



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

**DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY &
MAINTENANCE (DICT Y2 S1)**

ECT 2204: OBJECT ORIENT PROGRAMMING

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions

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

Question One (Compulsory)

- a) Explain the following parameter passing mechanism. **(3 marks)**
 - (i) Passing parameter by value
 - (ii) Passing parameter by value
 - (iii) Passing parameter by address

- b) State and explain **THREE** types of construction. **(3 marks)**
- c) Write a C++ code stab to demonstrate the general class structure. **(3 marks)**
- d) Write a C++ program to clearly demonstrate the concept of function overloading. **(5 marks)**
- e) Give the general syntax of declaring functions. **(2 marks)**
- f) Give the syntax for member function definition outside the class. **(3 marks)**
- g) Explain the meaning of an inline function. **(2 marks)**
- h) State and explain **FOUR** applications of inheritance. **(8 marks)**
- i) Define a variable. **(1 mark)**

Question Two

- a) Differentiate between Dynamic Data Binding and Dynamic Object Initialization. **(4 marks)**

- b) Outline **FOUR** characteristics of a constructor. **(4 marks)**

- c) List **FOUR** characteristics of OOP **(4 marks)**

- d) Define the following terms: **(4 marks)**
 - (i) Operator Overloading
 - (ii) Function Overloading
 - (iii) Dynamic Binding

- e) Define a class and encapsulation. **(2 marks)**

- f) Define inheritance. **(2 marks)**

Question Three

- a) List down **THREE** benefits of OOP **(3 marks)**

- b) Using a class definition of your choice, clearly show the concept of multiple inheritance. **(9 marks)**

- c) What is the difference between “break” and “continue” statement. **(4 marks)**

- d) Write a C++ program to print odd numbers from 0 to 20 on a screen. Hint: use for construct. **(4 marks)**

Question Four

- a) What is it that a derived class cannot inherit from base class? **(3 marks)**
- b) Write a C++ program showing clearly your understanding of objects and classes. **(4 marks)**
- c) Explain the meaning of any **THREE** logical operators used in C++ **(3 marks)**
- d) Write a C++ program to differentiate between local and global variables. **(4 marks)**
- e) Using a C++ code stub, differentiate between a procedure and a function. **(4 marks)**

Question Five

- a) Write a C++ program to demonstrate your understanding of a function prototype. **(4 marks)**
- b) State any **THREE** ways of implementing polymorphism concept in C++ **(3 marks)**
- c) Using a C++ program, show your understanding of defining a member function inside a class definition and outside class definition. **(6 marks)**
- d) Differentiate between a constructor and a destructor. **(2 marks)**
- e) Differentiate between default constructor and parameterized constructor. **(2 marks)**
- f) State **THREE** types of constructors. **(3 marks)**