# MURANG'A UNIVERSITY OF TECHNOLOGY

## SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

### DEPARTMENT OF COMPUTER SCIENCE

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

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

SCS 050 – INTRODUCTION TO COMPUTER PROGRAMMING

DURATION: 2 HOURS

DATE:

TIME:

**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: ANWER ALL QUESTIONS IN THIS SECTION**

**QUESTION ONE (30 MARKS)**

a) Define the following programming terms:                    (5 marks)
   i.   Programming
   ii.  Linkers
   iii. Loaders
   iv.  Source code
   v.   Object code
b) Explain the difference between compiler and interpreter        (2 marks)
c) With the aid of a well stated example, explain the difference between constant and datatype                    (4 marks)
d) Write a pseudocode and draw a flowchart for a program that can be used to classify student according to their age. If a student is more than 20 years, output "Adult" else output "young"                    (6 marks)
e) Distinguish between the following conversion characters %d and %f        (4 marks)
f) State five rules that are used for naming identifier as used in programming (5 marks)
g) Using examples, explain two types of comments as used in programming   (4 marks)

# SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

**QUESTION TWO (20 MARKS)**

a) Control structures are categorized into three categories, state the three categories of control structures                    (3 marks)
b) With the aid of a flowchart, explain the difference between while and if statements                    (6 marks)
c) Using nested if….. close statement, write a program that requires the user to enter student marks and grade results as follows:                    (10 marks)

| Marks | Grade |
|---|---|
| Above 70 | A |
| 60-69 | B |
| 50-59 | C |
| 40-49 | D |
| 39 and below | E |

d) Write the syntax of for loop                                          (1 mark)

## QUESTION THREE (20 MARKS)

a) State the reasons why functions are used in programming language        (3 marks)
b) Write a program that requires user to enter the radius of circle, calculate the area and perimeter, and input the area and perimeter (use pie = 3.142) which must be declared as constant                                          (8 marks)
c) Explain the meaning of the following c standard library header        (5 marks)
   i. ctype.h
   ii. error.h
   iii. math.h
   iv. stdio.h
   v. time.h
d) Discuss four characteristics of a good algorithm                      (4 marks)

## QUESTION FOUR (20 MARKS)

a) State four guidelines for designing a good pseudocode                 (5 marks)
b) With the aid of a diagram, discuss at least four symbols that are used to develop flow chart                                          (4 marks)
c) Write c program that will output the following statement in the screen (8 marks)

OUTPUT
Here are the mitials
EWC
The age and number of dependents are
25000.00,      575.25

d) Using an example, discuss four operators used in c programming        (4 marks)