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Seventh Semester B.E. Degree Examination, June/July 2015
JAVA and J2EE

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Why is java considered to be a robust programming language? (05 Marks)
 b. Define byte code. How does it help java program (s) achieve portability. (05 Marks)
 c. Why are java applets considered to be harmless? (05 Marks)
 d. Write a java program to sum only the first five elements of the array {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, using “for-each” version of the for loop. (05 Marks)
- 2 a. What is an applet? With a skeletal code explain the methods that constitute the lifecycle of an applet. (07 Marks)
 b. Consider the following code:

```
class nested-try
{ public static void main (string args[ ])
{
    try
    {int a = Integer.parse Int (args [0]);
      int b = Integer.parse Int (args [1]);
      int quot = 0;
      try
      {quot = a/b;
        system.out.println (quot);
        try
        {system.out.println {"a * b = " + (a * b)};
          if (a * b < 0)
            throw new array index out of bounds exception( )
        }
        finally
        {system.out.println ("in finally block");}
      }
      catch (Arithmetic Exception e)
      {system.out.println ("Divide by zero");}
    }
    catch (Number Format Exception e)
    {system.out.println ("Incorrect argument type");}
  }
}
```

Indicate the output of the above code for the following runs:

- i) Java Nested-Try 24 6
 ii) Java Nested-Try 24 aa
 iii) Java Nested-Try 24 0
 iv) Java Nested-Try -1 5. (08 Marks)
- c. Explain, with an example each, the effect of the keyword “final” with i) a class and ii) methods (s) of a class. (05 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- 3 a. Why is the “main” thread important? Write a Java program that creates multiple child threads and also ensures that the main thread is the last to stop. (10 Marks)
- b. What is the need for synchronization? How can synchronization be achieved in Java? (05 Marks)
- c. Explain the delegation event model used to handle events in Java. What are events, event listeners and event sources? (05 Marks)
- 4 a. What are the deficiencies of AWT that are overcome by swings? Explain the two key features of swings. (08 Marks)
- b. Explain with syntax the following:
i) JLabel ii) JTextField iii) JButton iv) JCheckBox. (12 Marks)

PART – B

- 5 a. Explain the various steps in the JDBC process, use code snippets. (10 Marks)
- b. What are transactions? Write a Java program to demonstrate how to process a database transaction. (10 Marks)
- 6 a. How are servlets different from applets? Explain the benefits and the life cycle of a java servlet. (10 Marks)
- b. What is a cookie? List and explain the various cookie attributes. (05 Marks)
- c. Write a short note on session tracking. (05 Marks)
- 7 a. What is JSP? Explain the different types of tags that can be used in a JSP program. (05 Marks)
- b. List and explain the three methods that are automatically called when a JSP is requested and terminated normally. (05 Marks)
- c. What is RMI used for? Explain the code snippet to implement the remote interface at the server side. (10 Marks)
- 8 Write short notes on:
a. Stateless v/s stateful session bean.
b. JAR file
c. EJB transaction attributes
d. Deployment descriptors. (20 Marks)

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