



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)