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Supplementary Examination-2022

Paper Name: Introduction to Database Management system **Paper Code:** BCA 302

Time: 3 Hours

Maximum Marks: 75

Note: Mobile Phones or programmable calculator or any equipment with memory are not allowed inside the examination hall.

SECTION: A (35 Marks)

True or False

All questions are compulsory (35x1=35)

1. A schedule is view Serializable IF it is NOT view Equivalent to a serial schedule
2. SQL stands for Structured Query Language
3. DBMS supports 2nd Normal Form
4. RDBMS is suitable for small organization where the size of the data is huge
5. EMPLOYEE ID is an example of single value attributed
6. E-R stand for Entity Relational Mode
7. Design of database at physical level is called logical schema
8. DBMS provide only backup and but not recovery
9. Cross-product (X) allows to combine at least 2 relations
10. E.W. Thomas was a computer scientist who invented relational model
11. DBMS don't provide Single environment
12. DML stands for Data manipulate Language
13. DDL stands for Data Define Language
14. A schedule is called conflict Serializable if it can be transformed into a serial schedule by swapping non-conflicting operations
15. SQL can set permissions only tables and views
16. Data base anomalies is a fault in a database that usually emerges as a result of shoddy planning and storing everything in a flat database
17. Relational Algebra is object oriented language
18. The concept of Keys is used to identify fields of data from the table
19. Directional lines symbol is use to represent flow of data in ER Model
20. Data integrity means that the data is inaccurate and consistent in the database
21. PostgreSQL are database software
22. A database lock is a mechanism to protect a shared piece of data from getting updated by two or more database users at the same time
23. One Movie hall has many entities is an example of one-to-many relationship
24. OLTP stands for Online transactional processing
25. AVG() returns the number of table rows, including rows with null values.
26. DBA stands for Database Administrator
27. Three Phase locking protocol is one of the concurrency control technique
28. Exclusive lock is denoted by Y
29. UPDATE command is used to UPDATE values in table in SQL
30. Oracle 16i is a version of oracle database

31. What is deadlock Prevention? Explain deadlock prevention conditions
32. Primary key has unique value
33. Candidate key is multivalued
34. NULL is a datatype
35. Shared lock denoted by S

SECTION-B (4x5=20 Marks)

Attempt any FOUR Questions.

1. Define Conflict Serializability. Check from a given schedule whether schedule is Conflict Serializable or NOT.

T ₁	T ₂	T ₃	T ₄
		R(X)	
	R(Y)		
	R(X)		
		R(Y)	
W(Y)			
			W(Z)
			W(Y)
W(Z)			

2. Explain 12 codd rules of relational model
3. Explain transaction life cycle and describe its phases in detail
4. What is deadlock? Explain 4 conditions for deadlock
5. Explain ACID properties to describe the integrity of data

SECTION-C (2x10=20 Marks)

Attempt any TWO Questions.

1. The following is the list of events in an inter-leaved execution of set T₁, T₂, T₃, T₄, T₅, T₆ and T₇ assuming 2PL. Is there a deadlock? If 'yes' which transactions are involved in deadlock?

Time	Transaction	Code
t ₁	T ₂	Lock(A,X)
t ₂	T ₁	Lock(C,S)
t ₃	T ₃	Lock(B,S)
t ₄	T ₅	Lock(B,S)
t ₅	T ₄	Lock(E,S)
T ₆	T ₆	Lock(B,X)
T ₇	T ₇	Lock(A,S)

2. Write short note on following SQL commands
 1. CREATE
 2. DELETE
 3. DROP
 4. TRUNCATE
 5. ALTER
3. Explain 10 applications of Database management system
4. Who is Database Administrator? Explain 10 functions of Database Administrator