Time: 3 Hours   **Marks: 100**

N.B. 1) All questions are compulsory.
2) Figures to the right indicate marks.
3) Draw suitable diagrams wherever necessary.
4) Mixing of sub-questions is not allowed.

Q1. Write short notes on: (any FOUR):   (20)
    a) Cookies.
    b) ResultSet.
    c) Thread Priority.
    d) JTable.
    e) RMI Architecture.
     f) GenericServlet class.

Q2. Attempt the following (any FOUR):   (20)
    a) How to create tree in swing.
    b) Explain any three text entry components.
    c) State the role of JFrame class and explain it with code snippet.
    d) Write a note on Prepared Statement interface.
    e) Write a swing program for Login GUI containing label, text field and button.
     f) Write a JDBC program that insert record into the Employee table.
        (Assume: Emp: ename,salary,designation)

Q3. Attempt the following (any FOUR):   (20)
    a) Write a short note on Life Cycle of thread.
    b) Explain URL and URLConnection classes.
    c) List and explain steps to run RMI with example.
    d) Give the significance of Socket and ServerSocket.
    e) What are different ways to achieve multithreading in Java. Explain any one
    f) Write a server program to send welcome note to client which connects to it.

Q4. Attempt the following (any FOUR):   (20)
    a) Explain life-cycle of servlet.
    b) State and explain various methods of HttpServletRequest class.
    c) What are implicit objects? Explain any 4 implicit objects of jsp.
    d) Explain page directive along with its attributes.
    e) Write a servlet that accepts an integer value from html file and calculates the factorial of that
       value.
    f) Write a JSP program that prints the sum of natural number series up to 'N'.
       (N should be accepted from user).

Q5. Attempt the following (any FOUR):   (20)
    a) Explain the lifecycle of Stateful session bean.
    b) List and explain different types of EJB Beans.
    c) Difference between Statefull and stateless session bean.
    d) Explain SOAP, UDDI and WSDL.
    e) Write a note on JAX-WS technology.
    f) Write a web service method that returns the length of input string.

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