

Note: - (1) All questions are compulsory.
 (2) Figures to the right indicate full marks
 (3) Answer to each question must be on a new page

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| Q.1) Attempt the following (Any 4) | 20M |
| 1) What is constructor? Explain their types. | CO1-U |
| 2) Difference between method overloading and method overriding | CO1-A |
| 3) Define package in java with example. | CO1-R |
| 4) Explain Thread Life cycle. | CO1-U |
| 5) Explain Exception Handling in java. | CO1-U |
| 6) Write a java program to implement the concepts of inheritance.(Multiple inheritance) | CO1-A |
| Q.2) Attempt the following (Any 4) | 20M |
| 1) What is collection Framework? List it's advantages. | CO2-R |
| 2) Write difference between Swing and AWT. | CO2-A |
| 3) Explain JText component. | CO2-U |
| 4) Explain Event Listener interface. | CO2-U |
| 5) Explain steps to access database using JDBC. | CO2-U |
| 6) Explain statement interface along with its methods. | CO1-U |
| Q.3) Attempt the following (Any 4) | 20M |
| 1) Write a short note on Servlet API. | CO3-U |
| 2) Explain Life cycle of JSP. | CO3-U |
| 3) Write difference between doGet and doPost method. | CO3-A |
| 4) Explain class Cookie and their methods. | CO3-U |
| 5) Write a short note JSP directives. | CO3-A |
| 6) What is JSON? Explain valid JSON data types. | CO1-U |
| Q.4) Attempt the following (Any 5) | 15M |
| 1) What are the features of Java? | CO1-R |
| 2) Define inheritance. Explain their types. | CO1-U |
| 3) Explain JLabel and their methods. | CO2-U |
| 4) Describe JDBC Driver. | CO2-R |
| 5) Compare between JSON and XML. | CO3-A |
| 6) Explain the JSP architecture. | CO3-U |
