

## ✓ Unit-IV: Relational Data Model & SQL – PYQ-Based MCQs (1–30)

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1. In the relational model, a relation is represented as:

- A) Row
- B) Column
- C) Table
- D) File

Answer: C

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2. Which of the following is a valid relational algebra operation?

- A) Merge
- B) Select
- C) Add
- D) Rename

Answer: B

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3. A primary key:

- A) Can be NULL
- B) Must be unique
- C) Can have duplicates
- D) Is always numeric

Answer: B

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4. Which of the following is not a type of SQL command?

- A) DDL
- B) DML
- C) DCL
- D) HTML

Answer: D

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5. The result of a SQL SELECT query is a:

- A) Record
- B) Report
- C) Relation
- D) Schema

Answer: C

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6. The attribute that uniquely identifies a record in a relation is called:

- A) Candidate key
- B) Alternate key
- C) Primary key
- D) Foreign key

Answer: C

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7. Which SQL clause is used to eliminate duplicate records?

- A) UNIQUE
- B) DISTINCT
- C) DELETE
- D) REMOVE

Answer: B

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8. What does the WHERE clause do in SQL?

- A) Sorts the result
- B) Groups rows
- C) Filters rows
- D) Inserts rows

Answer: C

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9. Which SQL keyword is used to sort results?

- A) GROUP BY
- B) ORDER BY
- C) SORT
- D) ARRANGE

Answer: B

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10. Which of the following is not a valid constraint in SQL?

- A) PRIMARY KEY
- B) FOREIGN KEY
- C) FULL KEY
- D) UNIQUE

Answer: C

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11. What is a foreign key?

- A) A key from another database
- B) A key that is unique in the same table
- C) A reference to a primary key in another table
- D) A key that cannot be NULL

Answer: C

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12. Which relational algebra operation is used to combine rows from two tables?

- A) Union
- B) Join
- C) Select
- D) Project

Answer: B

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13. Projection in relational algebra is represented by:

- A)  $\pi$
- B)  $\sigma$
- C)  $\rho$
- D)  $\times$

Answer: A

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14. Which of the following is a DDL command?

- A) SELECT
- B) INSERT
- C) CREATE
- D) UPDATE

Answer: C

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15. Which SQL function is used to count rows?

- A) SUM()
- B) COUNT()
- C) NUMBER()
- D) TOTAL()

Answer: B

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16. Which SQL statement is used to remove a table?

- A) REMOVE TABLE
- B) DELETE TABLE
- C) DROP TABLE
- D) ERASE TABLE

Answer: C

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17. Which clause groups rows that have the same values?

- A) GROUP BY
- B) ORDER BY
- C) SORT BY

D) CLASSIFY BY

Answer: A

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18. Which command is used to update existing rows?

A) MODIFY

B) CHANGE

C) UPDATE

D) SET

Answer: C

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19. A relational algebra operation that is both commutative and associative is:

A) Select

B) Join

C) Union

D) Cartesian Product

Answer: C

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20. Which is used to rename a relation in relational algebra?

A)  $\sigma$

B)  $\pi$

C)  $\rho$

D)  $\delta$

Answer: C

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21. Which operator in SQL is used for pattern matching?

A) =

B) LIKE

C) MATCH

D) COMPARE

Answer: B

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22. To find the total number of records in a table, you use:

A) SUM()

B) COUNT()

C) TOTAL()

D) NUMBER()

Answer: B

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23. The intersection operation in relational algebra is denoted by:

- A)  $\cup$
- B)  $\cap$
- C)  $-$
- D)  $\times$

Answer: B

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24. A NULL value in SQL indicates:

- A) Zero
- B) Blank
- C) Not known
- D) 0.0

Answer: C

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25. Which of the following statements removes all rows from a table but not the structure?

- A) DELETE
- B) DROP
- C) ERASE
- D) TRUNCATE

Answer: D

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26. Cartesian product in relational algebra is denoted by:

- A)  $\sigma$
- B)  $\times$
- C)  $\pi$
- D)  $\cup$

Answer: B

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27. Which clause is used to filter grouped rows?

- A) HAVING
- B) WHERE
- C) ORDER BY
- D) GROUP BY

Answer: A

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28. To fetch the first three rows from a table, which SQL clause is used?

- A) FIRST 3
- B) TOP 3
- C) LIMIT 3
- D) ROWNUM = 3

Answer: C (MySQL) / B (SQL Server)

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29. Which relational algebra operator returns attributes vertically?

- A) Select
- B) Join
- C) Project
- D) Union

Answer: C

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30. Which command in SQL is used to insert new data?

- A) ADD
- B) INSERT
- C) CREATE
- D) APPEND

Answer: B