Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**SEMESTER– 3 EXAMINATION – WINTER 2012**

**Subject code: 630002** **Date: 01/01/2013**

**Subject Name: Fundamentals of Java Programming**

**Time:10:30 – 13:00** **Total Marks: 70**

**Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

**Q.1** **(a)** State whether the following statements are true or false. Justify yours answer **07**

1. 'new' operator is used to create both primitive types and objects.
2. static methods can be called with its 'this' reference
3. 'final' can be used to prevent a method from being overloaded.
4. A class can inherit exactly one interface.
5. More than one file can include the same package statement.
6. Java's exception handling mechanism is meant to handle only runtime errors.
7. A component can have multiple listeners for events of different types.

**(b)** Fill in the blanks with appropriate words: **07**

1. The _____ block if present, is always executed irrespective of the occurrence of exception.
2. Applets do not need a _____ method.
3. The streams available in Java are _____ and _____
4. _____ is a collection interface used to maintain unique elements.
5. The syntax to assign octal 12 to an integer variable 'x' is _____.
6. In java the method binding is done at _____ time.
7. Create a/an _____ when you have a fixed number of instances.

**Q.2** **(a)** What are the access specifiers available in Java? Explain each of them and state which of these can be applied to members of a class and which can be applied to members of a package. **07**

**(b)** Explain the component hierarchy for various AWT components. **07**

**OR**

**(b)** Explain the concept of creating anonymous class with appropriate example **07**

**Q.3** **(a)** What role does an interface play in multiple inheritance. Also differentiate between abstract class and an interface. **07**

**(b)** Compare Iterator and Enumeration interface. Also explain the Map interface of Collection Framework. **07**

**OR**

**Q.3** **(a)** Write a note on daemon thread. Also explain the priorities of thread? Discuss the default priority and priority setting and retrieving. **07**

**(b)** What is the difference between runtime errors and compile time errors? Explain using suitable example. Give the hierarchy of Exception. Also **07**

explain checked and unchecked exceptions.

**Q.4** **(a)** 1. Explain event delegation model for event handling in Java **04**
2. Compare the adapter classes with listener interfaces **03**

**(b)** Explain the life cycle of an Applet? Explain various methods of the life cycle of applet **07**

**OR**

**Q.4** **(a)** 1. What are annotations and how are they useful? **04**
2. Explain the use of finalize method **03**

**(b)** Explain the difference between Comparable and the Comparator interfaces. Explain them with appropriate example. **07**

**Q.5** **(a)** 1. Discuss the significance of wrapper classes. List the names of all the wrapper classes in Java **04**
2. Give the output for the following code: **03**

```
class Ex12{
   public static void main(String [] args)     {
      try   {
         badMethod();
         System.out.print("A");        }
      catch (Exception ex)
      {          System.out.print("B");         }
      finally
      {          System.out.print("C");        }
      System.out.print("D");
   }
   public static void badMethod()
   {       throw new Error();    }
}
```

**(b)** Design a registration form for new user. On clicking submit button, entered data should be display in on dialog box. **07**

**OR**

**Q.5** **(a)** 1. Differentiate between AWT and Swing. **04**
2. Explain the use of keyword “transient”. **03**

**(b)** Write a program of threads to show inter-communication of two threads: t1 and t2 synchronizing on a shared object. Let t1 print message “ping --->” and t2 print message “<--- pong”. Make the threads execute in a way that the output displays a consistent patterns of “ping ---> <--- pong” **07**

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