



TECHNICAL UNIVERSITY OF MOMBASA

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INSTITUTE OF COMPUTING AND INFORMATICS

Select department

UNIVERSITY EXAMINATION FOR:

INSTITUTE OF COMPUTING AND INFORMATICS  
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY  
BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER SCIENCE  
(BTIT/SEP 2013 Y3S1-JFT/BMCS 12S Y4S2)  
EIT 4310/EIT 4453: Advanced Web Application Programming Exam 1

END OF SEMESTER EXAMINATION

SERIES:APRIL2016

TIME:2HOURS

DATE:Pick DateMay2016

**Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. AttemptChoose instruction.

**Do not write on the question paper.**

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**Question ONE**

- a. Define the term “advanced web application” [2 marks]
- b. List four advantages of using PHP scripting language over other languages [4 marks]
- c. The following extract is a PHP array for displaying a list of students

```
<?php
1.$stds=array("Njogu","Timo","Toma");
2.$arrlength=count($cars);
3.for($x=0;$x<$arrlength;$x++)
{
4.echo $stds[$x];
5. echo "<br>"; }
6.??>
```

- i. Show the output of the code [2 marks]

- ii. Explain each line of code from no 1-5 [3 marks]
- d. Differentiate between a session and a cookie as used in PHP scripting [4 marks]
- e. Explain what you understand by Model View Controller pattern as used in web applications [5 marks]
- f. List four ways of retrieving the data in the result set of MySQL using PHP [4 marks]
- g. Describe four types of errors encountered in PHP [6 marks]

### Question TWO

- a) Define the term “prepared statement” as used in PHP [2 marks]
- b) Explain how prepared statements work [6 marks]
- c) Describe three advantages of using prepared statements in PHP/MYSP queries [6 marks]
- d) Write an PHP/MYSQL statement that uses a prepared statement [6 marks]

### Question THREE

- a. Write a PHP script to check if a string contains specific string? [4 marks]

*Sample string:* 'The quick brown fox jumps over the lazy dog.'  
Check whether the said string contains the string 'jumps'.

- b. Explain the behavior of the htmlspecialchars () function [3 mark]
- c. Describe the actions of the \$\_SERVER["PHP\_SELF"] variable [3 marks]
- d. Write a PHP/MYSQL script that selects the id, firstname and lastname columns from the students table and displays it on the page as follows. [10 marks]

id: 1 - Name: John Kamau  
id: 2 - Name: Mary Mwajuma  
id: 3 - Name: Julie Odoyo

#### Question FOUR

a. Describe three variable scopes used in PHP [3 marks]

b. Write an HTML syntax for the web form below [7 marks]

Name:

E-mail:

Gender:  Female  Male

c. Demonstrate using PHP code how the form can be validated against incorrect submission. [10 marks]

\* required field.

Name:  \* Name is required

E-mail:  \* Email is required

Gender:  Female  Male \* Gender is required

#### Question FIVE

a. Define the following PHP terms/Phrases [6 marks]

- i. Polymorphism
- ii. Data Abstraction.
- iii. Encapsulation
- iv. Constructor

b. Here is a PHP code extract which defines a class of type Books:

```
<?php
class Books {
```

```
/* Member variables */
var $price;
var $title;

/* Member functions */
function setPrice($par){
    $this->price = $par;
}
function getPrice(){
    echo $this->price ."<br/>";
}

function setTitle($par){
    $this->title = $par;
}
function getTitle(){
    echo $this->title ." <br/>";
}
}
?>
```

- i. Explain five key parts of the code. 5 marks]
- ii.* Demonstrate how to create three books: maths, physics and chemistry using the **new** operator. [3 marks]
- iii. Show how to set title and prices for the three books by calling member functions. [6 marks]