

**Roll Number:**

**The LNM Institute of Information Technology  
Second Mid Semester Exam (OOPs (using Java))**

**Max Marks: 10**

**Max Time: 1 Hr.**

**A. Multiple Choice[0.25X10]**

1. Which of these method of class String is used to extract a single character from a String object?  
a) CHARAT()                      b) chatat()                      c) charAt()                      d) ChatAt()
2. Which of the following is incorrect statement about packages?  
a) Package defines a namespace in which classes are stored.  
b) A package can contain other package within it.  
c) Java uses file system directories to store packages.  
d) A package can be renamed without renaming the directory in which the classes are stored.
3. Which of these cannot be declared static?  
a) class                              b) object                              c) variable                              d) method
4. Which of these exceptions handles the situations when illegal argument is used to invoke a method?  
a) IllegalArgumentException                              b) Argument Exception  
c) IllegalArgumentException                              d) IllegalMethodArgumentExpection
5. Which of these class is used to create user defined exception?  
a) java.lang                              b) Exception                              c) RunTimeExceptiom                              d) Throwable
6. Which of these keywords can be used to prevent Method overriding?  
a) static                              b) private                              c) protected                              d) final
7. Which of these class is used to read byte array?  
a) InputStream.                              b) BufferedInputStream.                              c) ByteArrayInputStream.                              d) ByteArrayInputStream.
8. Which of these class contains the methods print() & println()?  
a) System                              b) System.out                              c) PrintStream                              d) BUfferedOutputStream
9. A single try block must be followed by which of these?  
a) finally                              b) catch                              c) Both a & b                              d) None of the mentioned
10. Which of the following statements are incorrect?  
a) Variables declared as final occupy memory.  
b) final variable must be initialized at the time of declaration.  
c) Arrays in java are implemented as an object.  
d) All arrays contain an attribute-length which contains the number of elements stored in the array.

**B. Correct the error if any and find the output of the following program segments [1X4]**

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| <p><b>Q2.1</b> The method mixup is defined as follows:</p> <pre>String mixup(String word) {     if (word.length() == 1)         return "";     else         return mixup(word.substring(0, word.length() - 1))             + word.charAt(word.length() - 1); }</pre> <p>What is the value of the string returned by mixup("IDEAL")?</p>  | <p><b>Q2.2</b> Consider the following method:</p> <pre>public void mysteryMix(Integer a, Integer b) {     a = new Integer(2 * a.intValue());     b = a; }</pre> <p>What is the output of the following code?</p> <pre>Integer a = new Integer(1); Integer b = new Integer(2); mysteryMix(a, a); mysteryMix(a, b); System.out.println(a + " " + b);</pre>   |
| <p><b>Q2.3</b> import java.io.*;</p> <pre>public class MyProgram {     public static void main(String args[]) {         FileOutputStream out = null;         try {             out = new FileOutputStream("test.txt");             out.write(122);         }         catch(IOException io) {             System.out.println("IO Error.");         }         finally         {             out.close();         }     } }</pre> | <p><b>Q2.4</b> public void fun (int m[][], String s)</p> <pre>{     for (int i = 1; i &lt; s.length(); i++)     {         int r = Character.digit(s.charAt(i-1), 10);         int c = Character.digit(s.charAt(i), 10);         m[r][c]++;     }     int m[][] = new int[10][10];     String s = "20012002";     fun(m, s);     int sum = 0;     for (int k = 0; k &lt; 10; k++)         for(int j = 0; j &lt; 10; j++)             sum += m[j][k];     System.out.println(sum); }</pre> |

**C. State True/False[0.25X6]**

1. An interface can extend or implement another interface.
2. If a subclass Sub overrides method m inherited from superclass Super, then m must have the same signature in Sub and Super.
3. Multiple catch statements can catch the same class of exception more than once.
4. Reader class has a method that can read and return floats and doubles.
5. It is perfectly legal to assign a super class reference to a subclass object.
6. The Serializable interface declares two methods, writeObject() and readObject().
7. When the String objects are compared with ==, the result is true if the strings contain the same values.
8. It is possible to use the File class to list the contents of the current working directory.

**D. Write a Java program using recursion to generate first 10 Fibonacci terms. [1.5]**

(Note that in this question you will get marks only if the code is efficient)

