**Roll No…………….. Total No. of Pages:……**

**ST-3 (SET-III)**

**4th SEMESTER 2023-24**

**22CS007- Database Management System**

**Time allowed: 90 Minutes Max. Marks: 40**

**General Instructions:**

* **Follow the instructions given in each section.**
* **Make sure that you attempt the questions in order.**

**SECTION-A (10\*1 mark=10 marks)**

***(All questions are compulsory)***

1. Which recovery technique requires that transactions be logged in reverse order during the recovery process?
   1. **Undo logging**
   2. Redo logging
   3. Deferred update
   4. Immediate update
2. Which of the following is NOT a disadvantage of the log-based recovery technique?
   1. Increased disk I/O overhead
   2. Slower transaction processing
   3. Increased disk space requirement
   4. **Limited support for concurrent transactions**
3. Which control structure is used to execute a block of statements as long as a condition is true?
   1. FOR loop
   2. **WHILE loop**
   3. SWITCH statement
   4. IF-THEN-ELSE statement
4. In a DBMS, a view is stored:
   1. **In the system catalog**
   2. In a temporary file
   3. In the buffer cache
   4. In the transaction log
5. Which of the following is NOT a type of lock used in concurrency control?
   1. Shared lock
   2. Exclusive lock
   3. **Update lock**
   4. Read lock
6. In a two-phase locking protocol, when are locks released?
   1. After the transaction is committed
   2. After the transaction is aborted
   3. In the growing phase
   4. **In the shrinking phase**
7. Which of the following is NOT a benefit of using locking for concurrency control?
   1. Deadlock prevention
   2. Data consistency
   3. Serializable execution
   4. **High performance**
8. Which control structure is used to execute a block of statements based on multiple conditions?
   1. IF-THEN-ELSE statement
   2. **SWITCH statement**
   3. FOR loop
   4. WHILE loop
9. In a DBMS, a cursor can be used to navigate through:
   1. **Rows of a table**
   2. Columns of a table
   3. Indexes of a table
   4. Triggers of a table
10. Which of the following statements is true about deferred update recovery technique?
    1. It requires more disk space for logging.
    2. **It provides better concurrency control.**
    3. It guarantees immediate crash recovery.
    4. It is also known as shadow paging.

**SECTION-B (5\*2 mark=10 marks)**

***(All questions are compulsory)***

**SECTION-C(Coding Question) (4x5 marks=20 marks)**