**Interview Answers**

1. **How do you calculate percentages in SQL?**
   * Use arithmetic: percentage = SUM(marks) / SUM(max\_marks) \* 100 and round as needed: ROUND(...,2).
2. **What is a view in SQL?**
   * A logical saved query (virtual table) that simplifies complex queries and can be used for access control and reusability.
3. **What is a CASE statement and how does it work?**
   * CASE WHEN condition THEN result ELSE other END — used for conditional logic inside SELECT, WHERE, ORDER BY.
4. **How do you structure reports using SQL?**
   * Build small, testable views for each logical unit (student score, subject avg, attendance). Combine them in final queries. Keep ETL and aggregates separated.
5. **What’s the role of GROUP BY in analytics?**
   * It aggregates rows into buckets (e.g., by student or subject) to compute sums, averages, counts.
6. **How can you connect SQL with BI tools?**
   * Use native connectors (MySQL, Postgres), ODBC/JDBC, or export to CSV / push to a data warehouse like BigQuery.
7. **What’s the difference between a subquery and a view?**
   * A subquery is inline SQL used in another query. A view is a saved named query reusable across sessions.
8. **How do you measure attendance rates?**
   * attendance\_pct = SUM(CASE WHEN status='present' THEN 1 ELSE 0 END)/COUNT(\*)\*100 grouped by student or class.
9. **What’s the best way to count passed vs failed students?**
   * Use a threshold with CASE: SUM(CASE WHEN percentage >= 40 THEN 1 ELSE 0 END) and SUM(CASE WHEN percentage < 40 THEN 1 ELSE 0 END).
10. **How do you optimize queries for dashboard use?**
    * Pre-aggregate, index, limit columns, use views/materialized tables, and prefer Import mode when possible for BI.