UNIVERSITY EXAMINATIONS: 2013/2014

EXAMINATION FOR THE MASTER OF SCIENCE IN

DATA COMMUNICATIONS

MDC 6202 WEB BASED APPLICATIONS

DATE: AUGUST, 2014   **TIME: 2 HOURS**

INSTRUCTIONS: Answer Question One and Any Other Two Questions

QUESTION ONE [20 MARKS]

(a)   Describe the following in the context of Web Application   (3 Marks)

     i)   MAC address

     ii)   IP address

     iii)   DNS hostname

(b)   Describe the process, in detail, of sending a request from a client computer to a web server and retrieving a response.   (3 Marks)

(c)   HTML is the language of the web. What advantages does it have over a plain-text representation of data? What advantages does it have over binary data representations (PDF, PS, etc)? Give three advantages in each case.   (3 Marks)

(d)   In the context of Web application describe the following

     i)   CSS   (2 Marks)

     ii)   Give three advantages CSS offer over including style information directly into the HTML document   (3 Marks)

     iii)   Why is it called "cascading" and why is this feature important?   (2 Marks)

(e)   Indicate whether each of the following is valid or invalid.   (4 Marks)

     i)   Web-based application development (WBAD) is an application development technology that is used with technologies such as Extensible Markup Language (XML).

ii)   Drop is not Data Definition SQL language statement

iii)   Alter is a Data Manipulation Language statement

iv)   Select Statement is relevant for entering records in a Form

QUESTION TWO [15 MARKS]

a)   For a web application to be rendered, a designer would need a proxy server, php server or any CGI scripting language and at the same time a database server. Discuss two the following with regard to the that statement

     i)   A proxy server

     ii)   CGI server

     iii)   Database server

          (9 Marks)

b)   Two technologies used to integrate the above together.   (6 Marks

QUESTION THREE [15 MARKS]

a)   Write THREE key characteristics among the following types of applications.

     i)   Desktop application

     ii)   Web based applications

     iii)   Client/server applications

     iv)   Mobile applications

          (12 Marks)

b)   Write THREE tests that you can advice a web Application developer to carry to an application before it is rolled out.   (3 Marks)

QUESTION FOUR [15 MARKS]

a)   A developer has been engaged to set up a database-driven web site in which content is to be entered via a web-based form into a MS-SQL Database. The public-facing web pages for retrieving the data and populating a template would be in .ASP. The Web Server being used is Apache running on a Sun Solaris Operating System. Draw a flow chart to illustrate the set-up. Would the developer need any additional software to complete the development of the proposed site? If so, what is required, and where would it be in the data-flow?   (9 Marks)

b)   Briefly describe what is meant by the following terms:

   i)   Hits to a website

   ii)   Page-views to a web site

   iii)   Unique visitors to a web site

   iv)   404

   v)   SHTML

   vi)   XML

<div align="right">(6 Marks)</div>