All Unit Important Questions From DBMS

Database Management Systems (SRM Institute of Science and Technology)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

QUESTION BANK

DATABASE AND MANAGEMENT SYSTEMS

Unit-1

PART-A

1. What is DBMS?
2. What are the advantages of DBMS?
3. What are the Disadvantages of DBMS?
4. List out the applications of DBMS.
5. What are the disadvantages of File Systems?
6. Give the levels of data abstraction?
7. Define the terms
    a. Physical schema
    b. Logical schema.
8. What is conceptual schema?
9. Define data model?
10. What is storage manager?
11. What are the components of storage manager?
12. What is the purpose of storage manager?
13. List the data structures implemented by the storage manager
14. What is a data dictionary?
15. What is an entity relationship model?
16. What are attributes? Give examples.
17. What is relationship? Give examples
18. Define Entity, Entity Set, and extensions of entity set. Give one example for each.
19. Define and give examples to illustrate the four types of attributes in database.
20. Define the terms
21. What is meant by the degree of relationship set?
22. Define the terms
    i) Key attribute
    ii) Value set
23. Define relationship and participation.
24. Define mapping cardinality or cardinality ratio.
25. Explain the four types of mapping cardinality with example.
26. Differentiate total participation and partial participation.
27. Define E-R diagram.

28. Define weak Entity set. Give an example and explain why it is weak entity set.
29. Define discriminator or partial key of a weak entity set. Give example.
30. Explain Referential Integrity.
31. Define Instances and schemas.
32. Define and explain the two types of Data Independence.
33. Define transaction
34. Define the type types of DML.
35. List out the functions of DBA.
36. What is the need for DBA?
37. Define weak and strong entity sets?
38. What does the cardinality ratio specify?
39. Explain the two types of participation constraint.
40. Explain DML pre-compiler.
41. Define file manager and buffer manager.
42. Define Data Dictionary.
43. What is a query language?
44. What in procedural and non procedural languages?
45. What in Cartesian –product operation?
46. Define domain?
47. Define relation?
48. Define tuples?
49. What is the relation schema?
50. What is database schema?
51. What is database instance?
52. What is relation instance?
53. What is relational algebra?
54. What is select operation?
55. Describe extended relational operation?
56. What is meant by aggregate function?
57. What is meant by multiset?
58. What is outer join?
59. What are the types of outer join?
60. What is meant by null values?
61. In SQL operation how the different relational operations deal with null values?
62. Define modification of database?
63. Define view?
64. What is meant by tuple relation calculus?
65. What is meant by domain relation calculus?
66. What are the parts of SQL languages?
67. Explain the basic structure SQL?
68. Define select clause?
69. Define from clause?

70. Define where clause?
71. Write query for rename operation?
72. Define tuple variable?
73. Define ordering the display of tuples?
74. What are the set operations available in SQL?
75. What is union operation?
76. Describe intersection operation?
77. Define aggregate function?
78. What are the 5 built-in aggregate functions in SQL?
79. Define group by clause?
80. Define nested subqueries?
81. Define with clause?
82. What is mean Transaction?
83. What are the types of transaction available in SQL?
84. Domain types in SQL?
85. What is meant by check constraint?
86. Define ODBC?
87. What is meant JDBC?
88. Describe Query- by- Example(QBE)?
89. What is meant by condition box?
90. What is meant by datalog?
91. Describe user inter face and tools?
92. Define forms and GUI?

PART-B

1. Explain in detail about Database management systems
2. Explain in detail about view of data and levels of Abstraction
3. Explain in detail about Instances & Schemas
4. Explain in detail about Data Models
5. Explain in detail about Database Languages and its types
6. Describe the Structure of Relational Databases
7. Describe Relational Algebra and its operations
8. Explain in detail about SQL with example
9. Explain in detail about Basic Structure of SQL
10. Explain in detail about SET operations in SQL
11. Write Short Notes on Null Values
12. Write Short Notes on Nested Sub Queries
13. Write Short Notes on Views
14. Explain in detail Unified Modeling Language
15. Explain in detail about the various Data Models
16. Explain in detail about the modification of the database
17. Explain in detail Embedded SQL and Dynamic SQL

