

CHAPTER 09

Introduction to Data Science and Data Gathering

85 Multiple Choice Questions

Correct answers ticked ✓ & highlighted, each with a clear explanation.

9th Class

Computer Science & Entrepreneurship

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Section 1: Data Fundamentals & Data Types (Q1 - Q25)

Q1. What are raw facts collected about things around us that can be processed to generate useful information?

A) Information

B) Data ✓

C) Knowledge

D) Insights

✓ **Correct Answer: B) Data**

Explanation: Data consists of raw, unorganized facts (like numbers, words, or measurements). Once this raw data is processed and contextualized, it becomes meaningful information.

Q2. Which of the following is an example of data collected from weather stations?

A) Product sales records

B) Survey responses

C) Temperature, humidity, and wind speed ✓

D) Website visitor counts

✓ **Correct Answer: C) Temperature, humidity, and wind speed**

Explanation: Weather stations specifically collect meteorological data. The other options represent data from retail, customer service, and web analytics, respectively.

Q3. Qualitative data is primarily described as:

A) Numerical and measurable

B) Non-numeric and descriptive ✓

C) Always discrete

D) Always continuous

✓ **Correct Answer: B) Non-numeric and descriptive**

Explanation: Qualitative data deals with qualities, labels, and characteristics (e.g., names, colors) rather than quantities or numbers.

Q4. Which of the following is an example of qualitative data?

- A) The height of students in centimeters
- B) The number of cars in a parking lot
- C) The colors of cars in a parking lot ✓**
- D) The temperature of a room

✓ Correct Answer: C) The colors of cars in a parking lot

Explanation: Colors (red, blue, green) are descriptive labels used to categorize, making them qualitative. Heights, counts, and temperatures are numerical (quantitative).

Q5. Nominal data is used to:

- A) Rank items in a meaningful order
- B) Label or categorize items without implying any order ✓**
- C) Measure continuous values
- D) Perform division operations

✓ Correct Answer: B) Label or categorize items without implying any order

Explanation: Nominal data is purely for labeling or categorization (e.g., gender, types of fruit). There is no inherent ranking or order among the categories.

Q6. Which of the following is an example of Ordinal Data?

- A) Gender (Male, Female)
- B) Types of fruits (Apple, Banana, Orange)
- C) Customer satisfaction ratings (Satisfied, Neutral, Unsatisfied) ✓**
- D) Colors (Red, Blue, Green)

✓ **Correct Answer: C) Customer satisfaction ratings (Satisfied, Neutral, Unsatisfied)**

Explanation: Ordinal data represents categories with a meaningful order or rank (Satisfied > Neutral > Unsatisfied), even though the exact difference between them is not uniform.

Q7. What kind of data answers questions like "How many?" or "How often?" and consists of distinct, separate values?

- A) Continuous Data
- B) Ordinal Data
- C) Discrete Data ✓**
- D) Nominal Data

✓ **Correct Answer: C) Discrete Data**

Explanation: Discrete data consists of countable, distinct values, often whole numbers (e.g., the number of students in a class, the number of cars). You cannot have half a student.

Q8. Continuous data can take any number within a given range, including:

- A) Only whole numbers
- B) Fractions and decimals** ✓
- C) Only categories
- D) Only negative numbers

✓ **Correct Answer: B) Fractions and decimals**

Explanation: Continuous data is measurable and can be infinitely divided within a range (e.g., 150.5 cm, 22.5°C), unlike discrete data which is countable.

Q9. Which operation can be performed on Nominal Data?

- A) Finding the mean
- B) Division
- C) Finding the mode** ✓
- D) Subtraction

✓ **Correct Answer: C) Finding the mode**

Explanation: Nominal data allows for equality, grouping, counting, and finding the most frequent category (mode). You cannot calculate a mathematical mean or subtract categories.

Q10. Which of the following operations is exclusively allowed for Continuous Data but not Discrete Data?

- A) Addition
- B) Subtraction
- C) Division** ✓
- D) Finding the mode

✓ **Correct Answer: C) Division**

Explanation: Continuous data allows for division (e.g., dividing 2.5 kg of meat among 10 people). Discrete data, being countable items, cannot be divided meaningfully (you cannot divide 3 cars among 5 people).

Q11. Ordinal data allows for comparisons and ranking, but the differences between categories are:

- A) Always equal
- B) Uniform
- C) Not uniform** ✓
- D) Non-existent

✓ **Correct Answer: C) Not uniform**

Explanation: While Ordinal data has a meaningful order (e.g., Bachelor's > High School), the gap between the ranks is not mathematically uniform or measurable.

Q12. Which type of data is best suited for finding the median value?

- A) Nominal Data
- B) Ordinal Data** ✓
- C) Discrete Data
- D) Unstructured Data

✓ **Correct Answer: B) Ordinal Data**

Explanation: Because Ordinal data can be ranked, you can find the middle value (median) (e.g., median satisfaction level). Nominal data cannot be ranked, so a median cannot be found.

Q13. Which of the following is NOT a characteristic of Quantitative Data?

- A) Numerical
- B) Measurable
- C) Categorical** ✓
- D) Arithmetic

✓ **Correct Answer: C) Categorical**

Explanation: Quantitative data is inherently numerical and measurable. Categorical (or qualitative) data deals with labels and descriptions.

Q14. "The number of books on a shelf" is an example of:

- A) Continuous Data
- B) Discrete Data** ✓
- C) Nominal Data
- D) Ordinal Data

✓ **Correct Answer: B) Discrete Data**

Explanation: Books are distinct, countable items. You can count them in whole numbers (1, 2, 3...).

