



# 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 2K 11M)

**ECS 2101: OBJECT ORIENTED PROGRAMMING**

END OF SEMESTER EXAMINATIONS

**SERIES: DECEMBER 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 are as shown

This paper consists of **THREE** printed pages

## SECTION A COMPULSORY (30 MARKS)

### Question 1

- a) Briefly explain the following terms in as used in Object Oriented Programming
- Object
  - Class
- [4marks]
- b) Using an appropriate example explain the following concepts as used in Object Oriented Programming
- Polymorphism
  - Inheritance
- [6marks]
- c) Briefly state the **two** forms of putting comments in C++ programming
- [4marks]
- d) Write a short statement in C++ to distinguish the following concepts as used in C++
- Declaration
  - Initialization
  - Assignment
- [6marks]
- e) Distinguish between the following types of operators as used C++ programming
- Arithmetic operators and increment/decrement operators
  - Logical and relational operators
- [4marks]
- f) State any **THREE** advantages of Object Oriented Programming
- [6marks]

## SECTION B (ANSWER ANY TWO QUESTIONS)

### Question 2 (20 marks)

- a) Write a C++ program that :
- Has three integer variables(a,b,c)
  - Initializes them to 10,20, and 30 respectively
  - Finds the average of the 3 numbers
  - Stores the average in the first variable(a)
- [10marks]
- b) Briefly explain the meaning of the following objects in C++
- Cin
  - Cout
  - Private
  - Public
  - Protected
- [10marks]

### Question 3 (20 marks)

- a) Write the output of the following statements
- `Cout<<"hellow"<<"world"<<"again";`
  - `Cout<<"hellow"<<"world"<<"again\n\n";`
  - `Cout<<a<<b<<c;`
  - `Cout<<a<<"<<b<<"<<c;`
  - `Cout<<"*\n**\n***\n****\n*****\n";`
- [10marks]

b) Write a C++ program that inputs three different integers and does the following:

- i. Displays the 3 integers
- ii. Displays the sum
- iii. Displays the average
- iv. Displays the product

[10marks]

**Question 4 (20 marks)**

a) Write the meaning of the following symbols in C++

- i. &&
- ii. ||
- iii. ++
- iv. =
- v. ==

[10marks]

b) Write C++ program that:

- i. Accepts a number between 1 and 12 as input
- ii. Displays the name of the Month corresponding to the number

[10marks]

**Question 5 (20 marks)**

Write a C++ program that :

- i. Has a class called rectangle whose data members are width and height, method members are setsize() and calculatearea()
- ii. Accepts height and width of a rectangle as input
- iii. Displays the area of the rectangle

[20marks]