



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 – 2016

HNDIT2413- Web Application Development

Model Answers

1)

i. What do the following acronyms stand for? [02 Marks]

a. HTTP – Hypertext Transfer Protocol (01 Mark)

b. W3C – World Wide Web Consortium (01 Mark)

Write three main functions of Client server architecture. [03 Marks]

Client sends a request to the server. (01 Mark)

Server fulfill these request. (01 Mark)

Server sends back the fulfilled request to the client. (01 Mark)

ii. Briefly explain the difference between ordered and unordered list with a suitable example. [05 Marks]

Unordered list are basically any point form list like in a word processor using dots (bullets) to list items; while ordered list are list that categorized the list according to a, b, c or 1, 2, 3. (02 Marks)

Example

apple

 orange

apple

 orange

- Apple
- orange

1. Apple
2. orange

(03 Marks)

Give 03 marks to any suitable example using HTML tags . Both ordered list and unordered list should be included in the example. Otherwise give half of the allocated marks(1.5 marks for one list type)

iii. Write the HTML code for the following output.

[10 Marks]

Name	Telephone		Preffered ATIs
Andrew	092-2345657	071-5557785	ATI-Jaffna
			ATI-Vavniya
			ATI-Trincomalee
Ferdinanze	093-7765657	077-7113478	ATI-Galle
			ATI-Tangalle

```

<html>
<head>
<title> </title>
</head>
<body>
<table border=1>..... (01 Marks)
    (* Give 01 Marks for <table></table> and <tr></tr> )

    <tr>.....
        <th>Name</th>
        <th colspan="2">Telephone</th> (03 Marks)
        <th>Preffered ATIs</th>
    </tr>.....
    <tr>.....
        <td rowspan="3">Andrew</td>
        <td rowspan="3">092-2345657</td> (04 Marks)
        <td rowspan="3">071-5557785</td>
        <td>ATI-Jaffna</td>
    </tr>.....
    <tr>.....
        <td>ATI-Vavniya</td> (01 Marks)
    </tr>.....
    <tr>.....
        <td>ATI-Trincomalee</td> (01 Marks)
    </tr>.....
    <tr>.....
        <td rowspan="2">Ferdinanze</td>
        <td rowspan="2">093-7765657</td>
        <td rowspan="2">077-7113478</td>
        <td>ATI-Galle</td>
    </tr>.....
    <tr>.....
        <td>ATI-Tangalle</td>
    </tr>
</body>
</html>

```

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

2)

- i. What is meant by CSS? Briefly explain it. [02 Marks]

Stands for cascading style sheet. Cascading Style Sheet (CSS) is a style sheet language used to describe the presentation of a document written in a markup language (e.g. HTML and XHTML). CSS describes how HTML elements should be displayed. CSS is a list of statements (rules) that define colors, fonts, layout, and other aspects to HTML elements.

Give 02 marks for 02 points

- ii. Give (03) three ways of inserting styles in to HTML page. [03 Marks]

External style sheet

Embedded styles (internal styles)

Inline styles

Give (01) mark for one point

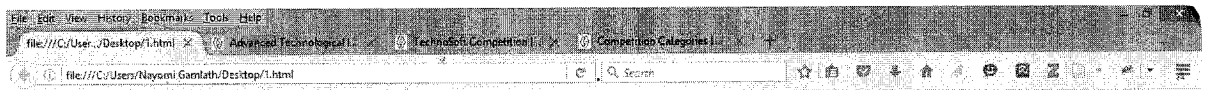
- iii. What are the effects you can get by using the following styles in a HTML page? [05 Marks]

- | | |
|--------------------|--|
| a. Color | - apply font color (text color) |
| b. Padding | - setting the margin for each side of an element (top, right, bottom, and left). (Outside the border) |
| c. Margin | - setting the space around content. The padding clears an area around the content (inside the border) of an element. |
| d. Font-style | - The font-style property is mostly used to specify italic text.
This property has three values:
normal - The text is shown normally
italic - The text is shown in italics
oblique - The text is "leaning" (oblique is very similar to italic, but less supported) |
| e. List-style-type | - The list-style-type property specifies the type of list item marker. (circle, square etc) |

Give (01) one mark for each

- iv. By considering the following web page and its HTML code, complete the following CSS style definitions by filling the missing code segments at the given placeholders to get the following appearance of the HTML page.

