



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN EXAM

2021/2022 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER EXAMINATION

FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

**COURSE CODE: DIT 058 COURSE TITLE: INTRODUCTION TO
PROGRAMMING**

DATE: Friday 29/04/2022

TIME: 3:00p.m-4:30p.m

INSTRUCTIONS TO CANDIDATES:

Answer Question **ONE** and any Other **TWO** questions

Answer -----

TIME: 1 Hour 30 Minutes

MMUST observes **ZERO** tolerance to examination cheating

Paper Consists of 3 Printed Pages. Please Turn Over ▲

QUESTION ONE 24 Marks.

- a. Programs written in high level languages need to be translated into machine readable language to be able to execute on a computer. Explain the various types of language translators. 6mks.
- b. Differentiate the following terms as used in C programming.
 - i. Software and hardware: 2mks
 - ii. Statement and Function 2mks
 - iii. Comment and Expression: 2mks
- c. Using a control structure of your own, write a C program that will draw an inverted triangle using asteric (*) symbol 6mks
- d. Define the term array and give types of arrays 3mks
- e. Write a C program that prints a statement "Welcome to C programming" when its executed. 3mks

QUESTION TWO 18 Marks.

- a. What is programming 1mks
- b. Write a C program that takes in five integers in an array and compute sum, average and returns the computed results 6mks
- c. Assuming that you have been employed by an institution as a programmer and tasked to develop a student management system. The systems should constitutes a student academic module that will be able to award grade and comments based on the students marks entered. Write a C program that will execute the functionalities of the students' academic module based on the above convention. 8mks

Marks range	grade	comment
Above 100	I	Invalid marks
100-70	A	excellent
69-60	B	Good
59-50	C	average
49-40	D	pass
39-0	E	Failed
Below 0	I	Invalid marks

- d. Identify the errors in the above code. 3mks

```
int main(){
int x;
int y;
for(x=5;x<=0; x++){
for(y=0; y<=x; y++){
printf("**");
}
}
}
```

QUESTION THREE

18 Marks

- a. Explain the various types of operators used in C programming 6mks
- b. Write the output of the following code 3mks

```
int x = 0;
x = x+++ + 1 + x;
x++;
printf(“%d”, x);
```

- c. Using a suitable example, explain the two ways in which function calling is done (invoked). 5mks
- d. Write a C program that computes the modulus of any given integer 4mks

QUESTION FOUR. 18 Marks

- a. Explain what happens when an executing function encounters the following statements in the processes of execution 6marks
- b. With appropriate example, draw a flow diagram of an if... else statement. 4mks.
- c. Give the values A=33 and B =2 C=5 what will be the output of the following computations. 2mks
 - i. A%B 2mks
 - ii. A+=C+B 2mks
 - iii. A-=C+B 2mks
 - iv. C*=(B+A) 2mks

QUESTION FIVE.

18Marks

- a. Explain the types of variable used in C programming 3mks
- b. State the rules governing the naming of identifiers in C programming language 4mks
- c. Key words are reserved words in C programming for doing specific task. State at least SIX of them. 3mks
- d. Write the output of the following C code 4mks

```
#include<stdio.h>
int main ()
{
  int a;
  For (a=0,a<=5, a++);
  Printf (“%d”, a);
  Printf(\n);
}
```
- e. Explain the structure of a C program using appropriate example. 4mks