Techno India Batanagar
Computer Science and Engineering

Model Questions

Subject Name: Database Management System   **Subject Code:** CS 601

Multiple Choice Type Questions

1. Data structure or the data stored in a database is dealt by
    - (a) external schema
    - (b) conceptual schema
    - (c) internal schema
    - (d) depends on the database.

2. An attribute that can be subdivided into sub-attributes is called
    - (a) composite attribute
    - (b) derived attribute
    - (c) multi-valued attribute
    - (d) stored attribute.

3. _____ key cannot be null.
    - (a) candidate
    - (b) foreign
    - (c) primary
    - (d) unique.

4. An attribute of one table matching the primary key of another table is called
    - (a) candidate key
    - (b) composite key
    - (c) foreign key
    - (d) none of these.

5. All candidate keys other than the primary key are called
    - (a) alternate keys
    - (b) foreign keys
    - (c) super keys
    - (d) none of these.

6. Which of the following is not a DDL statement?
    - (a) ALTER
    - (b) CREATE
    - (c) DROP
    - (d) SELECT.

7. DCL implies the commands
    - (a) create and drop
    - (b) insert and delete
    - (c) grant and revoke
    - (d) select and update.

8. Which one of these is an aggregate function in SQL?
    - (a) Min
    - (b) order by
    - (c) select
    - (d) subquery.

9. An operation on a certain relation X produces Y such that Y contains only selected attributes of X. Such an operation is called
    - (a) intersection
    - (b) join
    - (c) projection
    - (d) selection.

10. The project operation used in relational algebra is
    (a) unary operation   (b) binary operation
    (c) ternary operation   (d) none of these.

11. A discriminator is also called
    (a) foreign key   (b) partial key
    (c) primary key   (d) super key.

12. If a relation is in _____, it is also in 3NF.
    (a) 2NF   (b) BCNF
    (c) both (a) and (b)   (d) none of these.

13. A normal form in which every determinant is a key is
    (a) 2NF   (b) 3NF
    (c) BCNF   (d) 4NF.

14. Multi-valued dependency (MVD) is removed in
    (a) 3NF   (b) BCNF
    (c) 4NF   (d) 5NF.

15. A relation that is not part of the logical model, but is made visible to a user as a virtual relation, is called a
    (a) relation   (b) tuple
    (c) view   (d) none of these.

16. Blocking factor is
    (a) blocks fetched per sector   (b) blocks fit per sector
    (c) tuples fit per block   (d) blocks for storing a relation.

17. An index on the search key is called a
    (a) multi-level index   (b) primary index
    (c) secondary index   (d) none of these.

18. Which of the following guarantees that a transaction is either performed in entirety or not at all?
    (a) atomicity   (b) consistency
    (c) durability   (d) isolation.

19. Rollback for a transaction is normally used to
    (a) delete the transaction
    (b) recover from transaction failure
    (c) restore the old transaction
    (d) update the transaction.

20. Which of the following is not a recovery technique?

(a) deferred updating (b) immediate updating
(c) shadow paging (d) write-ahead locking.

21. Serializability of concurrent transactions is ensured by
    (a) locking (b) time-stamping
    (c) both of these (d) none of these.

22. Cardinality ratio means
    (a) number of entities in an entity set
    (b) number of attributes associated with an entity
    (c) number of entities related with other entities via a relationship
    (d) ratio of number of columns and rows in a table.

23. DML provides following function access to the database:
    (a) add (or insert) records (b) delete records from database files
    (c) retrieve data and/or records (d) all of these.

24. Normalization is a process of
    (a) deciding which attributes in a relation to be grouped together
    (b) decomposing a set of relations
    (c) successive reduction of relation schema
    (d) all of these.

25. Given a relation R = {A, B, C} and set of functional dependencies F = {A $\rightarrow$ B, B $\rightarrow$ C}. If   R is decomposed into two different relations R1 = {A, B}, R2 = {B, C}, then the decomposition is
    (a) lossless join decomposition
    (b) dependency preserving
    (c) both (a) and (b)
    (d) none of these.

26. Which of the following is correct?
    (a) An SQL query automatically eliminates duplicates
    (b) An SQL query will not work if there are no indices on the relations
    (c) SQL permits attribute names to be repeated in the same relation
    (d) none of these.

27. The ability to modify the internal schema without causing any change to external schema is
    (a) external data independence
    (b) logical data independence
    (c) physical data independence
    (d) none of these.

28. In order to permanently remove all the data from the   STUDENT table without changing its structure, you need to execute which of the following queries?

(a) DELETE ALL FROM STUDENT
(b) DELETE FROM STUDENT
(c) DROP ALL FROM STUDENT
(d) DROP TABLE STUDENT.

29. In order to add a foreign key constraint on the dept-id attribute in EMP table referring to the ID attribute in the DEPT table, we will use
(a) ALTER TABLE command with ADD clause on DEPT table
(b) ALTER TABLE command with ADD clause on EMP table
(c) ALTER TABLE command with MODIFY clause on DEPT table
(d) ALTER TABLE command with MODIFY clause on EMP table.

