Power BI topics

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1. Understanding the Power BI Ecosystem

1. **What is Power BI primarily used for?**
    a) Word processing
    b) Data analysis and visualization
    c) Cloud storage
    d) Operating system management
    Answer: b) Data analysis and visualization

2. **Which of the following is not a component of the Power BI ecosystem?**
    a) Power BI Desktop
    b) Power BI Service
    c) PowerPoint
    d) Power BI Mobile
    Answer: c) PowerPoint

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2. Installation of Power BI Desktop

3. **Which operating system is required to install Power BI Desktop?**
    a) macOS
    b) Windows
    c) Linux
    d) Android
    Answer: b) Windows

4. **Where can Power BI Desktop be downloaded from?**
    a) Microsoft Store
    b) Google Play
    c) Apple Store
    d) Linux Repository
    Answer: a) Microsoft Store

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3. Exploring the Power BI Interface

5. **What is the primary section in Power BI Desktop where data visualization is done?**
a) Report View
b) Data View
c) Model View
d) Query Editor
Answer: a) Report View

6. **What is the purpose of the Fields pane in Power BI?**
a) To display visualizations
b) To list tables and columns from the data model
c) To edit data connections
d) To configure relationships
Answer: b) To list tables and columns from the data model

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4. Connecting to Data Sources

7. **Which of the following is a supported data source in Power BI?**
a) Excel
b) SQL Server
c) Azure
d) All of the above
Answer: d) All of the above

8. **What is the first step to connect Power BI to a data source?**
a) Use Query Editor
b) Click "Get Data"
c) Add a visualization
d) Configure relationships
Answer: b) Click "Get Data"

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5. Relationships in Power BI

9. **What is cardinality in Power BI?**
a) A chart type
b) The direction of a relationship

c) The type of join

d) The relationship between tables

Answer: d) The relationship between tables

10. **Which cardinality type allows one record in one table to relate to many records in another?**
    a) One-to-One
    b) One-to-Many
    c) Many-to-Many
    d) None of the above
    Answer: b) One-to-Many

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6. Power Query

11. **What is Power Query used for in Power BI?**
    a) To create relationships
    b) To transform and clean data
    c) To design reports
    d) To apply conditional formatting
    Answer: b) To transform and clean data

12. **Which of the following operations can Power Query perform?**
    a) Merging data
    b) Removing duplicates
    c) Filtering rows
    d) All of the above
    Answer: d) All of the above

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7. DAX (Data Analysis Expressions)

13. **What does DAX stand for?**
    a) Data Aggregation eXpressions
    b) Data Analysis Expressions
    c) Data Analytics eXchange
    d) Dynamic Analysis Expressions
    Answer: b) Data Analysis Expressions

14. **Which DAX function is used to create calculated columns?**
    a) CALCULATE
    b) SUM
    c) RELATED
    d) None of the above
    Answer: c) RELATED

8. Data Visualization

15. **Which visualization type is best for showing trends over time?**
    a) Pie chart
    b) Line chart
    c) Donut chart
    d) Bar chart
    Answer: b) Line chart

16. **Which visualization allows displaying data hierarchies?**
    a) Tree map
    b) Table
    c) Scatter chart
    d) Line chart
    Answer: a) Tree map

9. Filters and Slicers

17. **What is a slicer in Power BI?**
    a) A visualization filter
    b) A data transformation tool
    c) A type of DAX function
    d) A query editor tool
    Answer: a) A visualization filter

18. **What is the primary difference between a slicer and a filter?**
    a) Filters are interactive, slicers are not
    b) Slicers are interactive visuals, filters are not
    c) Filters are applied globally, slicers are only applied locally
    d) There is no difference
    Answer: b) Slicers are interactive visuals, filters are not

10. Drill-Downs

19. **What does drill-down functionality enable in Power BI?**
    a) Combining data from multiple sources
    b) Viewing detailed data by expanding a hierarchy
    c) Applying conditional formatting
    d) Filtering data in Query Editor
    Answer: b) Viewing detailed data by expanding a hierarchy

20. **Which icon in a visualization indicates drill-down is available?**
    a) Plus (+)
    b) Downward arrow
    c) Filter icon
    d) Line chart icon
    Answer: b) Downward arrow

11. Creating a Star Schema

21. **What is a Star Schema in Power BI?**
    a) A visual chart type
    b) A database design technique with fact and dimension tables
    c) A Power Query operation
    d) A DAX calculation type
    Answer: b) A database design technique with fact and dimension tables

