

UNIVERSITY OF RUHUNA

BACHELOR OF SCIENCE GENERAL DEGREE LEVEL III (SEMESTER I)

EXAMINATION - JULY 2016

SUBJECT : COMPUTER SCIENCE

COURSE UNIT : COM3113/COM3118 (Internet Programming and Web Technologies) TIME : 2 Hours

Answer four (4) questions only.

1.
  - a. State whether the following PHP variable names are valid or not. Give reasons if variable names are not valid.
    - i. \$scar
    - ii. \$scar-price
    - iii. \$2nd\_car
    - iv. \$car\_2
    - v. \$tax%
    - vi. \$CAR
    - vii. \$car0tax

b. Explain four (04) differences between “Client side scripting” with “Server side scripting” in web development.

- c.
  - i. What is the expected output of the following PHP Program at point A and B?

```
<?php
function pass_by_value($param) {
    $arr = array_push($param,4,5);
    foreach ($arr as $elem) {
        print "<br>".$elem;
        //A.....
    }
}
```

```

$Ar = array(1,2,3);
pass_by_value($Ar);
foreach ($Ar as $elem) {
    print "<br>".$elem;           //B.....
}
?>

```

- ii. Explain the reason for different output at A and B.
- iii. Write a recursive PHP function to obtain factorial value of a given number.
- d. Briefly explain the GLOBAL and STATIC variable scopes attached with procedural PHP. Use program segments for each explanation.

2.

a. Write short notes to explain the following terms.

- i. \$\_REQUEST super global variable
- ii. Associative PHP arrays
- iii. PHP\_SELF variable
- iv. phpMyAdmin

b. Briefly describe the functionality of the following PHP built-in functions.

- i. mysql\_affected\_rows()
- ii. mysql\_fetch\_row()
- iii. fgets()
- iv. ksort()

c. Considering the following array, write a PHP code to display each element using a loop control structure.

```
$myarr=array("one","two","three")
```

d. What are the expected output of the following PHP Programs?

i.

```
<?php
$b = 0xC;
$c = 2;
$a = 011;

print $a + $b + $c;

?>
```

ii.

```
<?php

function apple($apples = 4)
{
    $apples = $apples / 2;
    return $apples;
}
$apples = 10;
$apples = apple($apples);
echo $apples;

?>
```

iii.

```
<?php

function pears(Array $pears)
{
    if (count($pears) > 0)
    {
        echo array_pop($pears);
        pears($pears);
    }
}
$fruit = array("Anjo", "Bartlet");
pears($fruit);

?>
```

iv.

```
<?php
function byRef(&$number)
{
    $number *= 10;
    return ($number - 5);
}
$number = 10;
byRef($number);
echo $number;

?>
```

v.

```
<?php
function myFunction($b)
{
    $a=30;
    global $a,$c;
    return $c=($a+$b);
}

echo myFunction(40)+$c;
?>
```

- e. Write built-in string functions in PHP to perform the following tasks.
- i. Convert a string to lowercase letters.
  - ii. Return an array of strings, by splitting an original string on a specified character.
  - iii. Count number of elements in an array.
  - iv. Convert all characters which have HTML characters into HTML entities.

3.

a. Write a HTML source code to create the interface in Figure 1.

**Order Form**

Product Name

Product Type  Normal  Standard

Branch   
Yap  
Galle  
Hambantota

Payment Method  Cash  Check

Delivery Address

Figure 1

b. Briefly explain the following terms used in web technologies.

- i. TCP/IP Protocol
- ii. Markup Language
- iii. Style Sheet
- iv. Web authoring tool

c. Explain the difference between following terms.

- i. Functions with variables passed by value and Functions with variables passed by reference
- ii. `mysql_fetch_row` function and `mysql_fetch_assoc` function
- iii. `mysql` extension in PHP and `mysqli` extension in PHP

d.

- i. List design steps of a web based system.
- ii. State two (02) factors which should avoid when design a web page.

4.

- a. List six (06) conditions required to prepare a valid XML document.
- b.
  - i. Briefly explain the functionality of “XML Data Model”?
  - ii. Define the syntax for the followings in DTD XML Data Model.
    1. Root element declaration
    2. Sub element declaration
  - iii. State two (02) advantages of frequently used DTD XML Data Model.
- c.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<NOTE ID="1">
    <TO>Gayan</TO>
    <FROM>Thimira</FROM>
    <HEADING>Payments</HEADING>
    <CONTENT>Price of a T-shirth is Rs. 1250</CONTENT>
</NOTE>
```

Figure 2

- i. Display the above XML file (Figure 2) in a DOM structure (as a tree).
- ii. Write a XML DTD Model for the above XML file (Figure 2).

5.

- a. List two (2) main methods that used to pass data from an html form to PHP script. State an advantage for each.
- b. Briefly explain the purpose of using cookies and sessions in server side programming?
- c. Following code snippet in Figure 3 is written by a novice programmer.

```

1. <?php
2. $dbhost = "localhost";
3. $dbuser = "root";
4. $dbpassword = "";
5. $dbdatabase = "ORGANIZATION";
6. $con = mysql_connect($dbhost,$dbuser);
7. if (!$con)
8. {
9.     die('Could not connect: ' . mysql_err());
10. }
11. mysql_select_database($dbdatabase, $con);
12. $sql_insert = "insert into EMPLOYEE(EMP_ID,EMP_NAME,POSITION)
    values('001','Daren Walker','General Manager')";
13. $result_insert=mysql_query($sql_insert,$con,$dbdatabase);
14. if(!$result_insert){
15.     die("Invalid query insert data".mysql_err());
16. }
17. mysql_close();
18. ?>

```

Figure 3

- i. Mention the line numbers of incorrect statements of the above program.
  - ii. Write the correct statement for the lines identified in 5(c) (i).
- d. Write a PHP program to calculate the sum of digits in a given number.

Note: You are not allowed to use any built-in function in PHP.

\*\*\*\*\*