



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

**DEPARTMENT OF COMPUTER SCIENCE & INFORMATION
TECHNOLOGY**

DIPLOMA IN MECHANICAL ENGINEERING
DIPLOMA IN AUTOMOTIVE ENGINEERING
(DAE/DME Y2 SI)

EIT 2113: COMPUTER APPLICATION II

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions

Answer question **ONE (COMPULSORY)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) Define the following terms:
- (i) Machine code (2 marks)
 - (ii) Algorithm (2 marks)
 - (iii) Problem definition (2 marks)
 - (iv) Variable declaration (2 marks)
 - (v) Initialization (2 marks)
- b) Differentiate between low level and high level programming language. (4 marks)
- c) What are the limitation of using flow chart diagram in system analysis (4 marks)
- d) Explain **TWO** basic functions of algorithm in programming. (2 marks)
- e) Show how to declare multiple C++ variables in one statement. (2 marks)
- f) Give **TWO** examples of C++ libraries
- g) Show to declare a function in C++ (4 marks)
- h) Give **TWO** advantages of high level programming language. (2 marks)

Question Two

- a) Explain the following stages in Software Development Life Cycle (8 marks)
- (i) Problem Definition
 - (ii) Coding
 - (iii) Debugging
 - (iv) Maintenance

- b) Study the program below and answer the questions that follow:

```
#include <iostream>
Using namespace std;
Int main ()
{
    declaring variable;
    Int a;t}
    Int b;
    Int result;
    process
    a= 5;
    b = 2;
    a = a+1
```

```
    result = a - b;
    cout << result
```

```
    return 0;
}
```

- (i) What is the function of the assignment operators (2 marks)
- (ii) List down all the comment in the above program (2 marks)
- (iii) What is the function of #include <iostream> (2 marks)
- (iv) What is the output of the program? (1 mark)

Question Three

- a) Write an algorithm to find the sum and product of the two given numbers. (5 marks)
- b) Draw a flow chart diagram to represent the algorithm above (a) (5 marks)
- c) Write a C++ program to implement the flow chart diagram in (b) (5 marks)

Question Four

- a) Write a C++ program that can prompt a user to enter **THREE** integers, calculate the average of the three integers and output the result on the screen. (7 marks)
- b) Show how to declare a function in C++ that returns a value. (6 marks)
- c) Write a C++ statement to show how to call the function above (a) in the main program. (2 marks)

Question Five

- a) Draw a flow chart diagram to find the maximum of two given numbers. (7 marks)
- b) Discuss the different data type in C++ highlighting their importance in programming. (8 marks)