Lesson 1

Topic: Introduction to Power BI
Prerequisites: Download Sales_Data.csv file

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

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

   1.Power BI Desktop, a free Windows application used to create reports and data models.

   2.Power BI Service, a cloud-based SaaS platform for sharing, collaborating, and publishing reports and dashboards.

   3.Power BI Mobile, a mobile application that allows users to view and interact with reports and dashboards on the go.

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

   1.Sales Performance Monitoring.

   2.Financial Reporting and Budget Analysis

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

   From Microsoft Store, search "Power BI Desktop" -> click Install or get.

4. **What is the difference between Power BI Desktop and Power BI Service?**

   Power BI Desktop is used to build and design reports.

   Power BI Service is used to share, collaborate, and interact with those reports online.

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

   PBIX (.pbix) stands for Power BI File.

   It contains: 1) Data connections, 2) Data model, 3) Power Query Transformations, 4) DAX calculations, 5) Visualizations, 6) Report layout.

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

Power Query is a powerful data connections and transformations tool in Power BI. It is used to clean, connect, shape, and prepare date before loading it into the Power BI model for analysis and visualization.

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

Power BI is a more powerful, scalable, secure, and user-friendly tool for business reporting and analytics, especially when working with large data sets, teams, or real-time insights.

8. Describe one limitation of the free version of Power BI.

The free version of Power BI does not allow sharing reports and dashboards with others through the Power BI Service.

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

A "published report" in Power BI Service refers to a report that has been created in Power BI Desktop and uploaded to the Power BI cloud platform.

A published report is a Power BI report that's moved from your local computer (Power BI Desktop) to the Power BI online platform, so others can view, interact with, and collaborate on it.

10. How does Power BI Mobile enhance accessibility?

Power BI Mobile is a dedicated app (available on iOS, Android, and Windows) that allows users to access Power BI dashboards and reports anytime, anywhere – directly from their smartphones or tablets.

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

Choose Power BI if you:

    1) Work within the Microsoft ecosystem.

    2) Need affordable, easy-to-use BI tools.

    3) Are looking for quick deployment with less cost.

Choose Tableau if you:

    1) Need top-notch visuals and advanced analytics.
    2) Work with very large datasets or complex visuals.
    3) Have budget flexibility for enterprise-scale BI

12. Explain how Power BI integrates with Azure services.

Power BI integrates seamlessly with a wide range of Microsoft Azure services, making it a powerful tool for building scalable, secure, and intelligent data analytics solutions.

Benefits of Power BI + Azure Integration

1. Enterprise – grade security with Azure AD.
2. Scalable analytics via Synapse and Data Lake.
3. AI powered insights using Azure ML and Cognitive Services.
4. Real time dashboards using Stream Analytics.
5. Automated pipeline with Data Factory and Logic Apps.

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

In Power BI, a gateway is a bridge that connects on-premises data sources (like SQL Server, Excel files, Oracle, etc.) to Power BI cloud services (Power BI service).

Since Power BI is a cloud-based service, it cannot directly access your on-premises data unless you install a gateway to securely transfer the data.

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

Convincing a company to adopt Power BI involves presenting a clear business case focused on Return on Investment (RIO), productivity gains, and strategic benefits.

By adopting Power BI, we can reduce our BI licensing and reporting costs by over 60%, automate monthly reports to save 40+ man-hours per department, and empower managers to make faster, data-driven decisions. In just 3 months, the tool could pay for itself in labor cost savings alone – while also delivering long term strategic value in improved decision-making, security, and scalability.

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

Power BI offers strong enterprise-grade security to ensure your data is protected at every stage—from access control to sharing. Power BI provides a secure and compliant analytics environment, especially suitable for businesses that handle confidential or regulated data (e.g., finance, healthcare, government).