KIMATHI UNIVERSITY COLLEGE OF TECHNOLOGY
University Examinations 2012/2013

FIRST YEAR SEMESTER ONE EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

SMA 2174: INTRODUCTION TO COMPUTERS

DATE: 6TH AUGUST 2012   **TIME 8.30-10.30AM**

Instructions: Answer Question one and any other two Questions

QUESTION ONE: (30 Marks)

a) Define the following terms :   **(4 marks)**
    i.   Router
    ii.   Virtual memory
    iii. Byte
    iv.   Open source

b) State and explain three types of computer shortcuts.   **(3 Marks)**

c) Explain two main reasons why a computer needs secondary memory.   **(4 Marks)**

d) Showing your working convert the following numbers to decimal and binary respectively.

                                                                       (4 Marks)

    i. 1001111_2
    ii. 114_{10}

e) Define Pipelining and explain its importance: **(3 Marks)**

f) Define a bus and explain how it contributes to a computer's processing speed.

                                                                       (3 Marks)

g) John suspects that his computer has been infected by a virus and he needs your assistance to fix it.

    i.   Define a computer virus: **(1 Mark)**

    ii.   Outline any four symptoms of a computer virus. **(4 marks)**

    iii.   Explain the measures you would adopt to safeguard your files from viruses.

(4 marks)

QUESTION TWO :(20 Marks)

a) State any three differences between RAM and ROM. **(3 Marks)**
b) Using examples name and briefly explain three types of ports and their use **(6 Marks)**
c) What are the components of a processor and how do they complete a machine cycle?
(7 marks)
d) You have just purchased a new laptop and you have been advised to partition the hard disk.
    i.   Define partitioning: **(1 mark)**
    ii.   Explain how it contributes to performance? **(3 marks)**

QUESTION THREE: (20 Marks)

a) Differentiate utility programs and application programs using examples **(4 marks)**
b) "An operating system is a resource manager". Justify this statement using examples
(5 marks)
c) Using an example explain how buffering and spooling increases efficiency **(6 marks)**
d) Kimathi University College wants to set up a physical transmission media to handle high traffic network. Giving reasons recommend the best cable and its advantages and limitations. **(5 marks)**

QUESTION FOUR: (20 Marks)

a) You have been hired by MIRANDA high school as a database administrator. You realize that they are using file processing systems. You make a recommendation to the administration to adopt the database approach.
    i.   Define a database. **(2 Marks)**
    ii.   State and explain the key benefits of the database approach. **(4 Marks)**
    iii.   Differentiate between field and record. **(2 marks)**
    iv.   Define a foreign key and explain its importance? **(2 marks)**

b) Irene has just been given a document to edit explain to her how you would perform the following functions in Microsoft word 2007

    i. Change the background color of a document   **(2 Marks)**

    ii. Insert page numbers   **(2 Marks)**

    iii. Correct a word that has been misspelt in the whole document.

         (3 Marks)

    iv. Protect your document with a password to open.   **(3 marks)**

QUESTION FIVE: (20 Marks)

a) What is a spreadsheet?   **(1 marks)**

b) Define the following terms   **(2 Marks)**

    i. Cell

    ii. Function

c) Explain any four areas where spreadsheets are applicable   **(4 marks)**

	A	B	C	D	E	F
			EMPLOYEES PAYROLL			
	Names	Basic Pay	Allowances	Gross Income	Tax	Net Income
1	Simon	10000				
2	James	12000				
3	Susan	9000				
4	Angela	20000				
5	Mark	16000				

Information
House Allowance= 10% of basic pay
Tax=30% of Gross income

d) Using the above information state the functions you would use to compute the following for Susan

    i. Allowance   **(3 marks)**

    ii. Gross income   **(2 marks)**

    iii. Tax   **(3 marks)**

    iv. Net income   **(2 marks)**

e) Explain the procedure of creating a graph or chart in Excel   **(3 marks)**