



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE
AND TECHNOLOGY**

UNIVERSITY EXAMINATION 2012/2013

**1ST YEAR 1ST SEMESTER EXAMINATION FOR THE DEGREE
OF MSC IN IT SECURITY FORENSIC AND AUDIT**

(REGULAR)

COURSE CODE: IIT 3111

TITLE: INTRODUCTION TO COMPUTER SYSTEMS

DATE: 2/5/2013

TIME: 9.00-12.00NOON

DURATION: 3 HOURS

INSTRUCTIONS

- 1. This paper contains FIVE (5) questions**
- 2. Answer question 1 (Compulsory) and ANY other 2 Questions**
- 3. Write all answers in the booklet provided**

Section 1

Answer ALL Questions from this section

1. Distinguish between RAM and ROM
(2 marks)
2. a) What is the difference between metropolitan network and local area network
(2 marks)
b) Briefly describe how a point to point network operates

(6 marks)
3. State any three functions of the bus subsystem
(6 marks)
4. Explain the operation and purpose of cache memory in a computer.
(5 marks)
5. Computer hardware has suddenly failed while the user was attempting to type the word HIP using the keyboard. Using the role of interrupt to explain how the two activities of pressing the keyboard and hardware failure is handled by the computer system
(7 marks)

Section 2

Answer any TWO Questions of your choice from this section

6. a) Work out the result of the following binary operations.

101-11 (6 marks)

b) Convert the hexadecimal number FCEA to binary (7 marks)

c) Write the result of the hexadecimal addition CE + DF in hexadecimal form.
(8 marks)

7. `#include<iostream.h>`

```

int main()
{
int x;
int fib_twice(int );
cout<<"Enter an integers"<<endl;
cin>>x;
cout<<fib_twice(x);

}

```

```

int fib_twice(int n)
{
if(n==0||n==1) { return 2;}

else {return fib_twice(n-1)+fib_twice(n-2);}
}

```

In the program above,

i) write down the parts that contain;

- a) parameters (3 marks)
- b) arguments (3 marks)
- c) function call (3 marks)
- d) function prototype (3 marks)

ii) Identify the two mistakes in the program and write down the correction
(4 marks)

iii) if the above program is compiled and run, write down the output if the input is 4
(5 marks)

8. Below is a worksheet for excel. Use it to answer the questions that follow:

The image shows a screenshot of the Microsoft Excel application. The title bar at the top right indicates the workbook is named "Book1". The ribbon is set to the "Home" tab, which is divided into three groups: "Clipboard", "Font", and "Alignment". The "Clipboard" group includes icons for Cut, Copy, Paste, and Format Painter. The "Font" group shows the font name as "Calibri", the size as "11", and options for bold (B), italic (I), underline (U), and text color. The "Alignment" group includes options for text alignment (left, center, right, justified) and bullet points. Below the ribbon, the "Name Box" displays "A6", indicating the active cell. The spreadsheet grid shows columns B through H and rows 1 through 19. The data in the grid is as follows:

	B	C	D	E	F	G	H
1		1	4	2			
2	3						
3	0						
4	1						
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I
1			2	3	1				
2		2							
3		1							
4		4							
5									
6									
7									
8									
9									
10									
11									
12									

- a) When the formula $= (C\$1+4)$ is entered in cell C2 and copied to cells D3 and E3 then results obtained in cells C2, D2 and E2 are-----, ----- and ----- respectively

(6 marks)

- b) When the formula $= (\$A\$2*2)$ is entered in cell B2 and copied to cells B3 and B4 then results obtained in cells B2, B3 and B4 are-----, ----- and ----- respectively

(6 marks)

- c) When the formula $= \text{average}(\text{sum}(A\$2:A\$4), \text{sum}(\$C\$1:\$E\$1))$ entered in cell A6 the answer is-----

(9 marks)