MAASAI MARA UNIVERSITY

ACADEMIC YEAR   2018/2019

FIRST SEMESTER

EXAMINATION FOR THE DEGREE OF BACHELOR OF

SCIENCE IN INFORMATION SCIENCES

COURSE CODE: COM 1204

COURSE TITLE: PROCEDURAL PROGRAMMING

DATE: 11TH DECEMBER 2018   TIME: 8.30-10.30 A.M

INSTRUCTIONS:
SECTION   A   IS   COMPULSORY ATTEMPT TWO
QUESTIONS   IN   SECTION B

QUESTION ONE   (30 MARKS)

A)   Explain the components of the program below   (6 marks)

```
#include<stdio.h>

int main ()

{

/*my first program in c */

printf("hello world!\n");

return 0;

}
```

B) Define the following terms as used in programming.   (4marks)

i.   Linker
ii.   Compiler
iii. Interpreter
iv.   Assembler

C) Write a program to add all integers from 1 to 100.   (5marks)

D) State five characteristics of #define preprocessor   (5 marks)

E) Write C statements to do the following.   (5 marks)

i.   Assign the value of the variable number1 to the variable total
ii.   Assign the sum of the two variables loop_count and petrol_cost to the variable sum
iii. Divide the variable total by the value 10 and leave the result in the variable discount
iv.   Assign the character W to the char variable letter
v.   Assign the result of dividing the integer variable sum by 3 into the float variable costing. Use type casting to ensure that the remainder is also held by the float variable.

F) What features of C-language that could be termed as having made it popular   (3 marks)

G) What is the value of x generated?   (2 marks)

float x=25.0, y=15.0;

 if (y<15.0)

if (y>=0.0)

x*=5.0;

else x=2.0 *y;

else

 x=3.0 *x;

QUESTION TWO   (20 MARKS)

a) Explain the   purpose of comments in a C language program   (4 marks)

b) Discuss the following data types   (8 marks)

   i.   Integer
   ii.   Floating point
   iii. Double
   iv.   character

c) Write a program that uses loops to produce the following: (5 marks)

       2   4   6   8   10

       3   6   9   12   15

       4   8   12 16   20

       5   10   15 20   25

d) Write a program that uses an *if* statement with logical OR to validate the users input to be in the range 1-10   (3 marks)

QUESTION THREE   **(20 MARKS)**

a) Define an interpreter and explain the difference between a compiler and an interpreter. (4 marks)

b) Using qualifiers write a program to show the sizeof
   i. Short int
   ii. Int
   iii. Long int (4 marks)

c) Define an operator and using examples explain the following operators. (5 marks)
   i. Bitwise operator
   ii. Comma operator
   iii. Logical operator
   iv. Relational operator

d) State the use of scanf function (3 marks)
e) Write a for loop which will produce the following output (4 marks)

```
1
22
333
4444
55555
```

QUESTION FOUR (20 MARKS)

A) Write a program that generates PASCAL'S triangle. (6 marks)

B) Write a C program that finds the largest in a series of numbers entered by the user. The program must prompt the user to enter numbers one by one. When the user enters 0 or negative number, the program must display the largest entered nonnegative number and the number of entered numbers. A sample output of the program is given as follows: (5 marks)

Enter a number: 60

Enter a number: 38.3

Enter a number: 4.78

Enter a number 105.62

Enter a number: 70.2295

The largest number entered was 105.62 The number

of entered number is 5

Notice that the numbers aren't necessarily integers.

C) Define a function – A number of statements grouped into a simple logical unit. (1 mark)
What is the importance of main ( ) function

> It is the one executed fist and calls other functions   (1 marks)

D) Define the following terms as used in programming   (2 marks)

i.   Function definition

ii.   Prototype

E) Write a program in C which incorporates a function using parameter passing and performs the addition of three numbers. The main section of the program is to print the result.   (5 marks)

//END