EMBU UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)

TRIMESTER EXAMINATIONS 2013/2014

FIRST YEAR EXAMINATION FOR THE CERTIFICATE OF COMPUTER AND PORTABLE DEVICE REPAIR AND MAINTENANCE

CRM 024: INTRODUCTION TO COMPUTER PROGRAMING

DATE: AUGUST 11, 2014 **TIME: 11.00AM – 1.00PM**

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions.

QUESTION ONE

a) Define the following terms as used in programming (3 marks)

i) Pointer

ii) Algorithm

iii) Keyword

b) Give two advantages and two disadvantages of low level languages (4 marks)

c) Differentiate between the following ; (6 marks)

i.) While loop and do… while loop

ii.) Flow chart and pseudo codes

iii.) Compilers and interpreters

d) What is documentation? Identify two advantages of documentation. (3 marks)

e) Describe two categories of arrays. (4 marks)

f) Write a C program to find the sum of the first 20 natural numbers. Use for…loop. (4 marks)

g) The program below computes area of a rectangle, given the dimensions, identify the four errors committed in the program below; (2 marks)

```
#includes<stdio.h>
Main()

{

int len, width

Printf ("Enter length: ");

Scanf("%" , & length: )

Printf("Enter width: ");

Scanf("%d",&width);

return 0;
)
```

h) Using a function write a C program to add two numbers. (4 marks)

QUESTION TWO

a) What is modular programming? State two advantages of modular programming.

(3 marks)

b) Describe briefly the steps that a programmer has to follow in the program development lifecycle

(7 marks)

c) Write a C Program that will return the volume of a cylindrical tank that has the following parameters;

(4 marks)

Height =3 Meters

Diameter = 14 Meters

QUESTION THREE

a) Using for loop write a C program to output the following. (8 marks)

```
*
* *
* * *
* * * *
* * * * *
```

b) Study the following sample segment of codes and answer the questions that follow;

```
int y=5, sum=10
While (y<=0)
{
Printf("\nYis % d",Y);
Sum =Sum+Y;
Y=Y-1;
```

)

Printf("\n The sum is %d,sum);

i.) Re-write the above segment of code using the do..... while loop.

(3 marks)

ii.) Write the output produced by the above segment of code if embedded in a computer C Program.

(4 marks)

QUESTION FOUR

a) The following program written in C programming language has errors. Identify the errors and rewrite the program without errors.

(6 marks)

```
#include <stdio.h>
Void main()
{
Int num1, num, sum;
Print("Enter the First Number:");
Scanf("%d", &num1);
Print("\nEnter the second number:");
Scanf("%", & num2);
Sum=num1 + num2
Printf("\n%d+%d=%d",num1,num2,sum);
)
```

b) Create a flow chart that asks the user to enter the total marks of a student. The program then prints proceed if the marks are greater than 40 and Repeat if the total mark is less than 40. (4 marks)

c) Develop a program in C based on the flow chart above. (5 marks)

QUESTION FIVE

a) Using each of the loop statements given below, Write a C program that will automatically generate numbers 1 to 5 and displays them on the screen. (10 marks)

   i) For….loop

   ii) While...loop

b) List any five library functions, stating clearly the header files in which they are found. (Use the correct cases).

(5 marks)

---END---