



**UNIVERSITY EXAMINATIONS: 2013/2014**  
**EXAMINATION FOR THE MASTER OF SCIENCE IN INFORMATION**  
**SYSTEMS MANAGEMENT**  
**MISM 5201 WWW DATABASE INTEGRATION AND ECOMMERCE**  
**DATE: AUGUST, 2014** **TIME: 2 HOURS**

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**INSTRUCTIONS: Answer Question One and Any Other Two Questions**

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**QUESTION ONE: [20 Marks]**

- a) The MVC design pattern can be used in overcoming the need to develop an application for each type of device that can be used to access a given system. help in developing a web application system?
- (i) What is a design pattern?
  - (ii) Clearly explain the use of the various components of the MVC design pattern
- (8 Marks)
- b) Database design is done in three distinct phases, conceptual, logical and physical design. Explain what each of the phases is concerned with and what is required to achieve the same.
- (6 Marks)
- c) Consider the following PHP code:
- ```
<html>
<body>
<?php
$db = mysql_connect("localhost","root");
mysql_select_db("mydb",$db);
$result = mysql_query("SELECT * FROM employees",$db);
printf("First Name: %s<br>\n", mysql_result($result,0,"first"));
printf("Last Name: %s<br>\n", mysql_result($result,0,"last"));
```

```
printf("Address: %s<br>\n", mysql_result($result,0,"address"));  
printf("Position: %s<br>\n", mysql_result($result,0,"position"));  
?>  
</body>  
</html>
```

Clearly explain the use or need for each of the italicized statement above. (6 Marks)

## QUESTION TWO (15 MARKS)

- a) A web application is normally based on an underlying web platform for ease of development. Using an application platform of your choice, describe the main components of a platform and the need for each. (8 Marks)
- b) A web application development requires the use of;
- i. Client side scripting
  - ii. Server side scripting and
  - iii. Database development tools.

By giving suitable example tools/languages qualify the need for each of the above.

(7 Marks)

## QUESTION THREE (15 MARKS)

- a) Sessions and cookies are useful components in any E-Commerce application, explain. (4 Marks)
- b) Information assurance is about guaranteeing confidentiality, integrity and availability of data. Explain. (3 Marks)
- c) Security needs and threats are a major reason as to why E-Commerce has not been adopted fully as a way of doing business in Kenya. Discuss any three threats that can occur in an E-Commerce environment and possible countermeasures for the same. (8 Marks)

## QUESTION FOUR (15 MARKS)

There are three major models to lay out a Web application architecturally:

- i. Thin client
- ii. Fat client
- iii. Distributed and component based.

Discuss. (NB: For each, include a description as to what kind of an application environment that each is suitable for i.e. the physical infrastructure supported by each model) (15 Marks)