

Uganda Martyrs University

## Faculty of Science

Introduction to Computer Science and Information Technology final examination

Year ONE (General, Financial Maths, IT, Econ and Diploma)

Date: Wednesday 19th December 2012

Time 3 Hours

### Instructions:

1. Answer all questions in section A.
2. Answer ONLY THREE questions in section B.
3. Be brief and clear
4. Begin each question in section B on a fresh page
5. Space your work

### SECTION A (Compulsory number. Write briefly and clearly 40 marks)

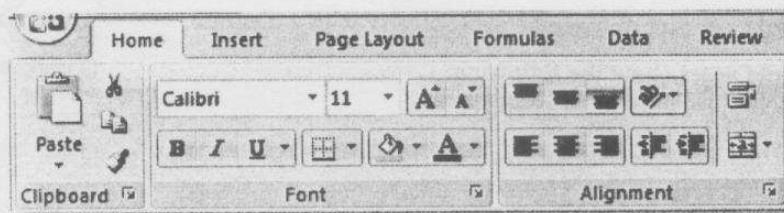
- a) A computer is an electronic device that performs four basic functions. Elaborate on the input function. 2 marks
- b) Differentiate between a webpage and a website. 2 marks
- c) State four examples of common operating systems. 2 marks
- d) Differentiate between primary memory and secondary storage. 2 marks
- e) What is word size? 2 marks
- f) Write SMTP and POP in full. 2 marks
- g) Write two URLs of universities in Uganda 2 marks

- h) What is a text code? 2 marks
- i) Why do computers use binary number system ?(Give two reasons) 4 marks
- j) Write EBCDIC and ASCII in full. 4 marks
- k) State two advantages of operating systems. 4 marks
- l) Write two differences between Linux and windows. 4 marks
- m) Differentiate between a topology and a protocol. 4 marks
- n) You can press Ctrl + A on the keyboard to select all. What will you press (i) to cut (ii) to paste? 2 marks
- o) What is an icon? 2 marks

## **SECTION B (60 marks. Answer only three questions from this section)**


### **Question 1.**

Given the following excel sheet below, use it to answer questions that follow. (3 marks each)



	A	B	C	D
1	Month	Day	Sales in dollars	
2	Feb	Mon	20	
3	March	Mon	10	
4	Feb	Wed	10	
5	April	Mon	5	
6	Feb	Tue	20	
7	March	Tue	10	
8	April	Wed	10	
9				

- What does L17 in the above figure represent? Explain your answer.
- What does the word Calibri in the figure above mean? Explain your answer.
- Write a mixed cell reference for the cell containing the words **Sales in dollars**.
- Write down a formula in Excel that will be used to add all the values of sales you see in column C in the figure above. Use mixed cell referencing.
- Which formula will you write to return the average of the **sales in dollars** column?
- The area shown in the figure above (column A,B,C,D and rows 1,2,3, up to 9) could be referenced in excel. Write down a relative cell reference for that area.

- What do the letters **B I U**  represent? (1 mark)
- What does the pair of scissors in the picture in (g) above mean? (1 mark)

## Question 2

- (a) Explain the concept of machine cycle clearly with a diagram. (5 marks)
- (b) Write brief notes about the following: (3 marks each)
  - (i) Control Unit
  - (ii) ALU
  - (iii) Registers
  - (iv) System clock
  - (v) System software

### Question 3

Given the following information only, use it to answer the questions that follow. *A student sleeps in a Hostel. A hostel has id, name, location, number of rooms etc. A student has registration number, id, name, age, next of kin and sex. A student registers for a course. A course has name and duration.* (3 marks each)

- (a) State all the attributes mentioned.
- (b) State all the entities mentioned.
- (c) State all the relationships mentioned.
- (d) Draw a very clear Entity Relationship Diagram (ERD) to represent the scenario above.
- (e) What is the purpose of such an ERD?
- (f) Why do we need databases in business today?
- (g) What are queries? (1 mark)

### Question 4

(4 marks each)

- (a) State any three characteristics of a good presentation slide.
- (b) Draw three sketch diagrams to represent three presentation slides that you would have as part of your presentation on the title *"Meals in Uganda Martyrs University"*. You must include the title slide.
- (c) What is the purpose of the following views in Impress
  - (i) Slide sorter view
  - (ii) Slide show
- (d) Write down sample text that illustrates the following: justified text and centred text. Enclose your text in a frame/table like the one below.



- (e) Assume you have opened a web browser and displaying the Google home page. Draw a rough diagram to represent the following: Title bar, Menu bar, Horizontal scroll bar, vertical scroll bar.

### Question 5

(4 marks each)

Use the following figure below to answer the questions that follow.

```
emma@emma-pc: ~  
emma@emma-pc:~$ ls  
examples.desktop  
emma@emma-pc:~$ pwd  
/home/emma  
emma@emma-pc:~$ mkdir Simple
```

- (a) State the commands that you see in the figure and what they tell the computer to do.
- (b) In Linux, there are three permissions and these are given to three types of computer users. Write down the permissions and the categories of people they are given to in their right order.
- (c) What would happen if the user pressed the enter key after he/she had typed **mkdir Simple** as seen above? What will be displayed if **ls** was typed after pressing the **enter** key?
- (d) What would the user type to go to the parent directory of the current directory?
- (e) Write an absolute path to the Desktop according to the diagram above.

END