Power BI: Detailed Questions and Answers

Power BI Basics (Day 1)

1. What is Power BI?

Power BI is a business analytics and data visualization tool developed by Microsoft. It helps users transform raw data into insightful and interactive dashboards and reports.

2. Who developed Power BI?

Power BI is developed by Microsoft.

3. What are the uses of Power BI?

Power BI is used for connecting to multiple data sources, transforming data, and visualizing it through reports and dashboards.

4. How does Power BI help with data visualization?

It provides interactive visuals such as charts, graphs, and KPIs that help interpret data quickly and intuitively.

5. What types of data sources can Power BI connect to?

Excel, SQL Server, Azure, Web APIs, and other cloud or on-premise data sources.

6. Why is Power BI considered easy to use?

It has an intuitive interface and supports drag-and-drop features, making it user-friendly even for non-technical users.

7. How does Power BI support data integration?

Power BI integrates with various data sources, including Excel, databases, cloud services, and web APIs.

8. What is the role of DAX in Power BI?

DAX (Data Analysis Expressions) is used for creating calculated columns, measures, and tables for advanced data modeling.

9. How does Power BI facilitate sharing and collaboration?

Through Power BI Service, reports and dashboards can be published, shared, and collaborated on in real-time.

10. Why is Power BI considered cost-effective?

It offers a free desktop version and scalable pricing for premium services, making it accessible to all users.

11. What is Power BI Desktop used for?

It is the primary tool for creating reports and building data models.

12. What is Power BI Service?

An online platform where reports can be published, shared, and accessed by others.

13. What is Power BI Mobile used for?

It allows users to view dashboards and reports on mobile devices.

14. What is the purpose of Power BI Gateway?

To connect on-premises data securely to Power BI Service.

15. What is Power BI Report Server?

A server that hosts Power BI reports on-premises for internal sharing.

16. What are the steps involved in Power BI workflow?

Extract, Transform, Load, Visualize, and Share.

17. What is the purpose of the Extract step in Power BI?

To connect and import data from various sources.

18. What is Power Query Editor used for?

For transforming and shaping data before loading it into Power BI.

19. What happens in the Transform step?

Data is cleaned, reshaped, and modified using Power Query Editor.

20. How is data loaded in Power BI?

After transformation, data is loaded into the data model for analysis.

21. What does the Visualize step in Power BI do?

It allows creation of interactive visuals like charts, tables, and KPIs.

22. How can reports be shared using Power BI?

By publishing them to the Power BI Service.

23. What is the use of Ctrl + Columns in Power BI?

To select multiple columns simultaneously.

24. Where is the history of changes stored in Power BI?

In the Query Settings pane.

25. What happens when 'Transform data' is clicked?

It opens Power Query Editor.

26. What is shown in Report View?

Visual charts and reports.

27. What does Table View display?

Tabular representation of loaded data.

28. What is the use of Model View?

To view and manage relationships between tables.

29. How can you rename a column in Power BI?

Right-click the column -> Rename -> Enter new name.

30. How do you replace values in Power BI?

Right-click column -> Replace Values -> Enter old and new value.

31. How do you change the data type of a column?

Right-click column -> Change Type -> Select new type.

32. How can a custom column be added?

Go to Add Column tab -> Custom Column -> Enter formula.

33. How to remove a column?

Right-click column -> Remove.

34. What does the Undo function in Query Settings do?

Removes last applied transformation.

35. How to create a conditional column?

Add Column -> Conditional Column -> Set conditions.

36. How does the 'Remove Duplicates' option work?

Eliminates duplicate rows, retaining unique ones.

37. How to merge columns using a delimiter?

Select columns using Ctrl -> Merge Columns -> Choose delimiter.

38. How to split columns by a delimiter?

Right-click column -> Split by delimiter -> Choose delimiter.

39. What is the purpose of sorting in Power BI?

To arrange data in ascending or descending order.

40. How is filtering used in Power BI?

To display specific data based on criteria.

41. What is the difference between 'Close & Apply' and 'Apply Changes'?

'Close & Apply' saves and exits Power Query; 'Apply Changes' only updates the data model.

42. What goes on the Y-axis and X-axis in a Power BI visual?

Y-axis: Text fields; X-axis: Count or numeric values.