[10 Marks]



Technosoft 2017

Advanced Technological Institute -Gampaha

Sri Lanka Institute of Advanced Technological Education

Category 01	Category 02	Category 03
Web Application	Robotics	Desktop Application
Technosoft 2015 is a software competition organized under the Higher National Diploma in Information Technology (HNDIT) program in SLIATE. This is conducted by the Department of Information Technology of one ATI annually. This is one of the best opportunities to improve software engineering knowledge of the students.	Technosoft 2015 is a software competition organized under the Higher National Diploma in Information Technology (HNDIT) program in SLIATE. This is conducted by the Department of Information Technology of one ATI annually. This is one of the best opportunities to improve software engineering knowledge of the students.	Technosoft 2015 is a software competition organized under the Higher National Diploma in Information Technology (HNDIT) program in SLIATE. This is conducted by the Department of Information Technology of one ATI annually. This is one of the best opportunities to improve software engineering knowledge of the students.



Index.html

```
<html>
</head>
<body>
<h1>Technosoft 2017</h1>
<h2>Advanced Technological Institute -Gampaha</h2>
<h3>Sri Lanka Institute of Advanced Technological Education</h3>
<hr>
<div class="cat1">
<h3> Category 01 </h3>
<h3> Web Application </h3>
<p>Technosoft 2015 is a software competition organized under the Higher
National Diploma in Information Technology (HNDIT) program in SLIATE. </p>
</div>
<div class="cat2">
<h3> Category 02 </h3>
<h3> Robotics </h3>
<p>Technosoft 2015 is a software competition organized under the Higher
National Diploma in Information Technology (HNDIT) program in SLIATE. </p>
</div>
<div class="cat3">
<h3> Category 03 </h3>
<h3> Desktop Application </h3>
<p>Technosoft 2015 is a software competition organized under the Higher
National Diploma in Information Technology (HNDIT) program in SLIATE.
</p>
</div>
```

```
</div>
</body>
</html>
```

Style.css

```
body{
    (1) width:100%;           //set full width of the (any) display for webpage
    (2) margin:0px;          //set margin 0px
    (3) text-align:center; }  // set center alignment for body text
h1{ }
h2{
    (4) font-size:30px;      // set font size to 30px
}
h3{ }
hr{
    (5) height:10;           // set horizontal line height to 10
}
div{
    (6) padding-bottom:30px; //set bottom padding 30 px.
    (7) width:30.5%;         //set width of div section to 30.5% from whole display
    float:left;
    position: relative;
    min-height:1px;
    (8) margin-left:5px; }    // set 5px margin in left side of div section
.cat1 {
    (9) background-color: #d9edf7; //set background color of div section (cat1) to
#d9edf7
    (10) border-color: #bce8f1; } //border color of div section (cat1) to #bce8f1
.cat2 { }
.cat3 { }
```

Give (01) mark for each

3)

i. Give (02) two examples for client side scripting language.

[02 Marks]

- JavaScript
- JScript
- VBScript
- ActionScript
- AJAX

ii. Write (03) three usages of the client side scripting language.

[03 Marks]

- Form verification
- Document animation and automation
- Basic document intelligence

iii. Write a JavaScript code segment to calculate and display the summation of 1 to 100.

