MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 – Meru-Kenya
Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411
Fax: 064-30321
Website: www.must.ac.ke Email: info@must.ac.ke

University Examinations 2013/2014

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN COMPUTER SCIENCE

ICS 2203: INTERNET APPLICATION PROGRAMMING

DATE: APRIL 2014   **TIME: 2 HOURS**

INSTRUCTIONS: *Answer section **one** and any other **two** questions in section two*

QUESTION ONE – 30 MARKS

a)   Briefly describe any two components of the Universal Resource Locator.   (2 marks)

b)   Differentiate between the following infrastructures used in internet communication giving
      an example in each case.   (4 marks)
      i.   Physical domain and Virtual domain
      ii.   Web browser and web server

c)   Write HTML script to display the table below, specifying the width and border attributes to
      50% and 5 respectively.   (4 marks)

Number	Name	Age
1001	Peter	34
1002	Mary	26

d)   Differentiate between POST and GET methods as used in web scripting.   (2 marks)

e)   Describe the purpose of the following internet protocols.   (4 marks)
      i.   TCP/IP
      ii. HTTP

f) Explain the role of the following scripting languages in web development giving 2 examples in each. (4 marks)
   i. Common Gateway Interface
   ii. Client-side interactive scripting language

g) Write a PHP code to assign 2 numbers to variables, add the two numbers and display the result. (3 marks)

h) Design a JavaScript code to input a number then use a function to calculate the square of the number entered. (4 marks)

i) Briefly explain the process of creating a remote web server. (3 marks)

QUESTION TWO – 20 MARKS

a. Javascript identifies each object on a web page by naming them using a structured hierarchy called Document Object Model. Use a diagram to describe JavaScript DOM object hierarchy. (5marks)

b. (i) Design a HTML form to allow a user to enter a name of student, Maths,Kiswahili and English marks and a text box to display total marks. (4 marks)

   (ii) Use a Javascript code to calculate the total marks in the above form in question 2b.i (6 marks)

c. With reference to TCP/IP layer, outline the process of sending information from one computer to another. (5 marks)

QUESTION THREE – 20 MARKS

a. Write HTML statement to create a form having 2 textboxes, radio buttons, a checkbox and reset button. On clicking the reset button, the entire form is reset(cleared) (5 marks)

b. Write a Javascript code to create a form with 4 textboxes, then a JavaScript code should be used to verify that all textboxes have been filled. If a Textbox has been left empty, an alert should display the message "empty box". (5 marks)

c. Differentiate between the following logical oprators. (4 marks)
   i. || and &&
   ii. == and =

d. Explain the purpose of the following common Getaway Interface variable names. (6 marks)

   i. REMOTE _ADDR
   ii. REMOTE_HOST

iii.   SERVER_NAME

QUESTION FOUR – 20 MARKS

a. An organization would like to design a website that will enable salesmen to enter details of their sales which are submitted to the organization's database.
   (i) Design a HTML form with features to enter salesman number, product number, product name, quantity and price then display total price. Include a method to send the details to a PHP file called product.php.   (5 marks)

   (ii) Write a PHP code to receive the above details and calculate the total price and commission which is offered according to products sold. A commission of 20% is offered it the total sale is more than 100,000 otherwise, a commission of 10% is offered.   (6 marks)

b. Outline the request /response process between a web browser and a web server when the browser request information from a server.   (4 marks)

c. When designing a website, planning is a key component in ensuring that a website meets the objectives of an organization. Outline the process of planning in website design. (5 marks)

QUESTION FIVE – 20 MARKS

a. Write a HTML code that will be able to generate the following information in a web browser.
                                                    (5 marks)

   A. Degree courses
       • BBIT
       • BSC.IT
       • BSC.Computer Science
   B. Diploma Courses
       • Diploma IT
       • Diploma BIT
       • Diploma in Computer Science

b. A company requires a website where field managers can enter employee name, hours worked and rate per hour of an employee then calculate basic pay = hours worked multiplied with rate per hour. Tax is calculated on basic pay as follows:

Basic pay	Tax
Over50000	20% of basic pay
Between 20000 and 50000	10% of basic pay
Below 20000	No Tax

Design a website that will enable field supervisors to enter the above details and calculate basic pay, tax and net pay at the client-side.   (6 marks)

c. Before 1990 Internet connection was expensive with only a few organizations in the developed countries connected to the internet. Today internet is one of the most popular means of communication and sharing information. Discuss the factors that have contributed to a widespread use of internet.   (5 marks)

d. Differentiate between **echo** and **print** commands used in PHP.   (4 marks)