



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

P.O. Box 62157

00200 Nairobi - KENYA

Telephone: 891601-6

MAIN EXAMINATION

JANUARY – APRIL 2019 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

CMT 209: WEB DEVELOPMENT

Date: APRIL 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

Q1. a) Describe a situation when you would use the HTTP **GET** method instead of **POST**? When would you use **POST** instead of **GET**? What are the TWO major *differences* between them? **(6 Marks)**

b) Write PHP scripts to accomplish the below tasks:

- i) Redirect a page to **redirected.php** **(1 Mark)**
- ii) Sort an array **(2 Marks)**
- iii) Calculate the number of days between two dates **(2 Marks)**
- iv) Combine two variables together into a new variable **(2 Marks)**
- v) Access information sent via POST **(2 Marks)**
- vi) Access information sent via GET **(2 Marks)**

c) The PHP script below was developed by an upcoming web developer but unfortunately does not execute due to errors:

<?php

```
$script = arrays();  
$script[10] = "ASP";  
$script[11] = "ColdFusion Markup Language";  
$script[12] = "Java via JavaServer Pages";  
$script[13] = "Javascript using Server Side Javascript";  
$script[14] = "PHP";  
$script[15] = "Perl";  
$script[16] = "SMX";  
$script[17] = "Python";
```

```

$script[18] = "Ruby";
$script[19] = "Lasso";
$script[20] = "WebDNA";
echo <p><b>Server-side Scripting Languages </b></p><ul>;
    foreach ($script as $val )
    {
        echo "<li>$vals</li>";
    }
echo "</ul>";
?php>

```

Required: Identify and correct all errors in the above script (5 Marks)

d) Explain **HTTP session states**. What are the advantages and problems that this brings? List any THREE common methods to solve this problem?

(6

Marks)

e) What are **Web Applications**? Why are they becoming so popular? Give some TWO examples. (2 Marks)

Q2. a) Differentiate between the following web programming related concepts:

i) *Server-side* scripting and *client-side* scripting (2 Marks)

ii) *Include* and *require* (2 Marks)

iii) *Packet switching* and *Circuit switching* (2 Marks)

b) You're receiving an error when uploading a file that the limit is set too low. Outline the procedure that would change the setting to allow for larger file uploads. (2 Marks)

c) List and explain the THREE main error types in PHP. How do they differ? (3

Marks)

d) Show and explain the output of the following PHP code:

```

<?php
$a = '1';
$b = &$a;
$b = "2$b";
echo $a.", ".$b;
?>

```

(3 Marks)

e) Suppose you receive a form submitted by a post to subscribe to a newsletter. This form has only one field, an input text field named *email*.

Required: Write the PHP script that would:

- i) Check to "see" whether the field is empty? Print a message "The email cannot be empty" in this case. **(3 Marks)**
- ii) Read the value written in the field and store it in a variable **myemail** **(3Marks)**

- Q3. a) Suppose that you have to implement a class named Dribbleball. This class must have an attribute named ballCount (which starts from 0) and a method iFoundaBall. When iFoundaBall is called, ballCount is increased by one. If the value of ballCount is equal to five, then the message You can ask your wish is printed, and ballCount is reset to 0.

Required: Write a complete PHP script to implement the Dribbleball class **(8Marks)**

- b) Explain what is meant by SQL Injections. How do you prevent them and what are the best practices? **(6 Marks)**
- c) When processing the form, what is the difference between a *hidden* form element and a *non-hidden* one, such as a text box? Explain your answer. **(6 Marks)**

- Q4. a) Identify and correct all errors in the below PHP scripts

i. **\$ i = 0;**
while(\$i < 20);
}
echo "Hello There!";
\$i++; **(3 Marks)**

ii. **<?php**
setcookies("simpleCookie". \$name. time()+36000);
?> **(3 Marks)**

- b) Write a PHP program to compute and print **sum** and **product** of any two given integers. Implement the Graphical User Interface (GUI) to enable capturing of the two numbers from the user. **(6 Marks)**
- c) Explain the importance and usefulness of the php.ini file. **(4 Marks)**
- d) One of the limitations of HTML is lack of interactivity.
 - i) What is interactivity in web application? **(2 Marks)**
 - ii) How do we achieve it? **(2 Marks)**

- Q5. a) Show how a web document is retrieved from a web server using the HTTP protocol (i.e. the exchange between a web browser and a server).

Marks)

- b) Outline an advantage and a disadvantage of storing client state on the client **(4 Marks)**
- c) Write a PHP program to print all even numbers less than a number N. N should be interactively input by the user. **(5 Marks)**
- d) The code below was written by an upcoming PHP developer using the if statement to demonstrate conditionals:

```

<body>
<?php
$d=date("D");
if ($d=="Mon")
echo "Ohhh no! Its Monday!";
elseif ($d=="Tue")
echo "Well, when is the week ending? ";
elseif ($d=="Wed")
echo "What are you doing over the weekend?";
elseif ($d=="Thu")
echo "And the week has been long!";
elseif ($d=="Fri")
echo "Can we skip going to work today? ";
else
echo "Let's relax!";
?>
</body>
</html>

```

Required: Convert the code to a CASE Statement.

(5 Marks)

END