MURANG'A UNIVERSITY COLLEGE

(A constituent College of Jomo Kenyatta University of Agriculture and Technology)

UNIVERSITY EXAMINATIONS 2014/2015

YEAR ONE SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BIT 2123: STRUCTURED PROGRAMMING

COURSE: BScIT **TIME: 2HRS**

DAY/TIME: Monday 2:00pm-4:00pm **DATE:3rd August 2015**

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

QUESTION ONE (30 MARKS)

a) Looping assists a programmer to implement a programming logic at ease. Using suitable examples explain any three looping statements in C programming. (6 Marks)

b) Using a suitable example, describe the structure of the case selection statement. (4 Marks)

c)

i. Explain four common data types used in C language. (4 Marks)

ii. Differentiate global from local variables used in programming. (3 Marks)

d) Write the general format of the IF……..THEN …….ELSE control structure(3 Marks)

e) Explain the following terminologies:

i. Switch Selection (2 Marks)

ii. Looping control structure (2 Marks)

f) Programming in C relies heavily on the use of functions. Explain in detail the difference between the following functions printf() and scanf() used in C programs. (6 Marks)

QUESTION TWO (20 MARKS)

a) Write a program in C to accept a student's reg_no, marks in 3 subjects m1, m2, m3, and display the same along with the total and average marks. (8 Marks)

b) Outline 4 rules to follow while writing identifiers in a C program. (4 Marks)

c) Outline the elements necessary while declaring structure variables in C programming. (4 Marks)

d) With examples differentiate syntax and logical errors as found during the programming activities. (4 Marks)

QUESTION THREE (20 MARKS)

a) Using examples explain the difference between prefix and postfix increment and how each affects the result of an expression. (4 Marks)

b) Write a program section using the "else .. if " to display the following grading system of an academic institution. (10 Marks)

Average Marks	**Grade**
80 to 100	Honours
60 to 79	First Division
50 to 59	Second Division
40 to 49	Third Division
0 to 39	Fail

c) Compare and contrast arrays and structures as used in a C program. (6 Marks)

QUESTION FOUR (20 MARKS)

a) Use a *for loop* to write a C program to find the sum of odd and the sum of even numbers between 1 and 100. (10 Marks)

b) Define a pointer as used in C programming. (2 Marks)

c) Outline the benefits of using pointers in C programs. (8 Marks)