks]

- d. Write a php code segment to create an array which should hold the student's name and their age as the given below.

Saman 18
Kasun 20
Nisal 23
Kamal 25

(03 marks)

ANSWER

```
<?php
$person=array("Saman"=>18,"Kasun"=>20,"Nisal"=> 23, "Kamal"=>25);

Foreach($person as $key=>$value){

Print $key." ".$value."<br>";

}

?>
```

- e. Write a proper PHP statement to generate the decision of wrist watch for a given price.

<u>Price criteria</u>	<u>Decision</u>
<=1000	Low Price
<=5000	Average Price
>5000	High Price

(04 marks)

ANSWER

```
<?php
$x = 2850;

if ($x <=1000) {
    echo "Low Price ";
}else if($x<= 5000) {
    echo "Average Price";
}else {
    echo "High Price";
}

?>
```


5)

i. Define a cookie.

(02 marks)

ANSWER

A small text file (up to 4KB) created by a website that is stored in the user's **computer** either temporarily for that session only or permanently on the hard disk (persistent **cookie**). **Cookies** provide a way for the website to recognize you and keep track of your preferences.

ii. “PHP is an open source software”. Justify your answer.

[04 Marks]

ANSWER

PHP is an open source software.

- no warranty, no limits on usage
- Source code is available for any modifications
- Freely Extended (must share source, represent original works and owners)
- License is not specific to a product or restrict other software and also technology neutral.

iii. Consider the following form.

Marks - Semester II

Student Reg. No.

Student Name

Subjects:

PC Application

DBMS

Web Development

Computer Hardware

a. Write a html program to create the above form.

[08 Marks]

ANSWER

```
<html>
<body>
<form method="post" action="student.php" >
<table>
<tr>
<td>Student Reg. No. </td>
<td>:&nbsp; <input type="text" name="stuRegNo" ></td>
</tr>

<tr>
<td>Student Name </td>
<td>:&nbsp; <input type="text" name="stuName" ></td>
</tr>
<tr>
<td>Subjects: </td><br>
<tr><td> PC Application </td>
<td>: <input type="text" name="pcApp" </td></tr>
<tr><td>&nbsp; &nbsp; &nbsp; DBMS </td>
<td>:&nbsp; <input type="text" name="dbms" </td>
</tr>

<tr>
<td> Web Development </td>
<td>:&nbsp; <input type="text" name="webDev" </td>
</tr>

<tr>
<td>&nbsp; &nbsp; &nbsp; Computer Hardware </td>
<td>:&nbsp; <input type="text" name="comHW" </td>
</tr>
<tr>
<td><center><input type="submit" name="submit" value="Submit" ></center></td>
</tr>
</table>
</form></body></html>
```

[08 Marks]

- b. “When you Click the submit button that should be displayed the student name, total mark and the average mark.”

Write a PHP program to display the above result.

[05 Marks]

ANSWER

Student.php

```
<?php
$total=$_POST['pcApp']+$_POST['dbms']+$_POST['webDev']+$_POST['comHW'];
$average = $total / 4.0;

Echo “Student Name:”.$_POST[‘stuName’].”<BR>”;
Echo “Total Marks:”.$total.”<br>”;
Echo “Average Marks:”.$average;
?>
```

(Total 20 Marks)

6) This form is used to store marks of the students in ABC Institute.

Marks - Semester II

Student Reg. No. :

Student Name :

Subjects:

PC Application :

DBMS :

Web Development :

Computer Hardware :

This form is used to store student marks of ABC Institute

- DBMS : MySQL
- Web Programming Language : PHP
- Database Server : localhost
- User Name : Manager
- Password : abc123
- Database Name : abcStudent
- Table Name : marks

Form contains below text boxes

Text box	Name
Student Reg. No	stuRegNo
Student Name	stuName
PC Application	pcApp
DBMS	dbms
Web Development	webDev
Computer Hardware	comHW

Write PHP code fragment to do the following.

- i. Create the connection to MySQL Database.

(04 marks)

ANSWER

```
$conn = mysql_connect("localhost", "Manager", "abc123");  
if (!$conn)  
    die('Could not connect: ' . mysql_error());
```

- ii. Insert the above data set in the form to the marks table.

[Hint: Marks (stno, stname, sb1, sb2, sb3, sb4)]

(05 marks)

ANSWER

```
$a= $_POST["stuRegNo"];  
$b= $_POST["stuName"];  
$c= $_POST["pcApp"];  
$d= $_POST["dbms"];  
$e= $_POST["webDev"];  
$f= $_POST["comHW"];  
  
$q1="INSERT INTO marks VALUES('$a','$b',$c,$d,$e,$f)";  
mysql_query($q1);
```

- iii. Change the Student name to "K.K. sumith" of whom Reg. No. is "STU_0015"

(05 marks)

ANSWER

```
$q2= "UPDATE marks SET stuName=' K.K. sumith' WHERE stuRegNo=' STU_0015' ";  
mysql_query($q2);
```


iv. Show all details of STU_0005 in the form

(06 marks)

ANSWER

```
$q3= "SELECT * FROM marks WHERE stuRegNo=' STU_0015' ";  
$result = mysql_query($q3);  
While($row=mysql_fetch_array($result))  
{  
echo "Reg Number :". $row["stuRegNo"]."<br>";  
echo "Name :". $row["stuName"]."<br>";  
echo "PC App marks :". $row["pcApp"]."<br>";  
echo "DBMS marks :". $row["dbms"]."<br>";  
echo "Web Development marks :". $row["webDev"]."<br>";  
echo "Hardware marks :". $row["comHW"]."<br>";  
}
```

(Total 20 marks)