



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY – DIT 11M

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY – DICT 11M

**EIT 2104/ECT 2102 : STRUCTURED PROGRAMMING
(C Programming)**

END OF SEMESTER EXAMINATIONS

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions in **TWO** sections **A & B**

Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question is as shown

This paper consists of **THREE** printed pages

SECTION A (Compulsory – 30 MARKS)

Question ONE

- a) (i) Distinguish between third and fourth generation programming languages (4 marks)
- (ii) Draw a program flowchart to read name of an employee , the hours worked and the rate of pay. The flowchart should compute the gross and net salary depending on the following:-
- Gross salary = hours * rate
- If Gross salary < 10000 then
- Netsalary = Gross salary
- Otherwise
- Netsalary = Gross salary - 500 (7 marks)
- (iii) Implement Q1 (ii) above using C programming language (8 marks)
- b) Explain the following terms as used in programming. (6 marks)
- (i) Compiler
- (ii) Interpreter
- (iii) Assembler
- c) Describe the following Data types used in C.
- i) Byte
- ii) Int
- iii) Double
- iv) Long
- v) Float (5 marks)

SECTION B (Attempt any TWO questions from this section)

Question TWO (20 Marks)

- a) With examples explain any **TWO** control structures in C programming language (6 marks)
- b) Write a C program to read a student name and the score for a particular subject.

They should output grades as shown:-

Above 90 'A'

80 – 89 'B'

70 - 79 'C'

60 – 69 'D'

Below 60 'FAIL'

(7 marks)

- c) Explain any **THREE** types of errors in computer programming (6 marks)

Question THREE (20 Marks)

- a) Explain the stages of program development life cycle (12 marks)
- b) Explain any **FOUR** advantages of structured programming. (8 marks)

Question FOUR (20 Marks)

- a) Write a C program to read twenty integer values then calculate the sum of all the numbers. (6 marks)
- b) Draw a program flowchart for Q4 (a) above (6 marks)
- c) Explain the following terms:-
- (i) Local Variables
 - (ii) Global Variables
 - (iii) Variable parameters
 - (iv) Value parameter
- (8 marks)

Question FIVE (20 Marks)

- a) Explain the following categories of operators:
- i) Assignment Operator
 - ii) Increment operator (++)
 - iii) Conditional Operators
 - iv) Decrement operator
- (8marks)
- b) Explain the meaning of the following statements as used in C programming:
- i) `int main()`
 - ii) `printf("Welcome to C!\n");`
 - iii) `return 0;`
 - iv) `scanf("%d", &integer1);`
- (8marks)
- b) Write a simple C program that will give us the following output.
- Welcome
To
C Programming**
- (4marks)