THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY (DIT/JAN 2012)
DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY (DICT/JAN 2012)

ECT 2102: STRUCTURED PROGRAMMING (C Programming)

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MAY/JUNE 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

a) (i) Explain the difference between compiler and interpretor   (4 marks)
   (ii) Draw a program flowchart to print the first ten natural numbers   (8 marks)
   (iii) Implement the Q1 (ii) above using C programming language   (8 marks)

b) State any **THREE** high level programming languages   (3 marks)

Question Two

a) With examples explain the **TWO** control structures in C programming language. (8 marks)
b) Write a C program to read a student name and the score for a particular subject. The output

   grades are as shown:-
   Above 90   'A'
   80 – 89   'B'
   70 – 79   'C'
   60 – 69   'D'
   Below 60   'FAIL'   (9 marks)
c) Explain any **THREE** types of errors in computer programming   (6 marks)

Question Three

a) (i) Explain the term modular programming   (2 marks)
   (ii) Explain any **FIVE** advantages of modular programming   (10 marks)
   (iii) Develop a C program to calculate factorial of number. Given:

      0!=1
      1!=1
      n!=n*(n-1)!   (8 marks)

b) Explain the difference between procedures and functions   (3 marks)

Question Four

a) With examples explain the two control structures in C programming language   (8 marks)

b) Write a C program to read a student name and the score for a particular subject. The output
   grades are shown:-

   Above 90 'A'
   80 – 89   'B'
   70 – 79   'C'
   60 – 69   'D'
   Below 60   'FAIL'   (9 marks)

c) Explain any **THREE** types of errors in computer programming   (9 marks)

Question Five

a) Develop a C program to read two integer values then multiply, divide, subtract and add them.
   The following menu should be developed

PRESS 1 TO MULTIPLY
PRESS 2 TO DIVIDE
PRESS 3 TO SUBSTRACT
PRESS 4 TO ADD
SELECT YOURCHOICE –

Use the switch statement. (12 marks)

b) Explain the objective of drawing program flowcharts (8 marks)