



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 MARINE ENGINEERING (DME)

DMR 2102: ICT 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 any **THREE** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) What is matlab? (2 marks)
- b) Highlight the benefits of matlab in marine engineering (6 marks)
- c) Define each of the following terms:
 - (i) Pseudo code
 - (ii) Project management
 - (iii) Status review
 - (iv) Resource (8 marks)
- d) Give any 4 control structures used in C program. (4 marks)

Question Two

Write:

- (i) C program (5 marks)
- (ii) Pseudo code (5 marks)
- (iii) Flowchart (5 marks)
- (iv) Algorithm (5 marks)

For a statement that would accept any two integers and computers its sum and prints out the results on screen.

Question Three

- a) Illustrate how you would create the figure below using matlab command line interface.

6

(10 marks)

- b) Illustrate the output of each of the following matlab command line interface.

```
>> x = [-10 ÷ 1 ÷ 3] >> x = [-10 : 1 : 3]
```

```
>> y = 2x
```

```
>>
```

(i)

```
>> x = [123;456;789]
```

(ii)

(10 marks)

Question Four

a) Write a simple matlab program that would be able to calculate and solve the following equation:

$$x^2 + x + 1 = 0$$

(5 marks)

b) Discuss distinguishing features of each of the following applications used in marine engineering:

(i) Ms Project 2010

(ii) C Program

(iii) Matlab

(15 marks)

Question Five

a) Discuss the features of each of the following CADs in marine engineering:

(i) AutoCAD 2010

(ii) ArchCAD 2010

(10 marks)

b) Highlight the benefits of Ms-project 2010 software in marine engineering.

(10 marks)