Module-4

1. What is a column expression?

- a table or column name
- a combination of conditions and logical operators that produces a True/False value
- **a combination of constants, column names, functions, and operators that produces a value**
- an alias for a table name in the FROM clause

2. The conceptual evaluation process indicates that

- **row operations occur before group operations.**
- row operations occur after group operations.
- row operations occur intermixed with group operations.
- row operations and group operations never occur in the same SELECT statement.

3. COUNT(*) calculates

- **the count of rows in the result.**
- the count of duplicate primary key values in the result.
- the count of unique column values in the result.
- the count of all column values in the result.

4. The difference between COUNT(<ColumnName>) and COUNT(DISTINCT <ColumnName>) is

- COUNT(<ColumnName>) ignores null values but COUNT(DISTINCT <ColumnName>) includes null values.
- COUNT(<ColumnName>) ignores duplicate values but COUNT(DISTINCT <ColumnName>) includes duplicate values.
- **COUNT(<ColumnName>) includes duplicate values but COUNT(DISTINCT <ColumnName>) ignores duplicate values.**
- no difference.

5. Indicate components of the cross product join style in a SELECT statement. This question allows multiple answers.

- **A list of tables in the FROM clause**
- The INNER JOIN and ON keywords in the FROM clause
- The INNER JOIN and ON keywords in the WHERE clause
- **Join conditions in the WHERE clause**

6. What formats are allowable for date formats in PostgreSQL? This question allows multiple answers.

- 'ddd-YYYY' such as '365-2022'
- **'dd-Mon-YYYY' such as '01-Jan-2022'**
- **'yyyy-mm-dd' such as '2022-01-01'**
- 'YYYY-ddd' such as '2022-365'

7. For complex problems involving joins and grouping, you can decompose a SELECT statement by

- executing grouping operations alone without row operations.
- executing row operations alone without group operations.
- executing row and group operations together in the same statement.
- **executing grouping conditions alone without row conditions.**

8. What is the relationship between the GROUP BY and HAVING clauses?

- A GROUP BY clause must be followed by HAVING clause.
- **A HAVING clause must be preceded by a GROUP BY clause.**
- A HAVING clause is necessary when GROUP BY contains more than one grouping column.
- The GROUP BY and HAVING clauses are independent.

9. A condition involving an aggregate function must be placed in the HAVING clause.

- **True**
- False

10. Grouping in a SELECT statement only occurs one time.

- True
- **False**

11. How is a condition involving inexact text matching specified?

- = operator with meta characters in a pattern
- **LIKE operator with meta characters in a pattern**
- LIKE operator without meta characters in a pattern
- Any comparison operator with meta characters in a pattern

12. Indicate components of the join operator style in a SELECT statement.

- **tables in the FROM clause**
- **the INNER JOIN and ON keywords in the FROM clause**
- the INNER JOIN and ON keywords in the WHERE clause
- join conditions in the WHERE clause

13. When mixing the logical AND and OR operators in the WHERE clause, you should

- place them on separate lines.
- always list the AND conditions before listing the OR conditions.
- always list the OR conditions before listing the AND conditions.
- **always use parentheses to clarify the order of evaluation.**

14. Name qualification is required if more than one table in a SELECT statement contains the same column name referenced in the statement.

- **True**
- False

15. What are the requirements of the natural join operator? This question allows multiple answers.

- **Equality (=) matching condition**
- Tables must have the same number of columns
- **Remove one join column in the result**
- **Join columns with the same unqualified names**

16. A SELECT statement with an aggregate function in the result and no GROUP BY clause (no grouping columns) generates

- always zero rows.
- more than one row.
- a syntax error because it is missing the GROUP BY clause.
- **at most one row.**

17. A condition not involving an aggregate function can be placed in the WHERE or HAVING clauses.

- **True**
- False

18. What is the relationship between the columns appearing in a SELECT clause and columns in a GROUP BY clause?

- The GROUP BY clause may have additional columns not in the SELECT clause.
- The SELECT clause may have additional non-aggregate columns not appearing in the GROUP BY clause.
- **The non-aggregate columns in the SELECT clause must match the columns in the GROUP BY clause.**
- SELECT and GROUP BY clauses are independent so no relationship.

19. SQL contains statements for (multiple answers possible)

- **data definition.**

- **data control.**
- data visualization.
- **data retrieval/manipulation.**

20. What happens to unmatched rows in a join operation?

- Combining tables does not involve unmatched rows.
- **Unmatched rows are retained in the result of a join operation.**
- Unmatched rows from both tables are removed in the result of a join operation.
- Unmatched rows from one table are retained in the result of a join operation.