**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@must.ac.ke**

**University Examinations 2015/2016**

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

**CIT 2151: FUNDAMENTALS OF COMPUTER PROGRAMMING**

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

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

**QUESTION ONE (30 MARKS)**

1. Define the following terms as used in programming.
2. Pseudocode (1 Mark)
3. Portability (1 Mark)
4. Repetition control structures (1 Mark)
5. List four characteristics of a good Algorithm (4 Marks)
6. List four qualities of a good program (4 Marks)
7. Differentiate between the following as used in computer programming
8. Reserved word and identifier (2 Marks)
9. Global variable and local variable (2 Marks)
10. While loop and do while loop (2 Marks)
11. Briefly describe the basic structure of a C Program (4 Marks)
12. Using a function write a C program to add two numbers. (4 Marks)
13. Identify the errors in the following program. After corrections, what output would you expect

when you execute it. (5 Marks)

#define PI 3.14159

Main ()

Int R, C Float perimeter Float area;

C = PI R = 5;

Perimeter = 2.0\*C\*R;

Area = C\*R\*R;

Printif (“%f”’ “%d”, & perimeter, & area)}

 **QUESTION TWO (15 MARKS)**

1. Outline three advantages of using flowcharts. (3 Marks)
2. Outline four data types used in C programming language citing an example in each case.

 (4 Marks)

1. Using an example, describe how you would do the following; (2 Marks)

i) Insert a comment on a line

ii. Display the output on the next line.

1. Write a C program to accept two integers, determine the largest among them and display it on the screen. (6 Marks)

**QUESTION THREE (15 MARKS)**

1. Define an array and describe a one dimension array, two dimensional array and three dimensional arrays. (6 Marks)
2. With the aid of a flowchart, illustrate the execution of a for loop. (2 Marks)
3. Describe the C program compilation process (4 Marks)
4. Using examples Demonstrate how you create symbolic constants. (3 Marks)

**QUESTION FOUR (15 MARKS)**

1. Write **C** program to print the sum of all odd integer numbers between 1 to 50. Use do while loop. (5 Marks)
2. Describe two operators used in computer programs. (4 Marks)
3. Explain three methods used for testing a program for errors. (6 Marks)

**QUESTION FIVE (15 MARKS)**

1. Write a C program to calculate the average of a set of N numbers. (5 Marks)
2. Provide program statements to create a pointer variable, assign address to a pointer variable and output the value at the memory location pointed to by the pointer variable (4 Marks)
3. Write a C program that prompts the user to enter the total marks of a student.

The program then outputs ‘proceed’ if the marks are greater than 50 otherwise it outputs ‘fail’.

 (6 Marks)