TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN MARINE ENGINERRING

DMR 02: ICIT II (DME)

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: OCTOBER 2013
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory)

a) What is C programming? **(2 marks)**

b) Define each of the following terms as used in C programming:
- **(i)** Compiler
- **(ii)** Editor
- **(iii)** Library
- **(iv)** Loader **(8 marks)**

c) From the Pseudo code:

If students' grade is greater than or equal to 60
print "Passed"
else
Print "Failed"

Draw a flowchart to represent the above pseudo code **(5 marks)**

d) Distinguish between an algorithm and a pseudo code using the code in 1(c) above. **(5 marks)**

Question Two

a) Write a simple C program that would accept an integer value and prints out the result based on the following condition:

Above 90 – 'A'
70 – 89 - 'B'
60-49 - 'C'
50 – 59 - 'D'
Below 50 – 'E'

Question Three

a) What is matlab **(2 marks)**

b) Write a simple Matlab program that would be able to calculate and solve the following equation.

$$4x^2 + 5x + 6$$

(5 marks)

c) Illustrate how you would create the figure below using Matlab command line interface:

MY FAVOURITE CHART

5
4
3
2
1

Question Four

a) Highlight the benefits of Ms-Project software in Marine Engineering. **(10 marks)**

b) Discuss any FOUR types of CAD software used in marine engineering applications **(10 marks)**

Question Five

a) Define each of the following terms:
- **(i)** Project Management
- **(ii)** Work breakdown structure
- **(iii)** Milestone
- **(iv)** Project Organization **(12 marks)**

b) Write a matlab program that would produce the matrix output illustrated below:

(i)

$$x = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}$$

(ii)

$$y = x^T$$

(Transpose of x) **(8 marks)**