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**P.E.S. College of Engineering, Mandya - 571 401**  
*(An Autonomous Institution affiliated to VTU, Belgaum)*  
**Seventh Semester, B.E. - Computer Science and Engineering**  
**Semester End Examination; Dec. - 2015**  
**Java and J2EE**

Time: 3 hrs

Max. Marks: 100

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

**PART - A**

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|------|---|----|
| 1 a. | Distinguish between Java and C++.   | 5  |
|      | b. Discuss the significance of byte code in Java.   | 5  |
|      | c. Write a Java program to display second largest element in a 2D array.                  | 5  |
|      | d. Write a note on garbage collection in Java.  | 5  |
| 2 a. | Write a program to demonstrate multiple exceptions using switch statement.                | 6  |
|      | b. Distinguish between final and abstract class.  | 4  |
|      | c. Write a program in Java to create multiple threads with different priorities.          | 10 |
| 3 a. | Discuss the structure of an applet.   | 6  |
|      | b. Illustrate <APPLET> tag in HTML.   | 4  |
|      | c. Write a program in Java to demonstrate virtual key codes for handling keyboard events. | 10 |
| 4 a. | Enumerate key features of swing components.   | 4  |
|      | b. Illustrate structure of a swing applet.  | 6  |
|      | c. Explain the following swing components with its application :                          |    |
|      | (i) JTabbedPane                      (ii) JLabel  | 10 |
|      | (iii) JComboBox                      (iv) JTable  |    |

**PART - B**

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|------|--|----|
| 5 a. | Discuss the process of JDBC with an illustration using student database.               | 10 |
|      | b. Illustrate how to delete a row in the result set.                                   | 4  |
|      | c. Discuss the various types of statements objects in JDBC.                            | 6  |
| 6 a. | Explain the basic steps involved for building and testing simple servlet.              | 10 |
|      | b. Give the code for add and get cookie servlet in Java.                               | 10 |
| 7 a. | Explain the concept of RMI in Java.  | 10 |
|      | b. Write JSP script to display grades using switch case statement.                     | 5  |
|      | c. Write a note on Java mail API.  | 5  |
| 8 a. | Differentiate between stateless and stateful server.                                   | 4  |
|      | b. Discuss the concept of creating a session Java bean with the help of skeleton code. | 8  |
|      | c. With a neat block diagram, explain relationship in EJB environment.                 | 8  |