Technical University of Mombasa
Institute of Computer Science and Informatics

DEPARTMENT OF COMPUTER SCIENCE

BIT 2123 Structured Programming

Main Exam

End of Semester Exam
May 2016 Series
Time: 2 Hours

Instructions to Candidates
- Question ONE is Compulsory
- Answer Any TWO Question in Section B
- Switch OFF mobile phones.

Question One (30 Marks)

a) Define type conversation in C++ (2 Marks)

b) Explain the difference between silent and explicit type conversion (4 Marks)

c) Write a program that print a given number in reverse order (4 Marks)

d) Explain the difference between structured programming and modular programming

(4 Marks)

e) Write a program to prompt the user to enter a number to be multiplied by 0 to 10 giving out results as follows

Nx0=0

Nx1=N

...

Nx10=N0 (6 Marks)

f) Using an example illustrate the use of logical operator NOT ! (4 Marks)

g) Explain three common error in programming and give remedies to mitigate the errors (6 Marks)

Question Two (20 Marks)

a) Define the following

    i. Structures

    ii. Pre-processor directives

    iii. typedef (6 Marks)

b) Using Structures develop a program for processing admission report, the following are elements representing information

Roll Number	Name	Date of Birth	Course

(10 Marks)

c) List and explain any four qualities of a good program (4 Marks)

Question Three (20 Marks)

a) Explain how arrays simplify programming by use of a suitable example (4 Marks)

b) List four characteristics of arrays (4 Marks)

c) Develop a program using arrays to input items N sold in a shop and calculate the total sales (6 Marks)

d) Develop a program that input three numbers and evaluate the maximum and minimum number among the three.

(6 Marks)

Question Four (20 Marks)

a) Differentiate the following

   (i) Pass-by-value and pass-by-reference
   (ii) Function call and function prototype

(8 Marks)

b) Documentation is an essential practise in programming, list threeadvantages of documentation to management. (3 Marks)

c) List three factors to consider when developing user program interface

(3 Marks)

d) Write an inline function to find Min number of two numbers (6 Marks)

Question Five (20 Marks)

a) Write a program to out put the total sum and total sum of squares of even numbers from 10 to N (6 Marks)

b) Write expressions to represent the following:
   i. p is a function whose argument is a pointer to an array of characters and which returns a pointer to an integer.
   ii. p is a function whose argument is a pointer to character and which returns a pointer to an array of ten integers.

(6 Marks)

c) Explain the following terms
   a. Class
   b. Unary
   c. Object

(6 Marks)