

A10.2-R5 : Full Stack Development using MVC Framework

अवधि : 03 घंटे

DURATION : 03 Hours

अधिकतम अंक : 100

MAXIMUM MARKS : 100

ओएमआर शीट सं. :

OMR Sheet No. :

रोल नं. :

Roll No. :

उत्तर-पुस्तिका सं. :

Answer Sheet No. :

परीक्षार्थी का नाम :

Name of Candidate :

परीक्षार्थी के हस्ताक्षर :

; Signature of Candidate :

परीक्षार्थियों के लिए निर्देश :	Instructions for Candidates :
कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर-पुस्तिका में दिये गए निर्देशों को ध्यानपूर्वक पढ़ें।	Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.
प्रश्न-पुस्तिका अंग्रेजी भाषा में है। परीक्षार्थी उत्तर लिखने के लिए केवल अंग्रेजी भाषा का ही प्रयोग कर सकते हैं।	Question Paper is in English language. Candidate has to answer in English language only.
इस मॉड्यूल/पेपर के दो भाग हैं। भाग एक में चार प्रश्न और भाग दो में पाँच प्रश्न हैं।	There are TWO PARTS in this Module/Paper. PART ONE contains FOUR questions and PART TWO contains FIVE questions.
भाग एक "वैकल्पिक" प्रकार का है जिसके कुल अंक 40 हैं तथा भाग दो "व्यक्तिपरक" प्रकार का है और इसके कुल अंक 60 हैं।	PART ONE is Objective type and carries 40 Marks. PART TWO is Subjective type and carries 60 Marks.
भाग एक के उत्तर, इस प्रश्न-पत्र के साथ दी गई ओएमआर उत्तर-पुस्तिका पर, उसमें दिये गए अनुदेशों के अनुसार ही दिये जाने हैं। भाग दो की उत्तर-पुस्तिका में भाग एक के उत्तर नहीं दिये जाने चाहिए।	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.
भाग एक के लिए अधिकतम समय सीमा एक घण्टा निर्धारित की गई है। भाग दो की उत्तर-पुस्तिका, भाग एक की उत्तर-पुस्तिका जमा कराने के पश्चात् दी जाएगी। तथापि, निर्धारित एक घंटे से पहले भाग एक पूरा करने वाले परीक्षार्थी भाग एक की उत्तर-पुस्तिका निरीक्षक को सौंपने के तुरंत बाद, भाग दो की उत्तर-पुस्तिका ले सकते हैं।	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.
परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना और अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हॉल/कमरा नहीं छोड़ सकते हैं। ऐसा नहीं करने पर, परीक्षार्थी को इस मॉड्यूल/पेपर में अयोग्य घोषित कर दिया जाएगा।	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.
प्रश्न-पुस्तिका को खोलने के निर्देश मिलने के पश्चात् एवं उत्तर लिखना आरम्भ करने से पहले उम्मीदवार यह जाँच कर सुनिश्चित कर लें कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।	After receiving the instruction to open the booklet and before starting to answer the questions, the candidate should ensure that the Question Booklet is complete in all respect.

जब तक आपसे कहा न जाए, तब तक प्रश्न-पुस्तिका न खोलें।

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 the model-view-controller (MVC) architecture, the model defines the

- (A) Data-access layer
- (B) Presentation layer
- (C) Business-logic layer
- (D) Interface layer

1.2 What is the advantage of model-view-controller ?

- (A) MVC segregates your project into a different segment, and it becomes easy for developers to work on
- (B) It is easy to edit or change some part of your project that makes project less development and maintenance cost
- (C) MVC makes your project more systematic
- (D) All of the above mentioned

1.3 Which one of the following function is capable of reading a specific number of characters from a file ?

- (A) fgets()
- (B) fget()
- (C) fileget()
- (D) filegets()

1.4 Which among the following best describes abstract classes ?

- (A) If a class has more than one virtual function, it's abstract class
- (B) If a class have only one pure virtual function, it's abstract class
- (C) If a class has at least one pure virtual function, it's abstract class
- (D) If a class has all the pure virtual functions only, then it's abstract class

1.5 Members which are not intended to be inherited are declared as _____.

- (A) Public members
- (B) Protected members
- (C) Private members
- (D) Private or Protected members

1.6 Which of the following is not supported by MySQL

- (A) Temporary (Hash) Tables
- (B) Table Joining
- (C) Regular Expression Matching
- (D) Stored Procedures

