Examination	: First Sessional	**Seat No.**	:	
Date	: 23/01/2016	**Day**	: Saturday	
Time	: 12:30 to 01:45 pm	**Max. Marks**	: 36	

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1   **Do as directed**.   **[12]**
   (a) If we write Customer [] ac=new Customer [3];   [2]
      How many times constructor will be called? Give reason for your answer
   (b) Give Java syntax to copy elements of one array to another array. Elements can be   [2]
      of type primitive or Object.
   (c) Write Java syntax to print current date and time on console.   [2]
   (d) What does happen if final key word is assigned to class, method and variable?   [2]
   (e) If the super() is the first statement in the body of a constructor, this() can be declared   [2]
      as the second statement. State True or False with justification.
   (f) Consider the following code and output: [2]

```
public class HelloWorld {
        int count = 10;
        public static void main(String[] args) {
                HelloWorld hw=new HelloWorld();
                System.out.println(count);
                System.out.println(hw instanceof Object);
} }
```
      Identify the error from the code. Make necessary correction and write the output.

Q.2   Attempt *Any Two* from the following questions.   **[12]**
   (a) Explain: static method, variable, block and static import with an example.   [6]
   (b) Explain Garbage Collection mechanism in details with an example. (Using reference counting   [6]
      mechanism)
   (c) Explain Type conversion available in java.   [6]
        1. Primitive type casting.
        2. Object to primitive and vice-versa.

Q.3   Attempt *ALL* from the following questions.   **[12]**
   (a) Explain the use of StringTokenizer class with example. Write a program which tokenizes the   [6]
      given email address. The program receives an email address as input, it validates the email
      address and generates tokens by considering "@" and "." as delimiters.
   (b) Define an interface Area that contains method: CalculateArea (double w, double h). Define two   [6]
      classes Triangle and Rectangle which implements this interface. Write code for calculating area
      of Triangle and Rectangle.
OR
Q.3   Attempt *ALL* from the following questions.   **[12]**
   (a) Perform matrix addition using generic class concept. Define GenericMatrix class. Define   [8]
      IntegerMatrix, which extends GenericMatrix. Place appropriate methods/data members in both
      classes. Also write a class TestIntegerMatrix to test this IntegerMatrix class. Put GenericMatrix
      in lib package, IntegerMatrix and TestIntegerMatrix in user package. Explain PATH and
      CLASSPATH variable.
   (b) Differentiate between String and StringBuffer class. Also list out and explain useful methods of   [4]
      StringBuffer class