22. **What is the central table in a Star Schema called?**
    a) Dimension table
    b) Fact table
    c) Lookup table
    d) Query table
    Answer: b) Fact table

12. Data Transformation in Power Query

23. **Which option in Power Query removes duplicate rows?**
    a) Transform > Remove Rows > Duplicates
    b) Home > Remove Duplicates

c) Transform > Clean Data

d) View > Remove Errors

Answer: b) Home > Remove Duplicates

24. **How can missing data be handled in Power Query?**
    a) Replacing with a default value
    b) Removing rows
    c) Filling down
    d) All of the above
    Answer: d) All of the above

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13. Aggregating and Grouping Data

25. **Which Power Query feature allows grouping rows based on specific columns?**
    a) Transform > Pivot
    b) Home > Group By
    c) Transform > Aggregate
    d) View > Merge Queries
    Answer: b) Home > Group By

26. **What is the result of aggregating a column in Power Query?**
    a) New visualizations are created
    b) A summary value for the grouped rows is generated
    c) A DAX measure is created
    d) Data relationships are altered
    Answer: b) A summary value for the grouped rows is generated

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14. Calculated Columns and Measures

27. **What is the key difference between calculated columns and measures in Power BI?**
    a) Measures are pre-calculated; calculated columns are dynamic
    b) Measures aggregate data; calculated columns work row by row
    c) Measures work row by row; calculated columns aggregate data
    d) There is no difference
    Answer: b) Measures aggregate data; calculated columns work row by row

28. **Which DAX function can create a calculated column to join two text columns?**
a) CONCATENATE
b) JOIN
c) SUMX
d) UNION
Answer: a) CONCATENATE

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15. DAX Functions

29. **What does the DAX function IF do?**
a) Returns one value if a condition is true and another if false
b) Filters data based on a condition
c) Creates a hierarchy
d) Combines two tables
Answer: a) Returns one value if a condition is true and another if false

30. **Which DAX function is used to calculate a value within a specific filter context?**
a) CALCULATE
b) FILTER
c) SUMX
d) RELATED
Answer: a) CALCULATE

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16. Visualizations: Types and Formatting

31. **Which visualization is best for showing part-to-whole relationships?**
a) Pie chart
b) Line chart
c) Scatter chart
d) Column chart
Answer: a) Pie chart

32. **What does the KPI visualization primarily display?**
a) Geographic data
b) Progress toward a target
c) Trends over time

d) Data hierarchies
Answer: b) Progress toward a target

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17. Advanced Visualizations

33. **Which visualization is suitable for displaying geographic data?**
    a) Map
    b) Scatter chart
    c) Line chart
    d) Table
    Answer: a) Map

34. **What is the key feature of a Combo Chart in Power BI?**
    a) Combines two chart types in one visualization
    b) Displays a table and chart together
    c) Creates a hierarchy of visuals
    d) Shows data only in tabular form
    Answer: a) Combines two chart types in one visualization

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18. Conditional Formatting and Data Bars

35. **What can conditional formatting be applied to?**
    a) Text
    b) Numbers
    c) Background color
    d) All of the above
    Answer: d) All of the above

36. **What do Data Bars in Power BI represent?**
    a) Horizontal bar charts within a table or matrix
    b) Vertical bar charts
    c) Filters applied to data
    d) Connections between visuals
    Answer: a) Horizontal bar charts within a table or matrix

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19. Hierarchies in Power BI

37. **What is the purpose of creating hierarchies in Power BI?**
    a) To format data
    b) To enable drill-down capabilities
    c) To calculate measures
    d) To group data into bins
    Answer: b) To enable drill-down capabilities

38. **Which element in a table often serves as the top level of a hierarchy?**
    a) Dimensions
    b) Categories
    c) Dates
    d) Measures
    Answer: c) Dates

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20. Power BI Dashboard Design

39. **What is the purpose of bookmarks in Power BI?**
    a) To save custom filter views or visual states
    b) To combine multiple datasets
    c) To export reports
    d) To create calculated measures
    Answer: a) To save custom filter views or visual states

40. **Which of the following is important for creating a great Power BI dashboard?**
    a) Using consistent colors
    b) Avoiding clutter
    c) Highlighting key insights
    d) All of the above
    Answer: d) All of the above

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21. Filters and Slicers Continued

