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

DURATION : 03 Hours   **MAXIMUM MARKS : 100**

OMR Sheet No. : ☐☐☐☐☐

Roll No. : ☐☐☐☐☐☐   Answer Sheet No. : ☐☐☐☐☐☐

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 instructions therein.**

(1x10)

1.1. In MVC, _____ helps you to execute logic while MVC action is executed or it is executing.

(A) beforeFilter()

(B) ActionFilters

(C) afterFilter()

(D) ControlFilter()

1.2. Which of the following tags is not a valid way to begin and end a PHP code block ?

(A) <% %>

(B) <?php ?>

(C) <? ?>

(D) <?= ?>

1.3. ^[A-Za-z].* matches :

(A) play it again

(B) I

(C) ?

(D) 123

1.4. Which of the following will not combine strings $s1 and $s2 into a single string ?

(A) $s1 + $s2

(B) $s1.$s2

(C) "{$s1}{$s2}"

(D) implode(' ', array($s1,$s2))

1.5. $Var = substr("abcdef", -4, 1);

The above statement will return ....

(A) returns "f"

(B) returns "c"

(C) returns "d"

(D) returns "cd"

1.6. In PHP in order to access MySQL database you will use :

(A) mysqlconnect() function

(B) mysql_connect() function

(C) sql_connect() function

(D) mysql-connect() function

1.7. Which one of the following statements should you use to set the session username to Nachi ?

(A) $SESSION['username'] = "admin";

(B) session_start("admin");

(C) $SESSION_START["username"] = "admin";

(D) $_SESSION['username'] = "admin";

1.8. Which of the following advanced OOP features is/are not supported by PHP ?

    (i)   Method overloading

    (ii)   Multiple Inheritance

    (iii)   Namespaces

    (iv)   Object Cloning

    (A)   (i) only

    (B)   (ii) only

    (C)   (i) and (ii)

    (D)   (iii) and (iv)

1.9. Which of the following clauses is used to display information that match a given pattern ?

    (A)   LIKE

    (B)   IS

    (C)   SAME

    (D)   WHERE

1.10. Which is not a core component in CakePHP ?

    (A)   DebugKit

    (B)   RequestHandler

    (C)   Security

    (D)   Paginator

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 instructions therein.** **(1x10)**

2.1. In MVC, the model is responsible for managing the data of the application.

2.2. Controller directly refers the view or manipulates it.

2.3. Transactions are used to treat sets of SQL statements atomically.

2.4. Is session unset() function used to erase all session variables stored in the current session ?

2.5. CakePHP makes developing, deploying and maintaining applications much easier.

2.6. CakePHP plugins are loaded automatically.

2.7. CakePHP will dynamically create a model object for you if it cannot find a corresponding file in app/model.

2.8. The variable name is not case-sensitive in PHP.

2.9. Interface constant can be override in class implementing the interface.

2.10. If parent class has Final method abc(). Method abc() can be overridden in child class.

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

	X		Y
3.1	Term in MVC architecture that perform business processing is called as _____.	A.	concat()
3.2	What CakePHP component is not part of the view layer ?	B.	implode()
3.3	CSRF protection is provided in CakePHP 2.x in _____.	C.	PHP 5.3
3.4	In which version of PHP was MySQL Native Driver introduced ?	D.	Controller
3.5	Which version of PHP introduced the visibility keywords i.e public, private, and protected ?	E.	is_a()
3.6	Functions is used to determine object type.	F.	define_syslog_variable()
3.7	If one intends to create a model that will be assumed by a number of closely related objects, which class must be used ?	G.	Behavior
3.8	Which function initializes the constants necessary for using the openlog(), clodelog(), and syslog() functions ?	H.	filter_var_array()
3.9	Which one of the following filter is used to filter several variables with the same or different filters ?	I.	PHP 5
3.10	functions can be used to concatenate array elements to form a single delimited string.	J.	Abstract class
		K.	SecurityComponents
		L.	define_log_variable()
		M.	filter_var()

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

A	Fatal run-time error	B	16	C	7
D	Primary, Unique	E	mysql_connect()	F	cross-site scripting
G	expose_php	H	final	I	fgetss()
J	Unique, Primary	K	Fatal Compile-time	L	systemlog()
M	syslog()				

4.1. In PHP, Number of error levels are _____.

4.2. _____ is the description of Error level E_ERROR.

4.3. _____ function is responsible for sending a custom message to the system log.

4.4. Number of methods for the exception class are _____.

4.5. You can extend the exception base class, but you cannot override any of the preceding methods because the are declared as _____.

4.6. _____ function operates similarly to fgets(), except that it also strips any HTML and PHP tags form the input.

4.7. _____ directive should we disable to obscure the fact that PHP is being used on our server.

4.8. _____ function is used to connect to a MySQL database in PHP.

4.9. The attack which involves the insertion of malicious code into a page frequented by other users is known as _____.

4.10. _____ Key can be a NULL value whereas _____ Key cannot take NULL value.

PART TWO

(Answer **any FOUR** questions)

5. (a) What is MVC ? Why PHP use MVC framework ? Explain all steps that followed by MVC life cycle.

(b) Explain Zend Framework and why is it used ? Differentiate between Codeigniter and Laravel frameworks.

(c) Explain the CakePHP. List out the various advantages and disadvantages of CakePHP. **(5+5+5)**

6. (a) (i) What is an array ? Explain various types of arrays available in PHP with suitable example.

(ii) What is the difference between "For" and "Foreach" loop in PHP ?

(b) Design a HTML form to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer and write a PHP program to calculate percentage and grade using if-else, according to following :

- Percentage >= 90% : Grade A
- Percentage >= 80% : Grade B
- Percentage >= 70% : Grade C
- Percentage >= 60% : Grade D
- Percentage >= 40% : Grade E
- Percentage < 40% : Grade F

(c) Explain the Cookies in PHP. What do you understand by term Persistent Cookie in PHP ? What is the difference between session and cookie ? **(4+7+4)**

7. (a) What is TimeStamp ? What is the difference between CHAR and VARCHAR Data type in MySQL ?

(b) Explain the various types of triggers that are possible in MySQL.

(c) What is function in PHP ? Why should we use functions ? Explain pass by value and pass by reference parameter passing techniques with suitable example. **(5+5+5)**

8. (a) Define the terms abstraction and interface in PHP. Explain function overloading and overriding with the help of examples.

(b) Explain access specifiers which are supported by PHP.

(c) (i) A table "Employee" of MySQL with the columns eid, emp_name, emp_salary, emp_department is given. Write a query that calculates the average salary by the department. The output should include all departments except Finance.

(ii) Explain all JOINs which are supported by MySQL ? **(5+4+6)**

9. (a) Explain the following terms in CakePHP :
(i) Helper
(ii) scaffolding
(iii) Pagination
(iv) Hooks

(b) Write a PHP script to retrieve and display employee data like id, name, designation and salary from tblemployee table. **(8+7)**

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SPACE FOR ROUGH WORK

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