Power BI Practical Examination

Case Study: Hospital Visit Performance Dashboard

This examination evaluates your ability to model data, design insightful dashboards, and draw meaningful conclusions from real-world healthcare records.

Duration: 2 Hours

Total Marks: 100

Scenario

Sunrise Multispeciality Hospital serves thousands of patients across various departments. Hospital leadership requires a Power BI dashboard that highlights patient visits, department workload, revenue generation, and demographic patterns to improve operational decision-making.

Dataset Provided

hospital_visits_10k.csv — A 10,000■row synthetic dataset of patient visits containing demographics, symptoms, diagnoses, visit cost, doctor information, and payment method.

PART A — DATA MODELLING (15 Marks)

Import the dataset into Power BI. Create a Calendar table and establish relationships. Build hierarchies for date and medical departments. Ensure the model is clean, readable, and well■structured.

PART B — MEASURES TO CREATE (25 Marks)

Create meaningful measures for the following insights: Total Revenue, Total Patients, Total Visits, Average Cost Per Visit, Year-over-Year Visit, Growth Revenue by Department, Visits by City, Visits by Payment Method, Top Doctors by Visit Volume, Costliest Diagnoses, (Do **not** use implicit measures—create all using DAX.)

PART C — DASHBOARD VISUALISATIONS (40 Marks)

Design a professional, multi-section dashboard including: **Summary Cards:** Key performance indicators for visits, revenue, patients, and cost. **Trends:** Monthly Visits Trend and Monthly Revenue Trend using line charts. **Department Analysis:** Revenue, patient count, and diagnosis distribution. **Demographics:** Gender breakdown, age group patterns, city-wise patient volume. **Doctor Performance:** Ranking of doctors by patient visits. **Payment Insights:** Distribution across UPI, Cash, Insurance, Credit Card. **Heat Map:** Age Group vs Department activity. **Scatter Plot:** Relationship between Treatment Cost and Age. **Slicers:** Year, Department, Gender, City.

PART D — ANALYSIS & INTERPRETATION (20 Marks)

Answer the following in a written section inside Power BI: Which department has the highest patient volume and why?

Which diagnosis area contributes the most revenue?

Identify the top-performing cities.

What demographic patterns stand out?

How does doctor performance vary?

Who handles the highest workload?

What seasonal trends appear in visits?

Which age groups incur the highest cost and why?

Which payment method is preferred?
Is there a relationship between patient age and treatment cost?

BONUS TASKS (Optional)

Create a Drill-through page for Doctor Performance. Add a Tooltip page for Department Insights. Implement color-based KPIs for YoY performance. Add forecasting to the Monthly Visits trend chart