MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

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

SCS 055 – OBJECT ORIENTED PROGRAMMING

DURATION: 2 HOURS

DATE: 10/12/2018

TIME: 2:00-4:00PM

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: (6 marks)
   i.   Polymorphism
   ii.   Encapsulation
   iii. Inheritance
b) State two major advantages of object oriented programming paradigm   (2 marks)
c) Illustrate the two types of comments commonly used in C++ programming
                                                                          (4 marks)
d) Compare and contrast "identifier" and "keywords" n C++ and give examples in each case
                                                                          (6 marks)
e) Write a program in C++ that can add two numbers and print their sum on the screen
                                                                             (6
   marks)
f) Explain the term iteration as used in programming   (2 marks)
g) Distinguish between a header file and a source code file as used in C++   (4 marks)

SECTION B - ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

a) (i)Write a simple program in C++ to print the word "hello world" on the screen
                                                                          (3 marks)
   (ii)Explain the various parts of the above program   (10 marks)

b) What is a C++ identifier?   (3 marks)
c) By giving examples, explain the rules governing the C++ identifier   (4 marks)

QUESTION THREE (20 MARKS)

a) Differentiate between a "data member" and "a local variable"   (4
   marks)
b) Give one advantage and one disadvantage of using global variables   (4 marks)
c) Define the term operator overloading as used in C++ programming   (4 marks)
d) Identify two errors in the code segment below   (2 marks)
         For (x = 100, x > 1, x++);
         cout << x << end l;
e) Write a C++ program that uses 'for' statement to calculate the product of the odd integers
   from 1 to 15   (6 marks)

QUESTION FOUR (20 MARKS)

a) By giving examples, explain the term literals as used in C++   (3 marks)

b) Explain the meaning of the following escape sequence in C++   (2 marks)
    i.   \b
    ii.   \n

c) Study the code segment below:

```cpp
#include <iostream>
Using namespace std
int main c) {
cout << "hello\t world \n\n";
return 0;
```

From the code above;

    i.   Give the output from the above program.   (2 marks)
    ii.   Identify and explain the escape sequence characters   (2 marks)

d) What is the difference between "if….else" and "nested if" decision statements

                                                                    (4 marks)

e) Write a basic syntax of a function in C++   (3 marks)

f) Write a C++ program that will display the current local date and time   (4 marks)