CHUKA   UNIVERSITY

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COMP 408: WEB DESIGN AND DEVELOPMENT

STREAMS: BSC. COMPUTER SCIENCE   **TIME: 2 HOURS**

DAY/DATE: TUESDAY 5/12/2017   **2.30 P.M – 4.30 P.M**

INSTRUCTIONS:

- **Answer Question ONE and any other TWO questions.**
- **Diagrams should be used whenever they are relevant to support an answer.**
- **Sketch maps and diagrams may be used whenever they help to illustrate your answer**
- **Do not write anything on the question paper**
- **This is a closed book exam, No reference materials are allowed in the examination room**
- **There will be No use of mobile phones or any other unauthorized materials**
- **Write your answers legibly and use your time wisely**

SECTION A

QUESTION ONE [30 MARKS]

ANSWER <u>ALL THE</u> QUESTIONS IN THIS SECTION

a) A list of three counties Tharaka Nithi, Embu and Meru are required. Present this list as:
   i.   Numbered List   [3 Marks]
   ii.   Bulleted List   [3 Marks]

b) A web form must provide a chance for users to specify gender which is either Male or Female. After the appropriate choice, the data is uploaded to a server. Write the html code to perform this   [5 Marks]

c) Write a JavaScript code that displays "Hello World" when webpage is loaded on a browser   [4 Marks]

a) You have developed a website namely my site. Your database is known as db_mysite. Explain how you would go about:

    i.   Backing up the website   [2 Marks]
    ii.   Uploading the website to a remote web server   [2 Marks]

d) Explain why tables are not the best choice while selecting a web page layout [3 Marks]

e) Highlight the use of headings in a HTML document. Identify and explain the different headings   [4 Marks]

f) You have installed XAMPP on a Windows Operating system platform. Trace the path of the Webroot of the XAMPP web server   [3 Marks]

g) Demonstrate how to present comments in a PHP code   [1 Mark]

SECTION B

ANSWER <u>ANY TWO</u> QUESTIONS FROM THIS SECTION

QUESTION TWO [20 MARKS]

a) MySQL is one of the Database Management Systems available to web developers for their development.
    i.   Justify why you would use MySQL as compared to other existing Database Management Systems for a database driven application.   [4 Marks]
    ii.   Highlight known weaknesses of the MySQL DBMS.   [3 Marks]
    iii. Explain the concept of normalization in databases. Give examples [3 Marks]

b) Write a JavaScript program to add two integer values at the click of a button. The web form for inputs is designed in HTML.   [10 Marks]

QUESTION THREE [20 MARKS]

a) Explain the use of the universal selector in CSS and demonstrate the usage with an appropriate code example.   [4 Marks]

b) Discuss positive contributions as well as negative concerns about cloud computing as relates to web developers   [10 Marks]

c) Highlight the advantages and disadvantages of animations in websites   [6 Marks]

QUESTION FOUR [20 MARKS]

a) Explain how you would apply each of Schneidermann's rules of interface design while developing a web based Students Management System   [12 Marks]

b) Joan is developing a website for a political party. She would like to have a top banner which appears in all pages of the website. Advise her on how to do it   [4 Marks]

c) Write code to demonstrate to Joan in b) above how to achieve the website look [4 Marks]

QUESTION FIVE [20 MARKS]

a) Identify and explain any two W3C standards which would be useful for you as a web designer and developer.   [5 Marks]

b) Write the PHP code to develop a System Login Form   [5 Marks]

c) Users of the application in b) above login to the application by passing their authentication details to the authenticating server. You have been contracted to develop the code for authenticating taking into considerations issues of SQL injections. Write the code using PHP   [10 Marks]