



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:

This paper consist of **TWO** sections **A** and **B**

Answer question **ONE (COMPULSORY)** and any other **TWO** questions from the list below

This paper consists of **THREE** printed pages

SECTION A COMPULSORY (30 MARKS)

Question 1

- 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 < 10,000 then
Net salary = Gross salary
Otherwise
Net salary = 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 (5 marks)
- (i) Byte
(ii) Int
(iii) Double
(iv) Long
(v) Float

SECTION B (ANSWER ANY TWO QUESTIONS)

*This section consists of **FOUR** questions 20 marks each.*

Choose any two questions

Question 2 (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 3 (20 marks)

- a) Explain the stages of program development life cycle (12 marks)

b) Explain any **FOUR** advantages of structured programming (8 marks)

Question 4 (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 (8 marks)

- (i) Local Variables
- (ii) Global Variables
- (iii) Variable parameters
- (iv) Value parameters

Question 5 (20 marks)

a) Explain the following categories of operators:

- (i) Assignment Operator
- (ii) Increment Operator (++)
- (iii) Conditional Operator
- (iv) Decrement Operator (8 marks)

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", &integer 1); (8 marks)

c) Write a simple C program that will give us the following output (4 marks)

**Welcome
To
C Programming**