



PAC INSTITUTE OF TECHNOLOGY AND SOCIAL STUDIES SEPTEMBER – DECEMBER 2024 ASSESSMENT

FORMATIVE ASSESSMENT

Qualification Code : IT/OS/CP/CR/09/6/A

Qualification : COMPUTER PROGRAMMING

Code : ICT/CU/CP/CR/09/6/A

Unit of Competency : SERVER-SIDE WEB APPLICATIONS USING PHP

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO THE CANDIDATE:

- 1. Read all the instructions carefully before attempting the questions.*
- 2. This paper consists of two sections, A & B.*
- 3. You are allowed 3 Hours to Answer the questions.*
- 4. Marks for each question are indicated in brackets.*
- 5. Write your responses in the Separate Answer booklet provided.*
- 6. Do not write anything on this question paper.*

SECTION A: (40 MARKS)

Answer **ALL** questions in this section.

1. **BRIEFLY** identify **FOUR** capabilities of PHP as a server-side programming language. (4 Marks)
2. Comments are essential in programming languages. Briefly **IDENTIFY** the three styles you can use comment out sections of your PHP program. (3 Marks)
3. **DESCRIBE FOUR** syntax rules one must follow when inserting data in MySQL server database using PHP programming language. (4 Marks)
4. Write a simple PHP script that demonstrates how echo can **DISPLAY** the arithmetic sum of two numbers. (2 Marks)
5. As a PHP developer, write, a PHP script that **CREATES** a table called 'grades' with any two attributes (3 Marks)
6. **DISCUSS THREE** advantages of dynamic web site over static web site. (3 Marks)
7. **IDENTIFY** the correct HTML syntax for setting Red as the background colour of your website. (2 Marks)
8. **LIST THREE** examples of Web Server software's (3 Marks)
9. Write a user defined function to **CALCULATE** the workers' pay. The function **ACCEPTS** two arguments representing hours worked and pay per hour. (4 marks)
10. Write a PHP code for connecting web application to the **MYSQL** database server. Include code for testing if the connection is successful. (3 marks)
11. **STATE FOUR** capabilities of phpMyAdmin (2 marks)
12. Using loop concept write PHP code for the **OUTPUT** given below (4 marks)

Number	Square
4	16
3	9
2	4

13. Write an **ARRAY** program to print out the following items; (4 marks)

TV	Phone	Radio	DVD
-----------	--------------	--------------	------------

SECTION B: (60 MARKS)

Answer any **THREE** questions in this section.

QUESTION FOURTEEN (20 MARKS)

- a) You are given the following PHP code that is supposed to calculate the **AREA OF A CIRCLE**. However, the code has some errors. Your task is to **IDENTIFY** and **EXPLAIN** the mistakes in the code, and **DESCRIBE** how you would fix them to correctly calculate the area of the circle.(10 marks)

```
<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $radius = $_POST['radius'];
    if(empty($radius)) {
        echo "Radius is required";
    }
    $area = pi() * $radius * $radius;
    echo "The area of the circle is: " . $area;
}
?>

<form method="POST" action="">
    Radius: <input type="text" name="radius"><br>
    <input type="submit" value="Calculate Area">
</form>
```

- b) **DISTINGUISH** between `$_POST` and `$_GET` in PHP forms. (4 Marks)

- c) **EXPLAIN** any three PHP superglobals (6 Marks)

QUESTION FIFTEEN (20 MARKS)

i. You have been hired by a hotel to develop their **ONLINE BOOKING SYSTEM**. The hotel wants to capture essential information from guests when they make a reservation. Your task is to create a PHP form for a file named **booking.php** that allows users to input the following details for their booking:

- i. Guest Names
- ii. Gender
- iii. Check in Date
- iv. Check out Date
- v. Type of Room (choose from Single, double, master) (15 Marks)

ii. Write the PHP code for a file named **received.php** which **RECEIVES** and **PRINTS** out the submitted from **BOOKING.PHP** file above. (5 Marks)

QUESTION SIXTEEN (20 MARKS)

- i. MySQLi extension is useful when connecting PHP to MySQL Database. Write a PHP script that creates a database called “**shamba**”. (7 Marks)
- ii. As a PHP developer, write a PHP script that **CREATES** a table called students with any two attributes. (6 Marks)
- iii. What purpose does the PHP keyword global serve? (2 Mark)

QUESTION SEVENTEEN (20 MARKS)

a) You are developing a server-side application with PHP that collects personal information from users. **EXPLAIN FIVE** legal and regulatory requirements you need to comply with to ensure data protection and privacy. (10 Marks)

b) **DESCRIBE** any **THREE** security considerations a developer should prioritize when connecting a PHP application to a database. (6 Marks)

c) **Explain TWO** ways web developers using PHP can ensure that a database is both secure and optimized to handle large amounts of data efficiently. (4 Marks)