



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN EXAM

2022/2023 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER EXAMINATION

FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

COURSE CODE: DIT 077

DATE: 20/12/2022

TIME: 09:00-11:00AM

INSTRUCTIONS TO CANDIDATES:

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

Answer -----

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

Paper Consists of 3 Printed Pages. Please Turn Over



QUESTION ONE 24 MARKS

- a. Describe the meaning of object-oriented paradigm 2mks
- b. What are the features of object-oriented paradigm 4mks
- c. What are the advantages of object-oriented programming 4mks
- d. Using an appropriate example, describe the structure of a java program 4mks
- e. Describe constructors in object-oriented programming. 3mks
- f. Write executable java programs that does the following tasks
 - i. Prints all prime numbers between 0-100 4mks.
 - ii. Computes the sum of two numbers 3mks

QUESTION TWO 18 MARKS.

- a. Write a java code that takes an integer from the user and computed the factorial of the input integers. 5mks
- b. A renown secondary school is looking for a programmer to develop a grading system for them. As a programming student, write a java program that will assign students grade and comment based when the marks are entered to the system. Use the grading range below. 5mks

Marks range	grade	comment
Above 100%	invalid	Marks cannot be above 100
100% to 70%	A	excellent
69% to 60%	B	Good
59% to 50%	C	average
49% to 40%	D	pass
39% to 0%	E	failed
Below 0%	invalid	Marks cannot be below 0

- c. Write a java code that takes in marks for five subjects from the user and computes the sum and average. 5mks
- d. Write a java code that takes in two values, compares them, and return the value that is greater than the other. 3mks

QUESTION THREE 18 MARKS.

- a. Define the term identifier stating the rules governing identifier naming in java programming language. 5mks.
- b. State different types of variables and explain how they are used 6mks
- c. Comments are used to make the program readable. List types of comments in java programming language. 3mks
- d. Giving examples, explain the term key word 2mks
- e. With an example in each case, state the types of java modifiers. 2mks

QUESTION FOUR 18 MARKS.

- a. Java programming language is rich in operators. Discuss. 10mks
- b. Explain the implication of the following statements 2mks
- i. `a == b;`
 - ii. `a = b;`
- c. Give the values A=50 and B =4 C=3 what will be the output of the following computations.
- i. `A+=C+B` 2mks
 - ii. `A-=C+B` 2mks
 - iii. `C*=(B+A)` 2mks

QUESTION FIVE 18 MARKS

- a. Distinguish between method overloading and method overriding 4mks
- b. With an appropriate example in a code, describe the syntax of a for loop 5mks
- c. Differentiate between a while loop and a do while loop 2mks
- d. Draw a flow diagram of a switch statement 7mks