SNS COLLEGE OFENGINEERING

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Grade Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Department of CSE (IOT & Cyber Security Including Blockchain technology)
Academic Year 2022-2023(ODD)

Subject : Database Management Systems
Subject code : 19SB504
Class : III CSE(IoT&CS IncludingBCT)
Staff In-Charge : Mr.R.Kamalakkannan

Question Bank
PART -A

1. What is DBA? Mention the functionalities of DBA.
2. What is a view? Explain it.
3. Describe the properties of a relation.
4. What is Functional Dependency? Explain it briefly.
5. Illustrate lost update problem with suitable example.
6. What is the purpose of file header?
7. List different types of database users.
8. Mention various DML operations with examples.
9. Explain the difference among Entity, Entity Type & Entity Set
10. Briefly describe BCNF.
11. Briefly discuss about different types of schedules.
12. List out the operations that can be performed on files.
13. List out the characteristics of database system.
14. Distinguish between primary and super keys.
15. Specify and explain various structural constraints of relationship type.
16. Mention the desirable properties of relation decomposition.
17. Describe Wait/Die & Wound/Wait protocols.
18. Differentiate between internal and external hashing.
19. What is Data Independence? Why is it essential?
20. Define Database Schema Explain it with example.
21. Write Syntax of SQL Order by and Group By clauses.
22. Define Surrogate Key. Explain it.
23. Explain WAL protocol.
24. Brief extendible hashing scheme.
25. What are the advantages of DBMS?
26. Describe the concept of client/server model.
27. Define DBMS.
28. What is mean by IN operator?
29. Classify the Views of Data
30. Define Foreign Key
31. Define the term of "NOT NULL"
32. List the Purpose of Database.
33. What is DDL?

34. Define primary key.
35. What are the built in functions?
36. How to use the save point in database
37. What is mean by cursors?
38. What are the ACID property
39. Define constrains
40. Define the term of Entities
41. Compare 1NF AND 2NF
42. What is mean by Dependencies?
43. Define ACID property
44. Define Normal forms
45. What are the set operations?

PART-B

1. Draw and explain the detailed system architecture of DBMS.
2. Explain in detail about various key constraints used in database system.
3. Explain the importance of Null values in Relational Model.
4. Discuss the mechanism of attribute relationship inheritance. How is it useful?
5. By considering an example describe various data update operations in SQL.
6. Explain insertion, deletion and modification anomalies with suitable examples.
7. State BCNF. How does it differ from 3NF?
8. Draw transaction state diagram and describe each state that a transaction goes through during its execution.
9. Explain in detail about timestamp-based concurrency control techniques.
10. Explain in detail about internal hashing Techniques.
11. Discuss in detail about cluster and Multilevel indexes.
12. Discuss the main characteristics of the database approach and specify how it differs from traditional file system.
13. Explain in detail about the three-tier schema architecture of DBMS.
14. Describe the concept of Referential Integrity.
15. List and explain the common data types available in SQL.
16. Differentiate specialization and generalization.
17. What is a view? How views are implemented?
18. What is meant by the closure of functional dependencies? Illustrate with an example.
19. State 1NF, 2NF & 3NF and explain with examples.
20. Discuss about different types of failures.
21. What is 2-phase locking protocol? How does it guarantee serializability?
22. Explain in detail about external hashing techniques.
23. By considering an example, show how to reduce access time with primary index.
24. Discuss the activities of different database users.
25. Briefly describe various architectures of database systems.
26. Write a short note on i) Foreign Key ii) Relation state iii) Database schema.
27. Write and explain the structure of SQL SELECT statement with suitable example.
28. Discuss in detail about the concepts of E-R model with suitable examples.
29. What is a group function? List and explain how to use group functions in SQL with appropriate examples.
30. State the Armstrong inference rules. Provide suitable examples to describe each.
31. Show how to preserve Functional Dependencies during decomposition.
32. Why the concurrency control is needed? Explain it.
33. Write and explain optimistic concurrency control algorithm.
34. When does a collision occur in hashing? Illustrate various collision resolution techniques.

35. Describe different methods of defining indexes on multiple keys.
36. Compare the database system with conventional file system.
37. Describe in detail about two-tier and three-tier client-server architectures.
38. Explain the importance of avoiding NULL values in a database.
39. Write short notes on
    i) DDL ii) DML iii) Database Schema.
40. Explain about various constraints used in ER-model.
41. Differentiate between independent and correlated nested queries.
42. What is normalization? Explain its need.
43. Discuss in detail about various normal forms.
44. Write short notes on:
    i) Phantom Record ii) Repeatable Read iii) Incorrect Summary
    iv) Dirty Read.
45. Describe Wait/Die and Wound/Wait deadlock protocols.