



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2020/2021 ACADEMIC YEAR

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN
INFORMATION TECHNOLOGY**

SCS 055 – OBJECT ORIENTED 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 used in object oriented programming.
- (i) Polymorphism.
 - (ii) Encapsulation
 - (iii) Inheritance
 - (iv) Cohesion
 - (v) Coupling
 - (vi) Abstraction (6marks)
- b) What does the term iteration mean in programming? (2marks)
- c) Why is object –oriented programming preferred to programming paradigms? (2marks)
- d) Define the term operator overloading as used c++ programming. (4marks)
- e) Distinguish between a header file and a source code file as used in c++ (4marks)
- f) Write a code in c++, to show that a local variable has a higher precedence than a global variable. (6marks)
- g) Write a program in c++ that can add two numbers and print the sum. (6marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

- a) Using diagrams, illustrate any four types of inheritance in object- oriented programming (4marks)
- b) Study the code below
- ```
#include <iostream>
using namespace std;
int main ()
{
 cont <<|"Hello\t World \n \n";
 cout<< "welcome to programming";
 return o;
}
```
- (i) Give the output from the code segment above (2marks)
- (ii) Identify and explain the escape sequence characters from the above code (4marks)
- c) Write a basic syntax of a function in C++ (2marks)
- d) Write a program in C++ to display the current local date and time. (4marks)
- e) Using a code segment, show the two ways in which literals can be declared in C++ (4marks)

**QUESTION THREE (20 MARKS)**

- a) Differentiate between a global variable and a local variable, using a C++ code. (6marks)
- b) Explain one benefit and one limitation of global variables. (4marks)
- c) Write a program in C++ that uses FOR statement to print the odd integers from 1 to 15 (6marks)
- d) Illustrate in code a segment the two types of comment commonly used in C++ programming. (4marks)

**QUESTION FOUR (20 MARKS)**

- a) What is C++ identifiers (2marks)
- b) By giving examples, explain rules governing C++ identifiers (3marks)
- c) Write a simple program in C++ to print the word hello world. (3marks)
- d) Explain the various parts of the above program. (12marks)