- 1.7 What will be the output of the following PHP code ?
- ```
< ?php
function foo($msg)
{
echo "$msg";
}
$var1 = "foo";
$var1("will this work");
?>
```
- (A) Error  
(B) \$msg  
(C) 0  
(D) Will this work
- 1.8 What will happen in this function call ?
- ```
< ?php
function calc($price,$tax)
{
$total = $price + $tax;
}
    $pricetag = 15;
    $taxtag = 3;
    calc($pricetag, $taxtag);
?>
```
- (A) Call By Value
(B) Call By reference
(C) Default Argument value
(D) Type Hinting
- 1.9 Can constructors be overloaded in derived class ?
- (A) Yes, always
(B) Yes, if derived class has no constructor
(C) No, programmer can't do it
(D) No, never
- 1.10 What is the process of defining a method in terms of itself, that is a method that calls itself ?
- (A) Polymorphism
(B) Abstraction
(C) Encapsulation
(D) Recursion
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 the Model-View-Controller architecture, the model defines the Interface Layer.
- 2.2 The controller executes an incoming request.
- 2.3 PHP function calls are Call-by-reference
- 2.4 PHP Supports garbage collection mechanism.
- 2.5 MySQL 4.1 version introduced the prepared statement.
- 2.6 fetch method retrieves each row from the prepared statement result and assigns the fields to the bound results?
- 2.7 In hierarchical inheritance, all the classes involve some kind of inheritance.
- 2.8 fwrite() function outputs the contents of a string variable to the specified resource.
- 2.9 CSRF protection is provided in CakePHP 2.x in Security Component.
- 2.10 openssl_encrypt() function is used to encrypt a PHP string.

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)

Column X		Column Y	
3.1	Term in the MVC architecture that receives events is called	A.	[A-za-z]
3.2	Which of the following method is used to retrieve the number of rows affected by an INSERT, UPDATE, or DELETE query ?	B.	Anonymous
3.3	In PHP Which function is capable of reading a file into an array ?	C.	Concrete Class
3.4	If 6 classes uses single level inheritance with pair classes (3 pairs), which inheritance will this be called ?	D.	file()
3.5	In PHP Which function is capable of reading a file into a string variable	E.	Multilevel inheritance
3.6	Which method is used to determine the number of rows retrieved by a SELECT query	F.	Abstract Class
3.7	What is default authentication in Internet Information Server(IIS)	G.	Receiver
3.8	What is ActionResult()?	H.	num_rows()
3.9	What is ViewResult()?	I.	Single level inheritance
3.10	in PHP, [:alpha:] can also be specified as	J.	Controller
		K.	affected_rows ()
		L.	file_get_contents()
		M.	A-Za-z0-9]

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	Encapsulation	B	Authorization	C	Foreign	D	Action filters
E	PHP	F	session_unset()	G	SessionHandler::gc	H	Polymorphism
I	Primary	J	Unique	K	PHP	L	inheritance
M	Final						

- 4.1 _____ Key can be a NULL value but _____ Key can not take NULL value.
- 4.2 A _____ Key is a set of one or more columns in a table that refers to the primary key in another table.
- 4.3 _____ filters are used to implement authentication and authorization for controller action.
- 4.4 _____ are one of most commonly used filters to perform additional data processing.
- 4.5 _____ version introduced the function error_get_last()
- 4.6 _____ term originates from the Greek language that means "having multiple forms".
- 4.7 The practice of separating the user from the true inner workings of an application through well-known interfaces is known as _____.
- 4.8 _____ function is used to erase all session variables stored in the current session
- 4.9 _____ function effectively deletes all sessions that have expired.
- 4.10 _____ method scope prevents a method from being overridden by a subclass.

PART TWO

(Answer **any FOUR** questions)

5. (a) Mention the advantages and disadvantages of MVC model ?
- (b) Explain the role of components Presentation, Abstraction and Control in MVC ?
- (c) Explain what is the difference between View and Partial View ? [5+5+5]
6. (a) Write a simple calculator program for addition, subtraction, multiplication, and division operations in PHP using switch case.
- (b) What is Cookies and how to create cookies in PHP? What is the difference between session and cookie ? [8+7]
7. (a) What is the difference in CHAR and VARCHAR Data type in MySQL ?
- (b) What are the purposes of using ENUM and SET data types? Write a mysql query to create table with the field ENUM and SET Data Type.
- (c) What is the difference between the LIKE and REGEXP operators? Explain with query. [5+5+5]

8. (a) What are access specifiers? Write the difference between access specifiers ?
- (b) Write PHP code to make database connection to MySQL ?
- (c) What is difference between ORDER BY and GROUP BY in SQL ? [5+5+5]
9. (a) What are sessions in PHP? How to read, write, and delete session in cakephp ?
- (b) Explain Application Feature in CakePHP. [8+7]

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SPACE FOR ROUGH WORK

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