



# **MURANG'A UNIVERSITY OF TECHNOLOGY**

## **SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**UNIVERSITY ORDINARY EXAMINATION**

**2021/2022 ACADEMIC YEAR**

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR, DIPLOMA IN  
INFORMATION AND TECHNOLOGY**

**SCS 050: INTRODUCTION TO COMPUTER PROGRAMMING**

**DURATION: 2 HOURS**

**Instructions to candidates:**

1. Answer question One and Any Other Two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

## SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

### QUESTION ONE (30 MARKS)

- a) Define the following terms as used in computer programming (5 marks)
- (i) Coding
  - (ii) Debugging
  - (iii) Syntax
  - (iv) Interpreter
  - (v) Source code
- b) Differentiate between Machine Language, Assembly Language, and high-level languages.( 6 marks)
- c) Using relevant examples explain three operators used in C programming. (6 marks)
- d) Write a C program that can be used to find the area of a triangle using the following formula:  
 $(\frac{1}{2} \times b \times h)$ . (6 marks)
- e) Outline the rules of naming variables in programming. (4 marks)
- f) Explain the structure of a basic C program. (3 marks)

## SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

### QUESTION TWO (20 MARKS)

2. a) Discuss the prototyping software development methodology. (10 marks)
- b) Write a program that uses functions to find the maximum number between two numbers X and Y. (8 marks)
- c) Elucidate five key words used in C programming. (5 marks)

### QUESTION THREE (20 MARKS)

3. a) Write a program that uses for loop to print values from 0 to 10. (5 marks)
- b) Think of a program that prompts a person to enter their age. If the age is less than 18 the program outputs “Minor”, if the age is between 18 – 35 years the program outputs “Youth”. Above 35 years the program outputs “Senior Citizen”.
- (i) Draw a flow chart for this program. (5 marks)
  - (ii) Create a pseudo code for this program (5 marks)
- c) Explain the characteristics of a good algorithm. (5 marks)

**QUESTION FOUR (20 MARKS)**

4. a) Explain 4 conversion character escape sequence used in C programming. (8 marks)
- b) Write a C program that uses arrays to store marks of five students and print the marks of all the students in the order in which they appear in the array. (8 marks)
- c) Discuss the importance of program documentation. (4 marks)