[05 Marks]

Using while loop

```
<html>
<head>
<script language="javascript" type="text/javascript">
var i=1;
total=0;
while(i<=100)
{
total=total+i;
i++;
}
document.write("Total = "+ total);
</script>
</head>
<body>
</body>
</html>
```

Using for loop

```
<html>
<head>
<script language="javascript" type="text/javascript">
var i;
total=0;

for (i=1;i<=100;i++)
{
total=total+i;
}
document.write("Total = "+ total);
</script>
</head>
<body>
</body>
</html>
```

for
display output.

Give 02 marks for loop(initialization, condition etc) ,01 mark for calculating total,01 mark

iv. Consider the following HTML form. Write one JavaScript function for following data validation. [10 Marks]

- a. full name is not empty
- b. Nine (09) digits in NIC number

Technosoft-2017

Application Form

Full Name ← 1

NIC ← 2

Address ← 3

Gender Male ☐ Female ☒ ← 4

category ← 5

☒ I agree with term and conditions ← 6

No.	Element	Attribute values	
		Name	Id
1	Text box	Fullname	
2	Text Box	nic	
3	Text Area	address	
4	Radio Button	gender	
5	List box	category	
6	Check box	agree	
	Form	frmtechno	

```
function funcvalidation()
{
    if (document.form1.fullname.value=="")
    {
        alert("Full Name Can't be empty ");
        return false;
    }
}
```

```

}
str=document.form1.nic.value;
if (str.length!=9)
{
    alert("NIC number should have 9 digits");
    return false;
}
return true;
}

```

Give 2 marks for function syntax, 2 marks for validating of the field empty, 2 marks for validating of nic length, 2 marks for each output message display (consider any suitable method for display the output including getElementById, document.write() or alert box). It is not required to check isNaN().

4)

i. Define the server side scripting language. [02 Marks]

- 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

Give 2 marks for any suitable one point

ii. Briefly explain the difference of the outputs of the following two programs. [03 Marks]

a.

```

<?php
$x = 5;
while($x < 4) {
    echo "The number is: $x <br>";
    $x++;
}
?>

```

b.

```

<?php
$x = 5;
do {
    echo "The number is: $x <br>";
    $x++;
} while ($x < 4);
?>

```

Part a. No output. Loop will not run.

Part b. before checking the condition loop will run at least one time. So output will be 5

1 mark for identification of each output of the programs
1 mark for explaining the reasons or difference

iii. Write the output of following PHP script.

[05 Marks]

a.

```
<?php
$colors = array("red", "green", "blue");
foreach ($colors as $value) {
    echo strtoupper("$value")."<br>";
}
?>
```

RED
GREEN
BLUE

Give 3 marks for text display (red, green , blue)
1 mark for display text with uppercase letter
1 mark for line break

iv. Write a PHP script to calculate factorial value for a given number using while loop.
(Hint. Factorial value of 5 =5*4*3*2*1)

[10 Marks]

```
<?php
$value = 5;
$factorial = 1; .....2 marks for correct variable initialization
$temp = $value;
while ($temp > 0) .....2 marks for correct syntax of while
loop
{
    $factorial *= $temp; //$factorial = $factorial * $temp; .....2 marks for correct
    calculation of
    factorial
    $temp--; .....2 marks for any correct increment or decrement
}
echo "Factorial is:". $factorial; .....2 marks for display output
?>
```

5)

- i. Briefly explain the usage of cookies and sessions in web page. [02 Marks]

Websites typically use session cookies to ensure that you are recognized when you move from page to page within one site and that any information you have entered is remembered.