DAX and Data Modeling (Day 2)

43. What is DAX in Power BI?

DAX (Data Analysis Expressions) is a formula language used to define custom calculations in Power BI.

44. What are the other names for DAX?

Power BI Formula Language, Power Pivot Formula Language, Tabular Expression Language, BI Calculation Engine, Microsoft BI Function Library.

45. In which tools is DAX used?

Power BI, Power Pivot in Excel, and SSAS Tabular Models.

46. What is the purpose of DAX in Power BI?

To create calculated columns, measures, and tables; and implement time intelligence and filtering logic.

47. What are the three stages of preparing data in Power BI?

Preparing Data, Designing Models, Creating Reports.

48. What operations are included in the Import step?

Loading data from various sources.

49. What is done during the Transform step?

Renaming, restructuring, and changing data types.

50. What are common data cleansing operations?

Filling blanks, trimming, and fixing data types.

51. How are relationships created in models?

By connecting fields from different tables using model view.

52. What is the use of formatting column properties?

To control data display and hide irrelevant fields.

53. What kind of calculations are added to a model?

Calculated columns and measures.

54. What elements are used in reports?

Tables, charts, KPIs.

55. How can reports be customized?

By using themes, bookmarks, and filters.

56. What are different ways to publish reports?

Using Power BI Service.

57. What is a Calculated Column?

A column created using expressions that computes values row-by-row.

58. How is a Calculated Column stored?

Stored physically in the data model.

59. How does a Calculated Column impact performance?

Increases model size and can slow down performance for large data.

60. What are some examples of Calculated Columns?

FullName = [FirstName] & " " & [LastName]; Profit = [Sales] - [Cost].

61. What is a Measure in DAX?

A calculation that evaluates an aggregate value like sum or count, on-demand.

62. How are Measures evaluated?

Dynamically during query execution.

63. Do Measures increase model size?

No, only the formula is stored.

64. What is an example of a DAX Measure?

TotalSales = SUM(Sales[Amount])

65. What is a Calculated Table?

A new table created using a DAX expression.

66. How is a Calculated Table created using DAX?

TopProducts = TOPN(5, Sales, Sales[Amount], DESC)

67. How do Calculated Columns differ from Measures in DAX?

Calculated Columns are row-based and stored; Measures are query-based and not stored.

68. When should you use a Measure instead of a Calculated Column?

When you need aggregate values and better performance.

69. Can Measures be used in slicers or filters?

No, only Calculated Columns can.

70. How is the SUM function written in DAX?

SUM(Table[Column])

71. What are the different data types supported in DAX?

Text, Whole Number, Decimal, Currency, Date/Time, Boolean, Blank.

72. What type is used for storing monetary values?

Currency.

73. What data type does DAX use for TRUE/FALSE logic?

Boolean.

74. What are the arithmetic operators in DAX?

+, -, *, /

75. What does the ^ operator do in DAX?

Performs exponentiation (power).

76. What operator is used for text concatenation?

&

77. What is the <> operator used for?

Not Equal to.

78. What logical operators does DAX support?

AND, OR, NOT

79. What is the syntax and use of SUM in DAX?

SUM(Table[Column]) Adds all numeric values in the column.

80. How does SUMX differ from SUM?

SUMX evaluates an expression row-by-row and then sums the result.

81. What is the use of MIN and MINX?

MIN returns the smallest value in a column; MINX evaluates an expression and returns the smallest result.

82. How do MAX and MAXX differ?

MAX returns the largest value in a column; MAXX works with row-level expressions.

83. What does COUNT function do in DAX?

Counts numeric, non-blank values.

84. What is the difference between COUNT and COUNTA?

COUNT is for numbers only; COUNTA includes all non-blank types.

85. How does COUNTX work?

Evaluates an expression for each row and counts non-blank results.

86. What is the function of COUNTBLANK?

Counts blank (null/empty) values in a column.

87. What does COUNTROWS return?

Total number of rows in a table.

88. Which DAX function counts blank values in a column?

COUNTBLANK

89. Which function returns the number of rows in a table?

COUNTROWS

90. Can COUNTX handle Boolean and expression-based counts?

Yes, it can count based on Boolean expressions.

91. Which functions are expression-based in DAX?

SUMX, MINX, MAXX, COUNTX.