41. **What is the purpose of a "Page-Level Filter" in Power BI?**
    a) To filter a specific visualization
    b) To filter the entire report

c) To filter data across all visuals on a single page

d) To create drill-through functionality

Answer: c) To filter data across all visuals on a single page

42. **What type of filter applies only to a specific visual on a report page?**
    a) Report-Level Filter
    b) Visual-Level Filter
    c) Page-Level Filter
    d) Slicer
    Answer: b) Visual-Level Filter

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22. Drill-Through Filters

43. **What is a Drill-Through Filter used for?**
    a) To create dynamic relationships
    b) To navigate to a detailed page with specific data context
    c) To group data
    d) To add conditional formatting
    Answer: b) To navigate to a detailed page with specific data context

44. **Which field is required to create a drill-through filter in Power BI?**
    a) A slicer
    b) A measure
    c) A column from the dataset
    d) A hierarchy
    Answer: c) A column from the dataset

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23. Conditional Formatting Advanced

45. **Which visualization does not support conditional formatting?**
    a) Table
    b) Matrix
    c) Pie chart
    d) Column chart
    Answer: c) Pie chart

46. **What is the basis for applying conditional formatting in Power BI?**
    a) Field values

b) Color scales

c) Data bars

d) All of the above

Answer: d) All of the above

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24. Star Schema: Relationships Continued

47. **In Power BI, which relationship type allows multiple matches between tables?**

a) One-to-Many

b) Many-to-Many

c) One-to-One

d) None of the above

Answer: b) Many-to-Many

48. **What feature in Power BI ensures data integrity when building relationships?**

a) Enforced join

b) Data cardinality

c) Referential integrity

d) None of the above

Answer: c) Referential integrity

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25. Power Query: Merging Data

49. **What is the purpose of merging queries in Power Query?**

a) To remove duplicate rows

b) To combine data from two or more tables

c) To split a column

d) To add calculated measures

Answer: b) To combine data from two or more tables

50. **Which join type includes all records from both tables, even if there are no matches?**

a) Inner Join

b) Left Outer Join

c) Full Outer Join

d) Right Outer Join
Answer: c) Full Outer Join

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26. DAX Logical and Date Functions

51. **Which DAX function is used to return the current date?**
    a) TODAY()
    b) NOW()
    c) DATE()
    d) CURRENTDATE()
    Answer: a) TODAY()

52. **What does the DAX function IF require as its first argument?**
    a) A measure
    b) A condition
    c) A table
    d) A column
    Answer: b) A condition

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27. DAX Aggregation Functions

53. **Which DAX function is used to calculate the sum of a column?**
    a) SUM()
    b) CALCULATE()
    c) AGGREGATE()
    d) SUMX()
    Answer: a) SUM()

54. **Which DAX function performs row-by-row operations on a table?**
    a) SUM()
    b) SUMX()
    c) CALCULATE()
    d) FILTER()
    Answer: b) SUMX()

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28. Data Bars

55. **Where can data bars be applied in Power BI?**
    a) Visualizations
    b) Table or Matrix visualizations
    c) Maps
    d) Slicers
    Answer: b) Table or Matrix visualizations

56. **What does a longer data bar indicate in Power BI?**
    a) A smaller value
    b) A larger value
    c) An error in the data
    d) A hierarchy expansion
    Answer: b) A larger value

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29. Advanced Features: Bookmarks

57. **What is a Power BI bookmark used for?**
    a) To save a state of visuals
    b) To export data
    c) To clean data
    d) To create relationships
    Answer: a) To save a state of visuals

58. **Which of the following actions can bookmarks capture?**
    a) Filter states
    b) Drill-downs
    c) Display modes
    d) All of the above
    Answer: d) All of the above

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30. Dashboard Design Principles

59. **Which of the following is considered a best practice for dashboards?**
    a) Using multiple colors for every visual
    b) Minimizing distractions and focusing on key metrics
    c) Adding as much data as possible

d) Avoiding KPIs
Answer: b) Minimizing distractions and focusing on key metrics

60. **Which feature allows creating interactive navigation in dashboards?**
    a) Filters
    b) Buttons
    c) Slicers
    d) Relationships
    Answer: b) Buttons

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31. Drill-Down Features

61. **How do you enable drill-down in a visualization?**
    a) By clicking the drill-down button in the visual header
    b) By creating a slicer
    c) By adding a calculated measure
    d) By grouping data
    Answer: a) By clicking the drill-down button in the visual header

