Started on	Friday, April 1, 2022, 8:35 PM
State	Finished
Completed on	Friday, April 1, 2022, 8:39 PM
Time taken	3 mins 38 secs
Grade	**12.00** out of 14.00 (**86**%)

Question **1**

Correct

1.00 points out of 1.00

Deadlocks are possible only when one of the transactions wants to _____ on a data item.

Select one:

a.
Upgrade lock

b.
Downgrade lock

c.
Obtain a shared lock

d.
Obtain an exclusive lock

✔

Your answer is correct.

The correct answer is:
Obtain an exclusive lock

Question **2**

Correct

1.00 points out of 1.00

The *Log* file mainly ensures_____.

Select one:

a.
Isolation

b.
Durability

c.
Atomicity
✔

d.
Consistency

Your answer is correct.

The correct answer is:
Atomicity

Question **3**

Correct

1.00 points out of 1.00

If the waiting time of a transaction is reduced, it _____.

Select one:

a.
Decreases the failure rate of database

b.
Reduces the average response time of a transaction
✔

c.
Leads to delays in running a transaction

d.
Makes the transaction non-serializable

Your answer is correct.

The correct answer is:
Reduces the average response time of a transaction

Question **4**

Correct

1.00 points out of 1.00

Select all the statements that are TRUE.

Select one or more:

- a. A schedule *S* is conflict equivalent if it is conflict serializable to a serial schedule ✖
- b. Topological sorting is used on a schedule *S* to obtain the serializability order of the transactions ✔
- c. A Read committed isolation level is more relaxed than a Repeatable read isolation level ✔
- d. The two schedules *S1* and *S2* that are not conflict equivalent may produce the same outcome ✔

Your answer is correct.

The correct answers are:
A Read committed isolation level is more relaxed than a Repeatable read isolation level

,
Topological sorting is used on a schedule *S* to obtain the serializability order of the transactions

,
The two schedules *S1* and *S2* that are not conflict equivalent may produce the same outcome

Question **5**

Incorrect

0.00 points out of 1.00

Stable storage is implemented by multiple disks with interdependent failure modes.

Select one:

- True ✖
- False

The correct answer is 'False'.

Question **6**

Correct

1.00 points out of 1.00

A transaction that executes its last operation whose changes are not yet saved permanently to the database is in _____ state.

Select one:

a.
Committed

b.
Active

c.
Terminated

d.
Partially committed

✔

Your answer is correct.

The correct answer is:
Partially committed

Question **7**

Correct

1.00 points out of 1.00

Ensuring atomicity is the job of_____.

Select one:

a.
Concurrency-control system

b.
Query processor

c.
Transaction manager

d.
Recovery system

✔

Your answer is correct.

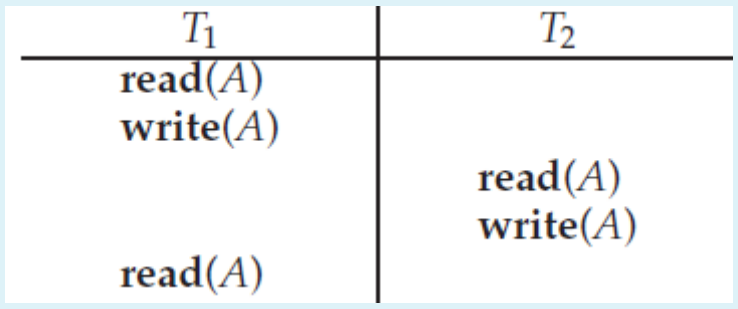
The correct answer is:
Recovery system

Question **8**

Correct

1.00 points out of 1.00

The following schedule is an example of an _____ isolation level.



Select one or more:

- [x] a. Read Uncommitted ✔
- [ ] b. Serializable
- [ ] c. Repeatable read
- [ ] d. Read committed

Your answer is correct.

The correct answer is:
Read Uncommitted

Question **9**

Correct

1.00 points out of 1.00

For the two Instructions A and B to conflict with each other, which of the following conditions should satisfy? Select all applicable.

Select one or more:

- [x] a. They are the operations by different transactions on the same data item ✔
- [x] b. At least one of these instructions is a write operation ✔
- [ ] c. They do not form a cycle in the precedence graph
- [ ] d. The transactions do not follow each other in a serial schedule

Your answer is correct.

The correct answers are:

At least one of these instructions is a write operation

,

They are the operations by different transactions on the same data item

Question **10**

Correct

1.00 points out of 1.00

In the following transactions T1 and T2, X and Y data items are initialized to zero:

```
T1: read (X) ;
    read (Y) ;
    if X = 0 then Y : = Y + 1 ;
    write (Y) ;

T2: read (Y) ;
    read (X) ;
    if Y = 0 then X : = X + 1 ;
    write (X) ;
```

Any non-serial interleaving of T1 and T2 for concurrent execution leads to :

Select one:

- a. A conflict equivalent serializable schedule
- b. A schedule for which two serial schedules are possible
- c. A non-serializable schedule
- d. A schedule that is not conflict serializable ✔

Your answer is correct.

The correct answer is:
A schedule that is not conflict serializable

Question **11**

Incorrect

0.00 points out of 1.00

Can we undo the effect of a committed transaction?

Select one:

- a. Yes
- b. No ✖

Your answer is incorrect.

The correct answer is:
Yes

Question **12**

Correct

1.00 points out of 1.00

Select all the statements that are TRUE.

Select one or more:

- [x] a. A strict two-phase locking protocol avoids cascading rollbacks ✔
- [ ] b. A rigorous two-phase locking protocol improves concurrency compared to basic two-phase locking protocol
- [ ] c. A strict two-phase locking requires all locks to be held until the transaction commits
- [x] d. Locking protocol may lead to a deadlock situation ✔

Your answer is correct.

The correct answers are:
Locking protocol may lead to a deadlock situation

,
A strict two-phase locking protocol avoids cascading rollbacks

Question **13**

Correct

1.00 points out of 1.00

Which of the following concurrency control mechanism maintains more than one version of data?

Select one:

- ○ a. Timestamping mechanism
- ○ b. Rigorous two-phase locking protocol
- ○ c. Strict two-phase locking protocol
- ◉ d. Snapshot isolation ✔

Your answer is correct.

The correct answer is:
Snapshot isolation

Question **14**

Correct

1.00 points out of 1.00

Select the statement that defines the Isolation property of a transaction.

Select one:

a.
The intermediate state of a transaction is invisible to other transactions
✔

b.
The database is in its consistent state after the transaction commits

c.
The changes made to the data by the committed transaction should persist

d.
All the operations of a transaction are executed or none are executed

Your answer is correct.

The correct answer is:
The intermediate state of a transaction is invisible to other transactions

◄ Attendance cs211s22-a.sg Friday 25-Mar-2022 4:00pm-5:40pm

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