

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2023

B.Tech-5th Semester (CSE/IT)

COURSE CODE (CREDITS): 18B11CI511 (3)

MAX. MARKS: 35

COURSE NAME: ADVANCE JAVA

COURSE INSTRUCTORS: Dr. Pankaj Dhiman

MAX. TIME: 2 Hours

*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

Q1. Compare the performance of ArrayList and Vector in Java. Write a program that performs various operations (addition, removal, retrieval) on both, measuring and displaying the time taken for each operation.

[CO-1][5 Marks]

Q2. Write a Java program that uses different layout managers (FlowLayout, BorderLayout, GridLayout) to arrange buttons and text fields dynamically. Allow the user to switch between layouts at runtime.

[CO-2][5 Marks]

Q3 Write a Java program that establishes a connection to a MySQL database using JDBC. Ensure that it handles database connectivity exceptions appropriately and closes the connection after use.

[CO-3][5 Marks]

Q4. Explain the role of content and protocol handlers in Java networking. Design a custom protocol handler to handle a specific type of data transmission between a client and a server.

[CO-5][6 Marks]

Q5. Explore memory management strategies in GUI programming. Discuss techniques to handle memory efficiently, especially when dealing with large datasets or complex graphical components.

[CO-4][8 Marks]

Q6. Compare and contrast the use of Enterprise Java Beans (EJB) and Hibernate in a Java enterprise application. Discuss scenarios where one technology might be preferred over the other and justify your choice.

[CO-6][6 Marks]