

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
  2. Figures to the right indicate full marks.
  3. Students answering in the regional language should refer in case of doubt to the main text of the paper in English.

**Q1) Answer any 4 from the following: (20M)**

1. What is Swing? Explain the need of Swing.
2. Discuss the difference between AWT and Swing component in java.
3. Explain JTextArea component with its constructor and methods.
4. Explain the steps to be followed in JDBC for accessing database table content.
5. Explain Statement interface along with its methods.
6. Write a JDBC program to create a table as Employee (Eid, EName, Dept.).

**Q2) Answer any 4 from the following: (20M)**

1. Write a short note on servlet with its general format.
2. Explain servlet life cycle in detail.
3. Explain Servlet interface with its methods.
4. Discuss the difference between JSP and Servlets.
5. Write a JSP Program to accept a number from the HTML Form and find its factorial.
6. Explain the following methods :  
i)jspInit() ii)jspService() iii)jspDestroy()

**Q3) Answer any 4 from the following: (20M)**

1. What is Java Beans? Write an example of Java Beans.
2. Explain Java Beans getter and setter properties in detail.
3. Explain basic MVC Architecture in detail.
4. Explain the configuration file of Struts.
5. Explain the concept of JSON in Detail.
6. List and explain valid JSON data types.

**Q4) Answer any 3 from the following: (15M)**

1. Write a short note on Driver Manager Class.
2. Discuss the JRadioButton component in swing.
3. Discuss the advantages of servlet.

4. What is page directive? Explain page directive and its attributes.
5. Write a short note on OGNL.
6. Explain the role of interceptors in struts.