

No. of Printed Pages : 8

**A10.2-R5.1 : FULL STACK WEB DEVELOPMENT USING MVC FRAMEWORK**

**DURATION : 03 Hours**

**MAXIMUM MARKS : 100**

**OMR Sheet No. :**

**Roll No. :**

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**Answer Sheet No. :**

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**Name of Candidate :** \_\_\_\_\_ ; **Signature of Candidate :** \_\_\_\_\_

**INSTRUCTIONS FOR CANDIDATES :**

- Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.
- Question Paper is in English language. Candidate has to answer in English language only.
- There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.
- **PART ONE** is Objective type and carries **40** Marks. **PART TWO** is Subjective type and carries **60** Marks.
- **PART ONE** is to be answered in the **OMR ANSWER SHEET** only, supplied with the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book for **PART TWO**.
- Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the Answer Sheet for **PART ONE** is returned. However, Candidates who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the Answer Sheet for **PART ONE** to the Invigilator.
- **Candidate cannot leave the examination hall/room without signing on the attendance sheet and handing over his/her Answer Sheet to the invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.**
- After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question Booklet is complete in all respects.

**DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

## PART - ONE

(Answer all the questions. Each question carries ONE mark)

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "OMR" answer sheet supplied with the question paper, following the instructions therein. (1x10)

1.1 What is the primary purpose of the MVC architecture in web development ?

- (A) To separate the presentation layer from the application logic layer
- (B) To enhance database security
- (C) To simplify HTML code
- (D) To allow multiple users to access the application

1.2 Which of the following is NOT a PHP framework ?

- (A) CakePHP
- (B) Django
- (C) Laravel
- (D) CodeIgniter

1.3 In CakePHP, which component is responsible for handling business logic ?

- (A) Model
- (B) Controller
- (C) View
- (D) Helper

1.4 What is the default method for fetching all records from a table in a CakePHP Model ?

- (A) find('list')
- (B) find('all')
- (C) getAll()
- (D) fetchAll()

1.5 In PHP, which of the following operators is used for string concatenation ?

- (A) +
- (B) . (dot)
- (C) &
- (D) \$

1.6 What will be the output of the following PHP code snippet ?

```
php
Copy code
$num = 10;
if($num>5&&$num<15) {
echo"Valid";
} else {
echo"Invalid";
}
(A) Valid
(B) Invalid
(C) Error
(D) Null
```

1.7 Which of the following PHP error handling functions will terminate the script ?

- (A) trigger\_error()
- (B) die()
- (C) warning()
- (D) notice()

<p>1.8 In MySQL, which statement is used to retrieve data from a table ?</p> <p>(A) INSERT          (B) UPDATE          (C) SELECT          (D) DELETE</p>	<p>2.2 CakePHP is built using the PHP programming language and follows the MVC architectural pattern.</p>
<p>1.9 Which CakePHP helper is specifically designed to create and manipulate HTML forms ?</p> <p>(A) FormHelper          (B) HtmlHelper          (C) TableHelper          (D) ViewHelper</p>	<p>2.3 The PHP error reporting function can only be used to display errors, not to log them.</p> <p>2.4 In CakePHP, Controllers are used to directly interact with the database.</p>
<p>1.10 Which SQL clause is used in conjunction with aggregate functions like COUNT, MAX, and AVG ?</p> <p>(A) ORDER BY          (B) GROUP BY          (C) WHERE          (D) HAVING</p>	<p>2.5 In PHP, functions declared with the static keyword cannot access \$this keyword.</p> <p>2.6 MySQL supports only a limited set of aggregate functions, such as COUNT, SUM, and AVG.</p>
<p>2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and enter your choice in the "OMR" answer sheet supplied with the question paper, following the instructions therein. (1x10)</p>	<p>2.7 The use of CakePHP Form Helper eliminates the need for HTML knowledge when creating forms.</p> <p>2.8 A foreign key in MySQL is used solely to enforce referential integrity between two tables.</p>
<p>2.1 In the MVC framework, the Model is responsible for rendering data to the user interface.</p>	<p>2.9 In PHP, the isset() function can be used to check if a variable is declared but not set to NULL.</p> <p>2.10 The HtmlHelper in CakePHP is only used to create HTML links.</p>