30. Which of the following is the way to undo the effects an aborted transaction?
(a) compensation transaction   (b) error control
(c) recovery   (d) rollback.

31. View is a
(a) dynamic table   (b) permanent table
(c) temporary table   (d) virtual table.

32. A relation is considered to be in second normal form if it is in first normal form and it has no _____ dependencies.
(a) functional   (b) partial key
(c) referential   (d) transitive.

33. Four DML commands are
(a) Alter, Create, Delete, Select
(b) Create, Delete, Select, Update
(c) Drop, Insert, Select, Update
(d) Delete, Insert, Select, Update.

34. Given the relation schema Bank (BankID, AccountNum, Balance, Customer) with FDs {BankID, AccountNum → Balance, BankID, AccountNum → Customer, Customer → BankID}
What is the highest normal form for the relation schema Bank?
(a) First   (b) Second
(c) Third   (d) Boyce-Codd.

35. Which of the following feature is supported in the relation database model?
(a) complex data types   (b) associations with multiplicities
(c) generalization relationships   (d) multi valued attributes.

36. The information about data in a database is called
(a) hyper data   (b) meta data
(c) tera data   (d) none of these.

37. One of the shortcomings of file system is
      (a) data availability   (b) fixed length records
      (c) lack of security   (d) sequential records.

38. Which of the following levels of abstraction involves the view of data?
      (a) conceptual level   (b) external level
      (c) physical level   (d) none of these.

39. Overall logical structure of a database graphically expressed by
      (a) ER-diagram   (b) hierarchy
      (c) record   (d) relation.

40. A top-to-bottom relationship among the items in a database is established by a
      (a) hierarchical schema   (b) network schema
      (c) relational schema   (d) all of these.

41. In relational model, degree of a relation is
      (a) no. of attributes   (b) no. of key attributes
      (c) no. of rows   (d) schema.

42. Relational calculus is a
      (a) procedural language   (b) non-procedural language
      (c) normalization technique   (d) query language.

43. Domain can be defined as
      (a) values of a field   (b) values of a tuple
      (c) values of a table   (d) none of these.

44. For R = {J, K, L}, F = {JK → L, L → K}, the candidate keys are
      (a) J and K   (b) JK
      (c) J only   (d) JK and JL.

45. Additional schema for a relationship set is essential in case of
      (a) one-to-many relationship   (b) many-to-one relationship
      (c) many-to-many relationship   (d) all of these.

46. Which of the following is true?
      (a) a super key is always a candidate key
      (b) every 3NF schema is also in BCNF
      (c) generalization is a bottom-up design approach
      (d) none of these.

47. Which index is specified on the non-ordering fields of a file?
      (a) clustering   (b) primary
      (c) secondary   (d) none of these.

48. A transaction is said to be atomic, if and only if
        (a) transaction does not take place
        (b) transaction is fully completed
        (c) transaction is partially completed
        (d) none of these.

49. Which is not a function of DBA?
        (a) granting authorization for data access
        (b) defining schema
        (c) defining trigger
        (d) designing security.

50. The entity integrity constraint states that
        (a) duplicate object values are allowed
        (b) no primary key value can be null
        (c) part of the key may be null
        (d) none of these.

51. Which one of the following is correct?
        (a) all functional dependencies are one-to-one relationships
        (b) all functional dependencies are many-to-one relationships
        (c) all functional dependencies are many-to-many relationships
        (d) none of these.

52. What does an attribute mean?
        (a) property of an entity
        (b) relation of two entities
        (c) something about which we collect data
        (d) something which relates the existing entities.

53. Which of the following problems does concurrency control deal with?
        (a) inconsistent retrieval
        (b) lost update
        (c) uncommitted dependency
        (d) all of these.

54. In 2-phase locking, a transaction must
        (a) ensure that deadlocks will never occur
        (b) not obtain any new lock once it has started releasing locks
        (c) only obtain locks on items not used by any other transaction
        (d) release all it locks at the same time.

55. Which one of the following is not an indexing technique?
        (a) multilevel index   (b) primary index
        (c) secondary index   (d) sequential index.

56. Which one of the following is true about domains in SQL?
    (a) SQL domains are only synthetic shorthand for system-defined data type
    (b) SQL domains are user-defined data types
    (c) SQL domains must be used in data definition
    (d) SQL domains provide strong typing.

57. Consider the following statements
    A) select * from student where year='2nd' or year='3rd'
    B) select * from student where year in ('2nd','3rd')
    (a) A is correct while B is not
    (b) B is correct while A is not
    (c) both will generate same result set
    (d) A and B will generate different result sets.

58. The employee salary should not be greater than RS.20,000. This is
    (a) feasible constraint   (b) integrity constraint
    (c) over-defined constraint   (d) referential constraint.

59. Second normal from
    (a) creates a separate table for each set of related data and identifies a primary key for each such set
    (b) creates separate tables for the set of values that apply to multiple records
    (c) eliminates partial dependency between non-key attributes and key attributes
    (d) eliminates transitive dependency between non-key attributes and key attributes.