



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 10M
DIPLOMA IN INFORMATION TECHNOLOGY – DICT 11M

ECT 2102, ECT 2204: STRUCTURED PROGRAMMING (C Programming)

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: OCTOBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

Answer question **ONE (COMPULSORY)** in section A and any other **TWO** questions from section B

Maximum marks for each part of a question are clearly shown.

This paper consists of **THREE** printed pages

Question 1 (30 marks)

- a) (i) Explain the difference between compiler and interpreter. (4marks)
- (ii) Draw a program flowchart to print the first ten natural numbers. (8 marks)
- (iii) Implement the (ii) above using C programming language (8 marks)
- b) State any three high level programming languages (3 marks)

Question 2 (20 marks)

- 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.

They should output grades 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 3 (20 marks)

- 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 a number.

Given

$0! = 1$

$1! = 1$

$n! = n * (n-1)!$

(8 marks)

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

Question 4 (20 marks)

- 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.

They should output grades 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 5 (20 marks)

- a) Explain the term Data structures as used in programming. (2 marks)
- b) Giving examples explain any two types Data structures (8 marks)
- c) Develop a C program to read ten integer values into an Array called Score then display them in ascending order (10 marks)
- d) State three disadvantages of machine programming languages (3 marks)