



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
 $N \times 0 = 0$
 $N \times 1 = N$
...
 $N \times 10 = N0$ (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)