Unit-II

PART-A

1. What is the use of Union and intersection operation?
2. What are aggregate functions? And list the aggregate functions supported by SQL?
3. What is the use of group by clause?
4. What is the use of sub queries?
5. What is view in SQL? How is it def ined?
6. What is the use of with clause in SQL?
7. List the table modification commands in SQL?
8. List out the statements associated with a database transaction?
9. What is transaction?
10. List the SQL domain Types?
11. What is the use of integrity constraints?
12. Mention the 2 forms of integrity constraints in ER model?
13. What is trigger?
14. Give the limitations of SQL authorization.
15. Give the syntax of assertion?
16. What is the need for triggers?
17. List the requirements needed to design a trigger.
18. Give the forms of triggers?
19. What does database security refer to?
20. List some security violations (or) name any forms of malicious access.
21. List the types of authorization.
22. What is authorization graph?
23. List out various user authorization to modify the database schema.
24. What are audit trails?
25. Mention the various levels in security measures
26. Name the various privileges in SQL?
27. Mention the various user privileges.
28. Give some encryption techniques?
29. What does authentication refer?
30. List some authentication techniques.
31. Define Boyce codd normal form
32. List the disadvantages of relational database system
33. What is first normal form?
34. 63.What are the uses of functional dependencies?
35. Explain trivial dependency?

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36. What are axioms?
37. What is meant by computing the closure of a set of functional dependency?
38. What is meant by normalization of data?
39. Explain the desirable properties of decomposition.
40. What is 2NF?

PART-B

1 .Explain in detail about Entity Set?
2. Explain relationship set?
3. Explain in detail about constraints and keys?
4.Explain in detail about design issues?
5.Explain Entity-Relationship Diagram?
6.Explain Weak Entity Sets?
7.Explain specialization and generalization?
8.Explain Aggregation?
9. Explain about Design Phases?
10. Explain in detail about Relational database design?
11.Explain Decomposition?
12.Explain in detail about Boyce–Codd Normal Form?
13.Explain about third normal form?
14. Explain about fourth normal form?
15.Explain Overall Database Design Process?

Unit-III

PART-A

1. Define Access time and seek time?
2. Define Data storage?
3. Define the average seek time?
4. Define rotational latency time?
5. Define MTTF?
6. What is meant by RAID?
7. Define Redundancy?
8. What is meant by mirroring?
9. What is Mean time to repair?
10. Define striping?
11. What is bit level striping and block level striping?
12. What are the different levels of RAID
13. Define RAID level 0?
14. Define RAID level 1 and level 2?
15. What is dense index?
16. What are the techniques of indexing & hashing?

17. What are the types of indices?
18. Define data dictionary?
19. Define Search key?
20. Define hashing file organization?
21. Define sequential file organization?
22. What is heap file organization?
23. Define RAID level 3 and RAID level 4 :
24. Define RAID level 5 and RAID level 6:
25. What is mean by FILE?
26. Define Fixed length records?
27. Define Variable length records?
28. Define Slotted _page structure?
29. Define BLOB and CLOB?
30. What is sparse index?
31. What is a multilevel index?
32. What are B+ tree index files?
33. What is the use of static hashing?
34. What is a hash function?
35. What is skew?
36. What are the two reasons for the occurrence of skew?
37. What is a hash index?
38. Define dynamic hashing?
39. What is a bitmap indices?
40. Define covering indices?
41. What factors must be taken care while choosing RAID level?
42. What is jukeboxes?
43. Define hot swapping?
44. What are the buffer manager virtual schemes?
45. Why is multiple key access used?
46. Define over flow chaining?
47. What is query processing?
48. Describe the diagrammatic representation of query processing.
49. Explain the terms annotations and query evaluation primitive.
50. What is query execution plan and query execution engine
51. What are the various measures of query cost.
52. Explain the terms used in block transfer.
53. What are the basic algorithms in selection operation
54. What is Linear search.
55. What is Binary search.
56. Explain selection using index structures.
57. Explain the implementation of complex queries.
58. What is External sorting.
59. What is block nested join.
60. What are the types of join operation used.

61. What is hash table overflow?
62. What is overflow resolution
63. What is Fudge factor?
64. What is overflow avoidance?
65. What are the ways in which pipeline can be executed.
66. Mention about sparse index
67. What is meant by Dependency preservation?
68. State the conditions for a relation R to be in 3NF
69. What is query optimization.
70. How authorization provided to the users in SQL?
71. What is an audit trail?
72. List out the various storage devices
73. What is Hashing?
74. What are the steps in query processing?
75. When we say a relation is in first Normal form?
76. Define Trigger
77. What is extendable Hashing?
78. List out the different types of indices.

