1. What is Power BI, and what are its three main components?
Power BI is Microsoft's business intelligence platform used to transform raw data into interactive dashboards and reports.

Three main components:

Power BI Desktop – for creating reports on your PC

Power BI Service – for publishing, sharing, and collaborating in the cloud

Power BI Mobile – for accessing reports on smartphones and tablets

2. Name two business use cases for Power BI dashboards.
Sales Performance Monitoring – visualize KPIs like revenue, conversion rates, and top-selling products.

Customer Support Analytics – track ticket resolution times, customer satisfaction, and agent performance.

3. How do you download and install Power BI Desktop?
Visit: https://powerbi.microsoft.com/desktop

Click "Download"

Choose from Microsoft Store or direct download (MSI installer)

Install the application and launch it

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

Feature	Power BI Desktop	Power BI Service
Usage	Report development tool (local)	Online sharing and collaboration
File Storage	.pbix file	Stored in Power BI cloud workspaces
Data Refresh	Manual	Supports scheduled refreshes
Sharing	Limited	Extensive (workspaces, dashboards)

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

6. Explain the role of Power Query in Power BI.
Power Query is used to connect to data sources, clean, transform, and load data into Power BI. It provides a no-code/low-code interface for shaping data before analysis.

7. Why would a business prefer Power BI over Excel for reporting?
Interactive visualizations vs static tables

Automated and scheduled data refreshes

Strong security, row-level access control

Better scalability for large datasets

Centralized dashboards for all teams

8. Describe one limitation of the free version of Power BI.
You cannot share reports with others or collaborate unless you upgrade to Power BI Pro.

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

A published report is a Power BI Desktop report (.pbix) uploaded to the Power BI Service to enable online viewing, interaction, and sharing.

10. How does Power BI Mobile enhance accessibility?
It allows users to:

View dashboards and KPIs on-the-go

Receive alerts and notifications

Interact with visuals using touch

Make data-driven decisions anywhere, anytime

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

Feature	Power BI	Tableau
Cost	Cheaper (especially with M365)	More expensive
Integration	Deep with Microsoft ecosystem	Strong with multiple sources
Learning Curve	Easier for Excel users	Slightly steeper
Performance	Slight edge in large datasets	Often better in visualization speed
Visuals	Modern but slightly limited	More flexible and creative

12. Explain how Power BI integrates with Azure services.
Azure SQL Database and Synapse as data sources

Azure Data Lake for big data storage

Azure Active Directory for identity/security

Azure Machine Learning for predictive analytics

Azure Blob Storage for raw file access

13. What are "gateways" in Power BI, and when are they needed?
Gateways are bridges between Power BI cloud and on-premises data sources.
Used when:

Data resides in a local SQL Server, Excel, etc.

You want to enable scheduled refreshes from local files

Types:

Personal Gateway – single user

Standard Gateway – shared for enterprise use

14. How would you convince a company to adopt Power BI? (ROI argument)
Reduces time spent on manual reporting → cost savings

Improves decision-making via real-time dashboards → faster responses

Scales across departments → long-term value

Integrates seamlessly with existing Microsoft stack → low transition cost

Cloud-based, secure, and collaborative → modern BI solution

15. What security features does Power BI offer for sensitive data?
Row-Level Security (RLS) – restricts data based on user identity

Azure Active Directory integration – manages authentication

Data encryption at rest and in transit

Workspace permissions and role-based access

Sensitivity labels (Microsoft Purview) for data classification