1. What is Power BI, and what are its three main components?

Power BI is Microsoft's business analytics tool that allows users to visualize data, share insights, and make data-driven decisions.

Its three main components are:

Power BI Desktop – A Windows application for building and designing reports and dashboards.

Power BI Service (PowerBI.com) – A cloud-based service for sharing, collaborating, and managing reports.

Power BI Mobile – Mobile apps (iOS, Android, Windows) for accessing and interacting with reports on the go.

2. Name two business use cases for Power BI dashboards.

Sales Performance Monitoring – Tracking revenue, sales trends, and top-performing products in real-time.

Financial Analysis – Monitoring budgets vs. actuals, expense trends, and profitability across departments.

3. How do you download and install Power BI Desktop?

Go to the Microsoft Power BI website or Microsoft Store.

Search for Power BI Desktop.

4. Difference between Power BI Desktop and Power BI Service:

Feature Power BI Desktop Power BI Service

Purpose Create and design reports Share, view, and collaborate on reports

Installation Installed on local machine Cloud-based, accessed via browser

Data Connection Can connect to multiple sources locally Can refresh data and schedule updates

Cost Free Free & Paid (Pro/Premium) plans

5. What file extension does a Power BI project use?

.pbix – Power BI report file created in Power BI Desktop.

6. Explain the role of Power Query in Power BI.

Power Query is the data preparation and transformation engine in Power BI. It helps you:

Connect to multiple data sources.

Clean, shape, and merge data (remove duplicates, rename columns, filter rows).

Automate transformation steps for repeated use.

7. Why would a business prefer Power BI over Excel for reporting?

Interactive visualizations vs. static tables.

Real-time data refresh from multiple sources.

Better collaboration through cloud sharing.

Scalability for large datasets (Excel often slows down with big data).

8. One limitation of the free version of Power BI:

Cannot share reports and dashboards with others via Power BI Service (requires Power BI Pro).

9. What is a "published report" in Power BI Service?

A report created in Power BI Desktop, then uploaded (published) to the Power BI Service for online viewing, sharing, and collaboration.

10. How does Power BI Mobile enhance accessibility?

Allows users to view and interact with reports anytime, anywhere on smartphones or tablets.

Supports push notifications for data alerts.

Enables offline viewing for certain reports.

11. Compare Power BI with Tableau — pros and cons:

Criteria Power BI Tableau

Cost More affordable, especially for Microsoft 365 users More expensive

Ease of Use Easier for beginners, Excel-like Steeper learning curve but highly flexible

Data Handling Good for medium to large datasets Excellent for very large datasets

Integration Strong with Microsoft ecosystem (Azure, Excel, Teams) Broad integration, more vendor-neutral

Visuals Very good More advanced, customizable

Deployment Cloud-first but supports on-premises Cloud & on-premises equally strong

12. Explain how Power BI integrates with Azure services:

Azure SQL Database – Direct connection for live data queries.

Azure Data Lake – Storing and processing large datasets.

Azure Machine Learning – Embedding predictive analytics into reports.

Azure Synapse Analytics – High-performance data warehousing for BI.

13. What are "gateways" in Power BI, and when are they needed?

Gateways are bridges that connect on-premises data sources to the Power BI Service.

Needed when:

Data resides in local databases or file systems.

You want to schedule automatic refreshes from non-cloud sources.

14. How would you convince a company to adopt Power BI? (ROI argument)

Lower costs compared to other BI tools.

Faster decision-making from real-time dashboards.

Employee efficiency by automating reporting processes.

Scalable insights without heavy IT involvement.

ROI comes from reduced reporting time, improved accuracy, and faster strategic action.

15. What security features does Power BI offer for sensitive data?

Row-Level Security (RLS) – Restricts data access by user role.

Data Encryption – At rest and in transit.

Microsoft Cloud Security Compliance – GDPR, HIPAA, ISO certifications.

Auditing & Monitoring – Track report access and changes.