

JNTU B.Tech CSE – DBMS Lab Practical Viva (50 Questions & Answers)

Text format: Questions in bold

1) What is DBMS?

DBMS (Database Management System) is software used to create, store, retrieve, and manage data efficiently.

2) What is a database?

A database is an organized collection of related data.

3) What is RDBMS?

RDBMS (Relational DBMS) stores data in the form of tables (relations) with rows and columns.

4) What is a table?

A table is a collection of rows (tuples) and columns (attributes).

5) What is a tuple?

A tuple is a row/record in a table.

6) What is an attribute?

An attribute is a column/field in a table.

7) What is a domain?

Domain is the set of valid values allowed for an attribute.

8) What is a primary key?

Primary key is an attribute that uniquely identifies each record in a table and cannot be NULL.

9) What is a candidate key?

A candidate key is a set of attributes that can uniquely identify records (possible primary keys).

10) What is a super key?

A super key is any set of attributes that uniquely identifies a record (may contain extra attributes).

11) What is a foreign key?

A foreign key is a key in one table that references primary key of another table.

12) What is integrity constraint?

Rules applied to data to maintain accuracy and consistency.

13) What is entity integrity?

Primary key values must be unique and not NULL.

14) What is referential integrity?

Foreign key values must match primary key values in referenced table or be NULL.

15) What is SQL?

SQL (Structured Query Language) is used to manage and query relational databases.

16) Is SQL procedural or non-procedural?

SQL is non-procedural (declarative).

17) What is DDL?

DDL (Data Definition Language) is used to define structure. Examples: CREATE, ALTER, DROP, TRUNCATE.

18) What is DML?

DML (Data Manipulation Language) is used to modify data. Examples: INSERT, UPDATE, DELETE.

19) What is DQL?

DQL (Data Query Language) is used to retrieve data. Example: SELECT.

20) What is DCL?

DCL (Data Control Language) is used to control permissions. Examples: GRANT, REVOKE.

21) What is TCL?

TCL (Transaction Control Language) manages transactions. Examples: COMMIT, ROLLBACK, SAVEPOINT.

22) Difference between DELETE and TRUNCATE?

DELETE removes selected rows using WHERE and can rollback; TRUNCATE removes all rows, is faster, and cannot rollback in many DBs.

23) Difference between DROP and TRUNCATE?

DROP removes table structure + data; TRUNCATE removes only data, table remains.

24) What is NULL?

NULL means unknown / not available / not applicable value.

25) What is a view?

A view is a virtual table created using SELECT query.

26) What is a join?

Join combines data from two or more tables using a common column.

27) Types of joins?

INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN, FULL OUTER JOIN, CROSS JOIN.

28) What is INNER JOIN?

Returns matching rows from both tables.

29) What is LEFT JOIN?

Returns all rows from left table and matching rows from right table.

30) What is RIGHT JOIN?

Returns all rows from right table and matching rows from left table.

31) What is FULL OUTER JOIN?

Returns all rows from both tables (matched + unmatched).

32) What is natural join?

Joins automatically based on columns with same name and datatype.

33) What is self join?

A table is joined with itself.

34) What is Cartesian product?

When join condition is not given, it produces $m \times n$ rows.

35) What is aggregation?

Operations like SUM, AVG, COUNT, MIN, MAX.

36) Difference between WHERE and HAVING?

WHERE filters rows before grouping; HAVING filters groups after GROUP BY.

37) What is GROUP BY?

Used to group rows having same values and apply aggregate functions.

38) What is ORDER BY?

Used to sort results in ASC/DESC order.

39) What is a subquery?

A query inside another query.

40) Define EXISTS.

EXISTS checks whether subquery returns at least one row.

41) Define NOT EXISTS.

NOT EXISTS checks whether subquery returns no rows.

42) What is ANY?

ANY compares and returns TRUE if condition matches at least one value.

43) What is ALL?

ALL compares and returns TRUE only if condition matches all values.

44) What is normalization?

Process of reducing redundancy and improving data integrity.

45) What is 1NF?

No repeating groups; all values must be atomic (single).

46) What is 2NF?

Table must be in 1NF and no partial dependency.

47) What is 3NF?

Table must be in 2NF and no transitive dependency.

48) What is BCNF?

Stronger than 3NF. Every determinant must be a candidate key.

49) What is transaction?

A transaction is a set of operations executed as a single unit.

50) What is ACID property?

Atomicity, Consistency, Isolation, Durability.