62. **What type of data structure is best suited for drill-down functionality?**
    a) Star Schema
    b) Flat table
    c) Hierarchical data
    d) Aggregated data
    Answer: c) Hierarchical data

Here is the continuation to complete **100 MCQs with answers**:

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32. Advanced Visualizations: Tree Maps

63. **What does the size of a rectangle in a Tree Map indicate?**
    a) The hierarchy level
    b) The proportion of the value relative to the whole
    c) The geographical location
    d) The total number of rows in the dataset
    Answer: b) The proportion of the value relative to the whole

64. **Tree Maps are most useful for:**
    a) Displaying trends over time
    b) Comparing categorical data within a hierarchy
    c) Mapping geographic data
    d) Creating KPI dashboards
    Answer: b) Comparing categorical data within a hierarchy

33. Combo Charts

65. **What does a Combo Chart combine?**
    a) Tables and visualizations
    b) Multiple filters on a single page
    c) Two different chart types, such as line and bar charts
    d) Multiple data models
    Answer: c) Two different chart types, such as line and bar charts

66. **When is a Combo Chart particularly useful?**
    a) When displaying KPIs
    b) When showing relationships between two datasets
    c) When comparing trends and values simultaneously
    d) When working with geographic data
    Answer: c) When comparing trends and values simultaneously

34. Relationships in Power BI

67. **What does a dotted line between two tables in Power BI indicate?**
    a) An active relationship
    b) An inactive relationship
    c) A calculated measure
    d) A broken connection
    Answer: b) An inactive relationship

68. **Which relationship direction should you use for calculated measures to work effectively?**
    a) Single-direction
    b) Bi-directional
    c) No direction

d) Cross-filtering
Answer: b) Bi-directional

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35. Data Modelling Best Practices

69. **What is the primary purpose of creating a data model in Power BI?**
    a) To import data quickly
    b) To structure data for efficient reporting
    c) To visualize data directly
    d) To remove duplicate records
    Answer: b) To structure data for efficient reporting

70. **Which schema is more efficient for analytics in Power BI?**
    a) Flat Schema
    b) Star Schema
    c) Snowflake Schema
    d) Network Schema
    Answer: b) Star Schema

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36. Formatting Visuals

71. **Which panel is used to format visuals in Power BI?**
    a) Fields Pane
    b) Format Pane
    c) Visualizations Pane
    d) Filters Pane
    Answer: b) Format Pane

72. **What is the purpose of data labels in a visualization?**
    a) To filter the data
    b) To highlight KPIs
    c) To display values directly on the visual
    d) To change the chart type
    Answer: c) To display values directly on the visual

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37. Drill-Through Pages

73. **What must you add to create a Drill-Through Page?**
    a) A slicer
    b) A Drill-Through field
    c) A calculated column
    d) A report filter
    Answer: b) A Drill-Through field

74. **What visual element is commonly used to return to the main report page from a Drill-Through Page?**
    a) KPI visual
    b) Back button
    c) Slicer
    d) Table visual
    Answer: b) Back button

38. DAX: Advanced Functions

75. **What is the purpose of the DAX function RELATED()?**
    a) To filter data
    b) To retrieve a value from a related table
    c) To create a calculated measure
    d) To join two tables
    Answer: b) To retrieve a value from a related table

76. **Which DAX function allows you to create a running total?**
    a) CALCULATE()
    b) SUMX()
    c) TOTALYTD()
    d) FILTER()
    Answer: c) TOTALYTD()

39. Working with Date Hierarchies

77. **What is automatically created when a date field is added to Power BI?**
    a) A calculated column
    b) A default hierarchy (Year, Quarter, Month, Day)
    c) A slicer

d) A drill-through page
Answer: b) A default hierarchy (Year, Quarter, Month, Day)

78. **Which function can be used to calculate the previous month's total in Power BI?**
a) PREVIOUSMONTH()
b) LASTMONTH()
c) EARLIER()
d) DATESBETWEEN()
Answer: a) PREVIOUSMONTH()

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40. Power BI Service Features

79. **What is the purpose of publishing a Power BI report to the Power BI Service?**
a) To clean data
b) To share and collaborate on reports online
c) To apply conditional formatting
d) To create relationships
Answer: b) To share and collaborate on reports online

80. **Which feature in Power BI Service allows real-time data refresh?**
a) Data Gateway
b) Conditional Formatting
c) Query Editor
d) Hierarchies
Answer: a) Data Gateway

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41. Advanced DAX Calculations

