



# 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 2202: 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 1

- 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 2

- a) Describe:
- i. Any **two** selection control structure.
- ii. Any **two** repetition control structure. [4 marks]
- b) State **one** example of each of the above in question 2a. [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 3

- 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:-
- $$0! = 1$$
- $$1! = 1$$
- $$n! = n \times (n - 1)!$$
- [7 marks]
- c) Write the following statements in more compact way;
- i.  $a = a + 1$
- ii.  $a = a + b$

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

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

#### QUESTION 4

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 5

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]