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University Examinations 2013/2014

STAGE II, EXAMINATION FOR DIPLOMA IN INFORMATION TECHNOLOGY

DIT 0202: INTRODUCTION TO PROGRAMMING & ALGORITHMS

DATE: APRIL 2014 **TIME: 1½ HOURS**

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

QUESTION ONE - (30 MARKS)

a) Define the following terms as used in programming

i. Variable (2 marks)

ii. Programming (2 marks)

iii. Control structure (2 marks)

b) (i) Write a C program to accept two numbers input by the user and checks whether they are odd or even numbers. (4 marks)

(ii) Draw a flowchart to represent the logic of the program in b (i) above. (3 marks)

c) (i) State four benefits of modularity. (2 marks)

(ii) State four advantages of high level languages. (2 marks)

d) State two difference between compilers and interpreters. (4 marks)

e) Describe two types of algorithms. (4 marks)

f) State and explain two ways that can be used to develop functions in C programs. (5 marks)

QUESTION TWO – (15 MARKS)

a) Define documentation and describe two types of documentation. (5 marks)

b) Distinguish between the following terms: (4 marks)

i. While loop and do while loop
ii. Local variable and Global variable

c) Describe and with the aid of flowchart, illustrate the execution of IF---statement and IF---else statement. (6 marks)

QUESTION THREE – (15 MARKS)

a) Describe three types of operators used in C programming. (6 marks)

b) (i) Write a C program to find the area of a rectangle and output the result (3 marks)
(ii) Draw a flowchart to represent the logic of the program in b(i) above. (3 marks)

c) Describe two properties of functions. (3 marks)

QUESTION FOUR (15 MARKS)

a) Using each of the loop statements given below, Write a C program that will automatically generate numbers 65 to 75 and displays them on the screen. (10 marks)
i. For ….loop
ii. While …loop

b) The program below computes area of a circle, given the dimensions, identify the four errors in the program below; (2 marks)

```
#includes<stdio.h>

Main ()

{

Int radius, pie 3.142

Printf("Enter radius:");

Scan("%f",&radius: ")

Return 0;
```

c) Using a function write a C program to divide two numbers. (3 marks)