3. Match words and phrases in column X with the closest related meaning/word(s)/phrase(s) in column Y. Enter your selection in the "OMR" answer sheet supplied with the question paper, following the instructions therein. (1x10)

X		Y	
3.1	Dependency Injection	A.	Checks if a file exists and is writable
3.2	MySQL Foreign Key Constraint	B.	Part of a class defining the layout of an object
3.3	Traits in PHP	C.	Enforces referential integrity between tables
3.4	PHP isset() Function	D.	Access properties and methods in the same class only
3.5	Private Access Modifier	E.	Separates data handling logic from presentation
3.6	Static Function	F.	Ensures a variable is declared and is not NULL
3.7	HtmlHelper	G.	Belongs to the class, not any specific instance
3.8	Interface	H.	Used for generating form elements in CakePHP
3.9	is_writable() Function	I.	Design pattern used for structuring applications
3.10	MVC Frameworks	J.	Allows a class to implement multiple behaviors
		K.	Requires implementing all declared methods in inheriting classes
		L.	Allows external entities to access class members
		M.	Combines data from multiple tables based on a related column

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "OMR" answer sheet supplied with the question paper, following the instructions therein. (1x10)

A.	MVC	B.	Static	C.	View	D.	isset
E.	Trigger_error	F.	Foreign	G.	8080	H.	having
I.	Models	J.	html	K.	Group by	L.	3306
M.	WHERE						

4.1 In the MVC architecture, the \_\_\_\_\_ component is responsible for handling the user interface and displaying data to the user.

4.2 CakePHP is based on the \_\_\_\_\_ architectural pattern, which helps separate business logic from the presentation layer.

4.3 The \_\_\_\_\_ clause in SQL is used to filter records returned by a SELECT statement based on a specified condition.

4.4 In PHP, the \_\_\_\_\_ function is used to check if a variable is set and is not NULL.

4.5 In Object-Oriented Programming, a \_\_\_\_\_ function does not need an object instance to be called, as it belongs to the class itself.

4.6 In CakePHP, \_\_\_\_\_ are used to map database tables to class objects.

4.7 The \_\_\_\_\_ method in PHP is used to display errors and warnings that do not halt the script execution.

4.8 A primary feature of MySQL is its ability to create relationships between tables using \_\_\_\_\_ keys.

4.9 In CakePHP, the \_\_\_\_\_ helper is used to generate HTML links dynamically within views.

4.10 \_\_\_\_\_ is the default port number used for MySQL server connections.

**PART - TWO**

**(Answer any FOUR questions)**

5. (a) What is MVC design pattern ? Explain how the controller interacts with models and views in an MVC based project.

(b) Explain the strengths and weaknesses of using MySQL.

**(9+6)**

6. (a) Explain the difference between exception and error with an example. How we can handle exception in code ? Explain with example.

(b) What is the difference between abstract class and interface ?

**(9+6)**

7. (a) What are the types of polymorphism and inheritance ? Write a program for method overriding in PHP ?

(b) What is the difference between PHP 4 and PHP 5 ? What is the use of PHP framework in the MVC project ?

**(8+7)**

8. (a) Explain different types of SQL Joins and how they work with examples.

(b) Explain the use of the ALTER command in SQL with examples.

**(7+8)**

9. (a) What is CakePHP ? Explain the features of CakePHP framework. What are hooks in CakePHP ?

(b) Explain CakePHP request cycle. How do SQL injections work in PHP ?

**(7+8)**

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**SPACE FOR ROUGH WORK**

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