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10MCA33

**Third Semester MCA Degree Examination, Dec.2013/Jan.2014**  
**Programming with Java**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Explain OOP principles that can be implemented in java. (10 Marks)  
b. Explain the following : (i) Automatic type promotion in expressions (ii) Bitwise operators. (10 Marks)
- 2 a. What are constructors? Explain constructor overloading with example. (10 Marks)  
b. What is method overriding? Explain how it allows java to support run-time polymorphism with an example. (10 Marks)
- 3 a. Explain how exception handling mechanism can be used for debugging a program. (10 Marks)  
b. What are interfaces? Explain how it is implemented in java with suitable examples. (10 Marks)
- 4 a. Explain synchronization in multithreaded programming. (05 Marks)  
b. Explain file InputStreamClass. (05 Marks)  
c. What are generics? Explain its implementation in java. (10 Marks)
- 5 a. Explain different string methods used in StringBuffer class. (10 Marks)  
b. Explain all the string methods used to modify a string. (06 Marks)  
c. Explain how to search a string for a specified character or substring. (04 Marks)
- 6 a. Explain the methods defined by collection interface. (10 Marks)  
b. Explain URL connection class. (10 Marks)
- 7 a. Explain the Applet skeleton and write an example program for an applet. (10 Marks)  
b. Name all the event classes and write a program on KeyEvent and MouseEvent classes each. (10 Marks)
- 8 Write short notes on the following:  
a. Auto boxing.  
b. RMI.  
c. JTree.  
d. JList. (20 Marks)

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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.