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(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF

SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN EXAM

2022/2023 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATION

FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

COURSE CODE: DIT 058

COURSE TITLE: INTRODUCTION TO PROGRAMMING

DATE: 17/04/2023   **TIME: 2:00-3:30PM**

INSTRUCTIONS TO CANDIDATES:

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

TIME: 1 Hour 30MINS

MMUST observes ZERO tolerance to examination cheating

Paper Consists of 3 Printed Pages. Please Turn Over   .

QUESTION ONE (24 marks).

a. Explain the following terms.   8mks
   - i.   Comment
   - ii. Function.
   - iii. Statement.
   - iv. Translator

b. Explain the syntax of a for loop   3mks

c. using an appropriate example, describe the structure of a C program.   5mks

d. Key words are reserved words in C programming for doing specific task. State at least SIX of them.   3mks

e. Explain the term identifier stating the rules governing identifier naming   5mks

QUESTION TWO (18 MRKS)

a. i. What is programming?   1mks

   ii. Differentiate between the term variable and constant. With examples, explain how they are declared.   2mks

b. Write an executable C program that prints the following figures:
   - I.   An inverted right-angled triangle.   5mks
   - II. A rectangle   5mks

c. Write a C executable program that that accepts two user input in a form of integers, compute the sum and display the results.   5mks

QUESTION THREE (18 MARKS)

a. Explain different operators as used in C programming language.   6mks

b. i. 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);
}
```

   ii. What would be the value of the variable after execution is complete?   3mks

   Int a=20, b=2 c=5

   - i.   a++
   - ii. c
   - iii. a + =b

c. C programming language have different control structures that define the flow of execution of a program. Identify at least three of them stating how they are used. 6mks

QUESTION FOUR (18 MARKS)

a. i. Explain the parts of a function. 3mks

ii. Explain the two ways in which function calling is done (invoked). 4mks

iii. Explain what happens when an executing function encounters the following statements in the processes of execution 6marks

    i.   Break.
    ii.   Go to.
    iii.   Continue.

b. You have been requested by your former secondary school to make them a software that will help them manage the students' marks. The system should perform the following.

    i.   Allow to enter students' marks ranging between (0-100) any marks entered below zero or above 100 should be rejected by display of an error message.
    ii.   Grade the students' performance as follows: marks between(0-39) grade as fail, 40-49 grade D,50-59 grade C, 60-69 grade B , 70 and above grade A.

Develop a program that performs the above requirements. 5mks

QUESTION FIVE (I8 MARKS)

a. i. What is an array? 2mks

ii. Give the types of arrays and for each state how they are initialized 4mks

b. Write a C program, which prompts the user to input values in an array and displays them. 6mks
c. Explain the use of the following string library functions in C programming 6mks
    i.   Strcmp()
    ii.   Strlen()
    iii.   Strcpy()