Exam Title: "Sales Uplift: Strategy Insights from Multi-Region Retail Data"

🧑‍🎓 **Exam Type:** Standalone Case-Based Practical (Low to Medium Difficulty)

⏳ **Duration:** 3 Hours

📦 **Dataset:** A gigantic CSV dataset: **RetailTransactions.csv** (Generate from AI tool)

📝 Project Task

You are a Business Analyst at a retail company that operates across multiple regions. Your task is to extract, transform, analyze, and visualize insights from a large transaction dataset using SQL and Excel/Power BI. Your manager wants a clear dashboard to support sales strategy for Q3.

💡 Instructions & Evaluation Criteria

⚠️ **Note:** You **must** use SQL for data analysis and then use Excel **OR** Power BI to visualize key metrics. Present your insights through charts and tables.

🔧 PART 1 – SQL ANALYSIS

You are required to perform SQL queries on the provided CSV dataset (imported into any RDBMS such as MySQL, SQLite, or PostgreSQL).

📂 **Dataset Structure:**

RetailTransactions.csv

Column Name	Description
TransactionID	Unique ID of the transaction
Date	Date of transaction
ProductName	Name of product sold
Category	Product category
Region	Region of sale (East, West, North, South)
SalesChannel	Online / Offline
Quantity	Units sold
UnitPrice	Price per unit
TotalAmount	Total = Quantity × UnitPrice
PaymentMode	Credit Card, Cash, UPI, Net Banking
CustomerID	Unique ID of customer

✅ Write SQL Queries For:

1. 📊 Total sales amount per region for the last quarter.
2. 📦 Top 5 best-selling products (by revenue).
3. 🛍️ Monthly sales trend across all regions.
4. 🏆 Region-wise contribution to total sales (as a %).
5. 🔁 Compare Online vs Offline sales across all months.
6. 📈 Sales trend by Category – Which categories are rising/falling?
7. 🎯 List customers who purchased more than 10 times.

💡 Store SQL outputs in a new sheet or table so they can be reused in visualization.

📈 PART 2 – Excel / Power BI Dashboard

Use the SQL output OR original CSV to prepare a dashboard in **Excel** or **Power BI**.

✅ Your dashboard must include:

1. **Region-wise Sales Breakdown (Pie/Bar Chart)**
2. **Monthly Sales Trend (Line Chart)**
3. **Top 5 Products (Bar or Column Chart)**
4. **Category Performance Trend**
5. **Sales Channel Distribution**
6. **KPI Cards:**
    - Total Sales
    - Total Transactions
    - Unique Customers
    - Average Order Value
7. **Slicer or Filter** for Region, Month, and Sales Channel

📌 Sample Use Cases to Keep in Mind

- **Who are the most valuable customers?**
- **Which products should we focus on next quarter?**
- **Is Online outperforming Offline?**
- **Do any regions need more marketing support?**

📤 Final Submission

Submit the following:

File	Description
RetailAnalysis.sql	SQL script with all required queries
Dashboard.xlsx or .pbix	Completed dashboard
Insights.txt	5–7 bullet points describing key insights

📚 Learning Outcome

- Apply **SQL** for structured data analysis.
- Create **Business Dashboards** using Excel/Power BI.

- Derive **actionable insights** from raw retail data.
- Understand **sales metrics** and customer behavior.

Practical Exam
BUSINESS CASE STUDY

BRING ON YOUR CODING ATTITUDE