



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY (DICT10M)
DIPLOMA IN INFORMATION TECHNOLOGY (DIT10M)

EIT 2015: OBJECT ORIENTED PROGRAMMING (OOP)

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY/MARCH 2012

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 are as shown

This paper consists of **THREE** printed pages

SECTION A (COMPULSORY)

Question one

- a) i) Explain the term 'Computer Program'. [2 marks]
ii) State any **four** disadvantages of machine programming language. [4 marks]
iii) Draw a program flowchart to read twenty integer values and then display the sum of even numbers. [7 marks]
- b) i) Develop a C++ program to implement Q1(a) (iii) above. [7 marks]
ii) State any **three** data types in C++ programming language. [3 marks]

SECTION B (Answer any two questions)

Question two

- a) Describe:
- Any **two** selection control structure.
 - Any **two** repetition control structure. [4 marks]
- b) State **one** example of each of the above in question 2(a). [4 marks]
- c) Write a C++ program to read a student name and the score for a particular subject. The program should output grads as follows:-
- | | |
|----------|--------|
| Above 90 | 'A' |
| 80 - 89 | 'B' |
| 70 - 79 | 'C' |
| 60 - 69 | 'D' |
| Below 60 | 'FAIL' |
- [8 marks]
- d) State the **three** Logical Operators. [3 marks]

Question three

- a) i) Explain the term 'Modular Programming'. [2 marks]
ii) Explain any **four** advantages of module programming. [8 marks]
- b) Write a C++ program to calculate factorial of a number using a function. Given the following:-
- $$0! = 1$$
- $$1! = 1$$
- $$n! = n \times (n - 1)! \quad [7 \text{ marks}]$$
- c) Write the following statements in more compact way;
- $a = a + 1$
 - $a = a + b$

iii. $a = a \times 500$ [4 marks]

d) Explain the term 'Global Variable' [2 marks]

Question four

a) Define the following terms giving examples.

- i. Delimiter.
- ii. String Literals. [4 marks]

b) Explain any **three** errors that can occur in a C++ program. [6 marks]

c) Distinguish between Interpreter and Compiler. [4 marks]

d) Write a C++ program to read marks of student. The list of marks ends with '999'. The program should output average mark of the students. [6 marks]

Question five

a) i) Define the term 'Relational Operator'. [2 marks]

ii) Explain any **four** relational operators. [4 marks]

b) Write a billing program for a small hotel. The hotel charges a high rate (called the rack rate) and a discounted rate. First-time customers are charge the rack rate and repeat customers get the discount.

Rack Rate = 1750.00.

Discounted Rate = 1500.00. [7 marks]

c) State the format for the switch expression (case). [4 marks]

d) Write a C++ program to read **three** data items, then compare them and display the largest. [6 marks]