



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)

EIT 2104/ECT 2101: STRUCTURED PROGRAMMING (C Programming)

END OF SEMESTER EXAMINATION

SERIES: APRIL 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Answer any **THREE** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (20 Marks)

- a) (i) Explain the difference between compiler and interpreter (4 marks)
(ii) Draw a program flow chart to calculate the sum and average of even integers from 1 to 100.
Use a loop (8 marks)
(iii) Implement the Q1(ii) above using C programming language (8 marks)

b) Question Two (20 marks)

- a) With examples explain the **THREE** control structures in C programming language. (8 marks)
b) Develop a pseudo code algorithms to read three integer values and compare them to display the smallest
c) Implement the Q1(ii) above using C programming language (8 marks)
d) Explain any **TWO** types of errors in computer programming (4 marks)

Question Three (20 marks)

- a) (i) Explain the term structured programming (2 marks)
(ii) Explain any **FOUR** advantages of structured programming (8 marks)
b) Explain the following standard math library functions
(i) Exp()
(ii) Pow(x, y) (4 marks)
c) Develop C program having a function to calculate the cube of value x. Give cube = $x*x*x$ (6 marks)

Question Four (20 marks)

Explain the following levels of programming languages giving advantages and disadvantages for each

- (i) Machine programming language
(ii) High level programming language
(iii) Fourth generation programming language (20 marks)

Question Five (20 marks)

- a) Develop a C program to read two integer values then multiply, divide, subtract and add them.

The following menu should be developed

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PRESS 1 TO MULTIPLY
PRESS 2 TO DIVIDE
PRESS 3 TO SUBTRACT
PRESS 4 TO ADD
SELEC YOUR CHOICE –
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Use the switch statement (12 marks)

- b) Explain the objective of drawing program flow charts (8 marks)