Answer all the questions in itemized fashion like the questions.

**Question 1** (0.50 point)
Problem 22.1. (page 834 in 7th edition)
Or
Problem 23.1. (page 828 in 6th edition)

- Discuss the different types of transaction failures.
- What is meant by catastrophic failure.

**Question 2** (1 point)
Problem 22.3. (page 834 in 7th edition)
Or
Problem 23.3. (page 828 in 6th edition)

- What is the system log used for?
- What are the typical kinds of entries in a system log?
- What are checkpoints and why are they important?
- What are transactions commit points, and why are they important?

**Question 3** (0.25 point)
Problem 22.6. (page 834 in 7th edition)
Or
Problem 23.6. (page 828 in 6th edition)
What are UNDO-type and REDO-type log entries?

**Question 4 (0.25 point)**
Problem 23.1. (page 887 in 7th edition)
Or
Problem 25.1. (page 921 in 6th edition)

What are the main reasons for and potential advantages of distributed databases?

**Question 5 (0.25 point)**
Problem 23.5. (page 887 in 7th edition)
Or
Problem 25.5. (page 921 in 6th edition)

What are the main software modules of a DDBMS? Discuss the main functions of each of these modules in the context of the client/server architecture.

**Question 6 (0.25 point)**
Problem 30.30. (page 1160 in 7th edition)
Or

How can privacy of data be preserved in database?