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**ST-3 (SET-II)**

**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. In a serializable schedule, which of the following is true?
   1. **The schedule is conflict-serializable.**
   2. The schedule is deadlock-free.
   3. The schedule allows dirty reads.
   4. The schedule allows non-repeatable reads.
2. The ANSI/ISO standard SQL isolation level that provides the highest level of data consistency and isolation is:
   1. READ UNCOMMITTED
   2. READ COMMITTED
   3. REPEATABLE READ
   4. **SERIALIZABLE**
3. In a DBMS, a view can be used to:
   1. Create a backup of a table
   2. **Restrict access to certain columns of a table**
   3. Modify the structure of a table
   4. Rename a table
4. Which of the following is true about a "REPEAT" loop in programming?
   1. **The loop body is executed at least once, even if the condition is false initially**
   2. The loop body is executed only if the condition is true
   3. The loop body is executed until the condition becomes true
   4. The loop body is executed a fixed number of times
5. 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
6. The "DO-WHILE" loop in programming is an example of a:
   1. Pre-tested loop
   2. **Post-tested loop**
   3. Indefinite loop
   4. Nested loop
7. Which of the following is an example of a non-repeatable read?
   1. Transaction T1 reads a value X, then transaction T2 updates X, and T1 reads X again.
   2. Transaction T1 reads a value X, then transaction T2 reads X, and T1 reads X again.
   3. **Transaction T1 reads a value X, then transaction T2 updates X, and T1 reads a different value Y.**
   4. Transaction T1 reads a value X, then transaction T2 reads X, and T1 reads a different value Y.
8. The "write skew" anomaly is associated with which isolation level?
   1. Read Uncommitted
   2. Read Committed
   3. Repeatable Read
   4. **Serializable**
9. Which recovery technique requires the use of compensation transactions to undo the changes made by a failed transaction?
   1. **Undo logging**
   2. Redo logging
   3. Deferred update
   4. Immediate update
10. Which of the following recovery techniques is based on maintaining multiple copies of the database at different points in time?
    1. Undo logging
    2. Redo logging
    3. Deferred update
    4. **Replication**

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

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

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