PART-B

1. Explain referential integrity in detail.
2. Briefly explain RAID.
3. Explain about B+Tree index files.
4. Explain referential integrity in detail.
5. Describe about Normalization using functional dependency.
7. Explain Join operation in detail.
8. Describe Magnetic Disk and Flash storage in detail.
9. Explain Database design process in detail.
10. Explain authorization in SQL. With example.

Unit-IV

PART-A

1. What is transaction?
2. What are the types of transaction?
3. What are the properties of transaction?
4. What is atomicity?
5. What is consistency?
6. What is isolation?

7. What is durability?
8. What are the operations of the transaction?
9. What is the transaction state?
10. Draw the state diagram of the transaction?
11. What is reduce waiting time?
12. What is serializability?
13. What are the two types of serializability?
14. What is conflict serializability?
15. What are the two phases of the locking protocol?
21. What is locking protocol?
20. What is deadlock?
19. What are the two types of locks?
18. What is cascadeless schedule?
23. What is timestamp based protocol?
24. What is timestamp?
15. What is view serializability?
16. What is recoverability?
25. What are the two timestamp values?
17. What is cascading rollback?
26. What is timestamp ordering protocol?
27. What is Thomas' write protocol?
28. What are the three phases in validation based protocol?
32. What are the two types of deadlock prevention scheme using timestamp?
33. What is starvation?
34. What are the actions to be followed to recover from deadlock?
35. What are the classifications of failure?
29. What are the three different timestamp in validation based protocol?
30. What is the optimistic concurrency control?
31. What the two principle methods in the deadlock problem?

PART-B

1. Explain typically available storages media in detail
2. Explain organization of records in files structure in detail
3. Describe the following
4. Discuss about recovery and Atomicity
5. What is meant by Hash function? Also discuss about dynamic hashing
6. Explain storage access in detail
7. Explain B-Tree index files in detail
8. What is the transactions isolation level in SQL? How to implementation of isolation level.
9. Discuss in detail about Time stamp- based protocols

Unit-V

PART-A

1. What is PostgreSQL?
2. What is Oracle?
3. What is IBM DB2 Universal Database?
4. What is My SQL?
5. What is Microsoft SQL Server?
6. What is the database design tool used in Oracle?
7. What is a Warehouse Builder?
8. What is Oracle Discoverer?
9. What is Oracle Express Server?
10. State the Object - Relational Features in Oracle.
11. What is a segment?
12. What are the ways by which partitioning is provided by Oracle?
13. What are the various access methods provide by Oracle?
14. State some of the major types of transformations and rewrites supported by Oracle.
15. What is SQL* Loader?
16. What is Free Space Control Record?
17. What are the various access methods supported by DB2?
18. State the various modes provided by DB2 for isolation.
19. What is DB2 Data Propagator?
20. State the various tools provided by DB2 for administration.
21. What are the uses of SQL Query Analyzer?
22. What is SQL Profiler?
23. What are the various stages in compiling an SQL Statement?
24. How is logging implemented in SQL Server?
25. What are the different uses of memory within SQL Server process?
26. What is PostgreSQL?
27. Advantages of postgresql
28. What are the disadvantages of postgresql
29. What is the concept of PostgreSQL Architectural
30. When we call a transaction is terminated?
31. What are errors cause a transaction failure?
32. Write the various user interfaces in postgre SQL
33. What is the use pivot operator?
34. Explain a shadow copy scheme
35. Mention the two approaches to manage the Database buffer.
36. Name any four query languages
37. What is locking protocol?

38. List out the phenomena in postgre SQL isolation levels Serializable
39. List any 4 DB2 background process.
40. Name any 4 query Languages.
41. What are the categories of PostgreSQL type system?
42. List out the phenomena in PostgreSQL Isolation Levels.

PART-B

1. Explain Microsoft SQL server architecture.
2. Give an overview of IBM DB2 process and architecture in detail.
3. Explain various model of locking a data item. Also explain two-phases protocol.
4. Discuss various type of failures that occur in a system.
5. Explain SQL variations and extension PostgreSQL
6. Write about Microsoft SQL server in detail
7. Briefly explain Query processing and Optimization in Oracle.
8. Briefly explain Query processing and Optimization in Oracle.
9. Explain Multidimensional Clustering in IBM.
10. Explain State diagram of a Transaction in detail
11. Explain various models of locking a data item. Also explain two-phase locking protocol
12. Explain the transactions properties in detail with examples
13. Explain deadlock handling in detail