# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

## *Faculty of Engineering & Technology*

**DEPARTMENT COMPUTER SCIENCE & INFORMATION TECHNOLOGY**

DIPLOMA IN INFORMATION TECHNOLOGY – 10M

**ECS 2211: OBJECT ORIENTED PROGRAMMING IN JAVA**

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
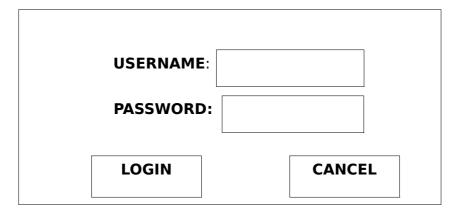
## SECTION A (COMPULSORY)

### Question one [30 marks]

a) Using examples, explain how the following can be done in java:
       (i) Inheritance
       (ii) Polymorphism
       (iii)       Encapsulation
       (iv)Data hiding            (16 marks)

b) Write a statement for declaring and initializing a constant in java    (4 marks)

c) Explain the following java extracts:
       double mydouble = 10.678;
       int myint = (int) mydouble;          (4 marks)

d) State any **Six** components of the Java Applications Programming Interface (API)   (6 marks)


## SECTION B (ANSWER ANY TWO QUESTIONS)

### Question two [20 marks]

Write an applet with the following layout

```
+--------------------------------------------------+
|                                                  |
|                                                  |
|    USERNAME:  [                    ]             |
|                                                  |
|    PASSWORD:  [                    ]             |
|                                                  |
|                                                  |
|    [    LOGIN    ]      [   CANCEL   ]           |
|                                                  |
+--------------------------------------------------+
```

              (20 marks)

### Question three [20 marks]

Write a program in java with a function called swap. Swap takes in two parameters and exchange there memory locations. The program should prompt the user to enter the two values. Comment on your program.        (20 marks)

### Question four [20 marks]

When ordering new videotapes from a supplier, the store manager creates a purchase_order, fills_in the date, the supplier's name, address, and enters a list_of_videotapes to be ordered. The purchase order is added to a permanent list of purchases. When one or more video tapes are received from a supplier, a clerk locates the original purchase order and makes a record of each tape that was received. A record of the videotape is then added to the store's inventory.

When all tapes listed on a particular purchase order have been received, the manager sends a payment to the supplier and the purchase order is given a completion date. Define the classes and their methods from this illustration. (20 marks)

## Question five [20 marks]

Write a program in java that will ask a user to input any two numbers which are passed to a parameter in a function called max that defines the largest of the numbers and prints it to the output.

(20 marks)