**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

**Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** **info@mucst.ac.ke**

**University Examinations 2014/2015**

STAGE 2 EXAMINATION FOR DIPLOMA IN INFORMATION TECHNOLOGY

**CIT 2176: INTRODUCTION TO PROGRAMMING AND ALGORITHMS**

 **DATE: APRIL 2015 TIME: 11/2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Define the term program (3 Marks)
2. Give three characteristics of programming languages (6 Marks)
3. What is an algorithm (3 Marks)
4. Define the variable with an example (3 Marks)
5. Write a simple program in C that calculates the sum of two numbers and gives the answer at its output (6 Marks)
6. Give three types of data types you know in C programming language (6 Marks)
7. Define the term flowchart (3 Marks)

**QUESTION TWO (15 MARKS)**

1. Write a program that calculates the area of a circle using the constant PI= 3.14. Your answer must be in float or double data type (5 Marks)
2. Define the following terms:
3. Algorithm (2 Marks)
4. Pseudocode (2 Marks)
5. Constant (2 Marks)
6. Bug (2 Marks)
7. Distinguish between a float and a double data type. Give the syntax used when declaring them (2 Marks)

**QUESTION THREE (15 MARKS)**

1. Write a program in C that uses a function in calculating two numbers that are provided by the user (4 Marks)
2. Edit the following program so that it can be free from bugs(error)

#include<stdio.h>

Int main(

{

Int num 1, num2, answer

Answer = num1 + num2;

Printf(“The answer is”,answer);

Return 0;

} (4 Marks)

1. Define the following terms:
2. Module (2 Marks)
3. Semantic (1 Mark)
4. Interpreters (1 Mark)
5. Linkers (1 Mark)
6. What do you understand by the term debugging in computer programming (2 Marks)

**QUESTION FOUR (15 MARKS)**

1. Define an algorithm (2 Marks)
2. Give four characteristics of an algorithm (4 Marks)
3. Write a program in C that accepts the input of a person’s age. Then if the age of the person is more than 18 years, it displays the message “You are grown up” else it displays the message “You are a juvenile”. (5 Marks)
4. Explain any four characteristics of a programming language (4 Marks)