81. **Which DAX function evaluates an expression in a modified filter context?**
a) SUMX()
b) CALCULATE()
c) FILTER()
d) RELATED()
Answer: b) CALCULATE()

82. **What is the purpose of the ALL() function in DAX?**
    a) To remove all filters from a table or column
    b) To calculate a sum across all records
    c) To apply conditional formatting
    d) To return a list of unique values
    Answer: a) To remove all filters from a table or column

42. Key Performance Indicators (KPIs)

83. **What does a KPI visualization display?**
    a) Geographic data
    b) Progress toward a measurable goal
    c) A detailed drill-through page
    d) A hierarchy of data
    Answer: b) Progress toward a measurable goal

84. **Which component is not part of a KPI visualization?**
    a) Actual value
    b) Target value
    c) Variance percentage
    d) Tooltip
    Answer: d) Tooltip

43. Exporting Data

85. **Which formats can Power BI reports be exported to?**
    a) PDF
    b) PowerPoint
    c) Excel
    d) All of the above
    Answer: d) All of the above

86. **What is the primary purpose of exporting Power BI data?**
    a) To edit visuals
    b) To analyze data outside of Power BI
    c) To create relationships
    d) To design dashboards
    Answer: b) To analyze data outside of Power BI

44. Power BI Dashboard Principles

87. **What is the most important principle in dashboard design?**
    a) Complexity
    b) Simplicity and clarity
    c) Including all data in one view
    d) Using multiple colors
    Answer: b) Simplicity and clarity

88. **What visual is often used to highlight trends in dashboards?**
    a) Line chart
    b) Table
    c) Tree map
    d) Map
    Answer: a) Line chart

45. Real-Time Dashboards

89. **What feature allows real-time data updates in dashboards?**
    a) Conditional Formatting
    b) Streaming datasets
    c) Hierarchies
    d) Slicers
    Answer: b) Streaming datasets

90. **What kind of data source supports live connection in Power BI?**
    a) CSV
    b) SQL Server Analysis Services (SSAS)
    c) Excel
    d) JSON
    Answer: b) SQL Server Analysis Services (SSAS)

46. Final Questions

91. **What does the "Publish" button in Power BI Desktop do?**
    a) Saves the report locally
    b) Uploads the report to Power BI Service

c) Exports the report to Excel

d) Shares the report via email

Answer: b) Uploads the report to Power BI Service

92. **Which feature is used to automate email delivery of reports?**
    a) Data Gateway
    b) Email Subscriptions
    c) Conditional Formatting
    d) Slicers
    Answer: b) Email Subscriptions

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47. Data Refresh

93. **Which feature is used to refresh data in Power BI Service?**
    a) Query Editor
    b) Scheduled Refresh
    c) Conditional Formatting

    d) Bookmarks

Answer: b) Scheduled Refresh

94. **What does incremental refresh allow?**

a) Adding only new data to the dataset

b) Replacing old data completely

c) Manually updating the data

d) Removing duplicate records

Answer: a) Adding only new data to the dataset

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48. Sharing and Collaboration

95. **What does a Power BI Workspace provide?**
    a) A private data model
    b) A collaborative environment for sharing and managing reports
    c) A query editor for advanced transformations
    d) A place to create calculated measures
    Answer: b) A collaborative environment for sharing and managing reports

96. **What permissions are needed to share a report in Power BI Service?**
a) Viewer access
b) Admin access
c) Member or Contributor access
d) Data Gateway access
Answer: c) Member or Contributor access

49. Final Features

97. **What is Power BI Paginated Report best used for?**
a) Exporting data to Excel
b) Generating pixel-perfect reports
c) Data visualization
d) Creating relationships
Answer: b) Generating pixel-perfect reports

98. **What type of subscription allows free sharing of reports?**
a) Power BI Premium
b) Power BI Free
c) Power BI Pro
d) Power BI Embedded
Answer: a) Power BI Premium

50. Comprehensive Question

99. **What are the three primary components of the Power BI ecosystem?**
a) Desktop, Mobile App, Service
b) Desktop, Gateway, Maps
c) PowerPoint, Excel, Service
d) Power Query, DAX, Slicers
Answer: a) Desktop, Mobile App, Service

100. **What is the main benefit of using Power BI over Excel for visualization?**
a) More advanced charting capabilities
b) Real-time collaboration and sharing
c) Access to Microsoft Office tools

d) Better data formatting options
Answer: b) Real-time collaboration and sharing