

- N.B.** (1) All questions are compulsory.
(2) Figures to the right indicate full marks.
(3) Illustrations, in-depth answers and diagrams will be appreciated .
(4) Mixing of sub questions is not allowed.

1. Attempt the following (Any Three)

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- (a) Explain in brief the Use of JInternalFrame
- (b) Write Short note on JOptionPane.
- (c) Write a Program in java which creates a list Containing at least 3 states of India. On the click of any state ,the capital of that state should be displayed in a Text field.
- (d) Explain any three text components in swings
- (e) Briefly explain JScrollBar and Identify the difference between JScrollBar and JScrollPane.
- (f) Write a program in java that reads an integer number 'n' in a text field. Create a JButton labelled "Sum". On click of the JButton $1+2+3+....+n$ should be calculated and displayed in another text field.

2. Attempt the following (Any Three)

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- (a) Explain the JFileChooser class with one method in it
- (b) Explain any three constructors of the JTree class.
- (c) Write a brief note on Java print services API.
- (d) How to synchronise thread? Explain with example.
- (e) What are the methods involved in communication between threads.
- (f) Write a program in java to display clockwise spin line on a button click.

3. Attempt the following (Any Three)

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- (a) Write a brief account of the drivers of JDBC (any two)
- (b) Explain the importance of following methods.
 - (i) Class.forName ()
 - (ii) DriverManager.getConnection ()
 - (iii) Connection.createStatement ()
- (c) Write a JDBC program that counts the total number of managers from emp table (emp code → number , emp name Varchar, emp desig → Varchar)
- (d) Write a short note on stored Procedures.
- (e) Explain any three important methods of ResultSetMetaData
- (f) Write a JDBC program that accepts a subject name as a command line argument and displays highest score in that subject.

4. Attempt the following (any three)

- (a) Write a short note on Socket Direct protocol.
- (b) Explain Socket class in detail.
- (c) Define the interface and implementation class of a RMI system with a method that accepts a number and returns its reverse.
- (d) Explain the following methods from the URL class
(i) getHost () (ii) getPort () (iii) getProtocol () (iv) getFile () (v) getRef ()
- (e) Write a TCP server program in java that receives an Integer number from a client, checks whether it is a palindrome and sends an output to the client ?
- (f) Write a java program that accepts computer name as a command line argument and to display its Inet Address.

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5. Attempt the following (any Three)

- (a) Explain the JDialog class with suitable example.
- (b) Explain any three methods of the Timer class ?
- (c) Write a brief note on JDBC Exception classes.
- (d) What are the steps involved in creating and running RMI programs.
- (e) Write a program in java for the following :—
The JTabbed pane class contains two tabs "city" and "Bank".
First tab is titled with panel name "city panel" and include two buttons labelled "Mumbai" and "Delhi".
The second tab titled as bank with panel name "Bank Panel", includes list of Nationalised Bank viz. SBI, PNB, SBBJ.
- (f) Write a short note on RMI architecture.

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