- ii. Write (03) three differences between GET and POST methods. [03 Marks]

- GET - Requests data from a specified resource and POST - Submits data to be processed to a specified resource
- GET requests can be cached. POST requests are never cached
- GET requests remain in the browser history. POST requests do not remain in the browser history
- GET requests can be bookmarked. POST requests cannot be bookmarked
- GET requests should never be used when dealing with sensitive data
- GET requests have length restrictions. POST requests have no restrictions on data length
- GET requests should be used only to retrieve data
- GET Data is visible to everyone in the URL .POST Data is not displayed in the URL
- GET is less secure compared to POST because data sent is part of the URL

Give 3 marks for any three points

- iii. Write the output of following PHP script. [05 Marks]

```
<?php
class vehicle
{
    var $brand;
    var $model;
    var $colour;

    function vehicle($b,$m,$c)
    {
        $this->brand = $b;
        $this->model = $m;
        $this->colour = $c;
    }
    function start(){
        echo $this->colour." Coloured ".$this->brand." ".$this->model." is
        started...";
    }
}

$scarone = new vehicle("Nissan","Car","Brown");
$scarone->start();
?>
```

Brown Coloured Nissan Car is started...

Give 1 mark for brown

1 mark for coloured

1 mark for Nissan

1 marks for car

1 mark for is started.

If text is not in order , reduce two marks.

- iv. Write a PHP function to display the inserted data, by considering the following HTML form.

(Hint : Function name should be **funcDisplay()**)

[10 Marks]

Technosoft-2017

Application Form

Full Name Chanu Amodhani

NIC 818042385

Address Kurunegala

Gender Male ☐ Female ☒

category Desktop Application Development

☒ I agree with term and conditions

submit

No.	Element	Attribute values	
		Name	Id
1	Text box	Fullname	
2	Text Box	Nic	
3	Text Area	address	
4	Radio Button	gender	
5	List box	category	
6	Check box	agree	
	form	frmtechno	

```

<?php
$full=$_POST["fullname"];
$nic=$_POST["nic"];
$address=$_POST["address"];
$gender=$_POST["gender"];
$category=$_POST["category"];

if (isset($_POST["agree"]))
$agree="yes";
else
$agree="No";

echo "Fullname :".$full."<br>";
echo "NIC number :".$nic."<br>";
echo "Address :".$address."<br>";
echo "Gender :".$gender."<br>";
echo "Category :".$category."<br>";
echo "Agree :".$agree."<br>";
?>

```

Give 1 mark for taking HTML form data value and 1 mark for display it. (Maximum 5 html elements should be considered (5×2=10) . Student can write both in one statement

- 6) This form is used to store the Technosoft application data in the MYSQL database server using PHP.

Technosoft-2017

Application Form

Full Name

NIC

Address

Gender Male ☐ Female ☐

category

☐ I agree with term and conditions

Database Server = Localhost
 Username = ATIGAMPAHA
 Password = ATI@2017
 Database name = TECHNOSOFT
 Table Name = TECHNO(fullname, nic, address, gender, category, agree)

- i. Write the code segment to create the connection to MYSQL database. [02 Marks]

```
$conn = mysqli_connect("localhost", "ATIGAMPAHA", "ATI@2017");
```

- ii. Write the code segment to check the connection and display any MYSQL connection error. [03 Marks]

```
if (!$conn) {  
    die("Connection failed: " . mysqli_connect_error());  
}  
  
echo "Connected successfully";
```

- iii. Write the complete code segment to insert a record to the table. [05 Marks]

```
mysqli_select_db("TECHNOSOFT", $conn);  
mysql_query("INSERT INTO TECHNO (fullname,nic,  
address,gender,category,agree) VALUES ('Saman Silva',  
818042388,'Kurunegala','Male', 'Robotics','yes')");  
// Execute query  
mysqli_query($sql,$conn);  
//Close database connection.  
mysqli_close($conn);
```

- iv. Write the complete code segment to display the database record of applicant's NIC number 81804238 in the form. [10 Marks]

```
mysqli_select_db("TECHNOSOFT", $conn);  
$result = mysqli_query("SELECT * FROM TECHNO where nic=81804238 ");  
//Display data.  
while($row=mysqli_fetch_array($result))  
{  
    echo $row['fullname']." " . $row['nic']." " . $row['address'] $row['gender']."  
    ". $row['category']." " . $row['agree'];  
}  
//Close database connection.  
mysqli_close($conn);
```