Q15. "Weight of fruits (1.5 kg, 2.2 kg)" is an example of:

- A) Discrete Data
- B) Nominal Data
- C) Continuous Data** ✓
- D) Ordinal Data

✓ **Correct Answer: C) Continuous Data**

Explanation: Weight is measurable and can take any value within a range, including decimals (e.g., 1.55 kg).

Q16. If a dataset has the values: 75, 63, 92, 55, 70. What is the mean?

A) 70

B) 71 ✓

C) 75

D) 63

✓ **Correct Answer: B) 71**

Explanation: Mean = Sum of values / Number of values. $(75+63+92+55+70) = 355$. $355 / 5 = 71$.

Q17. In a dataset of test scores: 70, 80, 80, 90, 100, what is the mode?

A) 80 ✓

B) 90

C) 70

D) 100

✓ **Correct Answer: A) 80**

Explanation: The mode is the value that appears most frequently. 80 appears twice, while all other numbers appear once.

Q18. Which measure of central tendency is most affected by extreme outliers?

- A) Mode
- B) Median
- C) Mean** ✓
- D) Range

✓ **Correct Answer: C) Mean**

Explanation: The mean takes every value into account. An extremely high or low outlier will pull the average up or down significantly, whereas the median (middle value) remains resistant to outliers.

Q19. What does the "Range" measure in statistics?

- A) The average of the dataset
- B) The most frequent value
- C) The difference between the highest and lowest values** ✓
- D) The square root of the variance

✓ **Correct Answer: C) The difference between the highest and lowest values**

Explanation: Range is the simplest measure of spread. For example, in the scores 60, 75, 83, 91, 95, the range is $95 - 60 = 35$.

Q20. Which data type is used to describe qualities or characteristics rather than quantities?

- A) Quantitative
- B) Qualitative** ✓
- C) Discrete
- D) Continuous

✓ **Correct Answer: B) Qualitative**

Explanation: Qualitative data provides insights into opinions, behaviors, and experiences through descriptions rather than numbers.

Q21. A survey asking for favourite colours where responses are 'red', 'blue', or 'green' yields what type of data?

- A) Nominal** ✓
- B) Ordinal
- C) Discrete
- D) Continuous

✓ **Correct Answer: A) Nominal**

Explanation: Colors are categories or labels with no inherent order or ranking, making them nominal data.

Q22. Which of the following data types allows for arithmetic operations including division?

- A) Nominal Data
- B) Ordinal Data
- C) Discrete Data

D) Continuous Data



✓ **Correct Answer: D) Continuous Data**

Explanation: Continuous data can be divided into fractions or decimals (e.g., dividing a length of 10.5 meters), which is not possible with discrete countable items.

Q23. "Educational levels (high school, bachelor's, master's)" is an example of:

A) Nominal Data

B) Ordinal Data



C) Discrete Data

D) Continuous Data

✓ **Correct Answer: B) Ordinal Data**

Explanation: These categories have a clear, meaningful order (Master's > Bachelor's > High School), but the difference between them is not uniform. This defines Ordinal data.

Q24. What is the primary purpose of organizing data?

- A) To make it look pretty
- B) To reduce errors and improve clarity for analysis ✓**
- C) To increase the file size
- D) To hide sensitive information

✓ **Correct Answer: B) To reduce errors and improve clarity for analysis**

Explanation: Organizing data systematically saves time, reduces the chance of mistakes (like mixing up scores), and improves clarity, making it easier to draw conclusions.

Q25. Which of the following is NOT a common type of chart or graph used in data visualization?

- A) Bar chart
- B) Pie chart
- C) Scatter plot
- D) Text document ✓**

✓ **Correct Answer: D) Text document**

Explanation: Bar charts, pie charts, and scatter plots are visual tools. A text document is a written format, not a visual representation of data patterns.

Section 2: Data Collection, Storage, and Organization (Q26 – Q50)

Q26. What is the process of gathering information to answer questions, make decisions, or understand something better?

- A) Data Analysis
- B) Data Collection** ✓
- C) Data Visualization
- D) Data Cleaning

✓ **Correct Answer: B) Data Collection**

Explanation: Data collection is the systematic process of gathering raw information from various sources.

Q27. Which method of data collection involves talking to individuals one-on-one to gather detailed information?

- A) Surveys
- B) Questionnaires
- C) Interviews** ✓
- D) Observations

✓ **Correct Answer: C) Interviews**

Explanation: Interviews are direct, one-on-one conversations designed to extract in-depth information, experiences, and challenges from individuals.

Q28. Which of the following is a best practice for designing a survey?

- A) Make it as long as possible
- B) Use complex jargon
- C) Ensure anonymity** ✓
- D) Avoid testing the survey

✓ **Correct Answer: C) Ensure anonymity**

Explanation: Ensuring anonymity encourages honest responses from participants. Surveys should also be short, clear, and tested beforehand.

Q29. What is the primary purpose of a questionnaire?

- A) To observe behavior in a natural setting
- B) To gather written responses to a set of questions** ✓
- C) To conduct face-to-face interviews
- D) To analyze big data

✓ **Correct Answer: B) To gather written responses to a set of questions**

Explanation: Questionnaires are similar to surveys but are typically written forms that people fill out independently.

Q30. Which data collection method involves watching and noting what happens in a particular situation?

- A) Surveys
- B) Interviews
- C) Observations**
- D) Questionnaires



✓ **Correct Answer: C) Observations**

Explanation: Observation involves watching subjects (e.g., students in a group project) to understand how they behave or interact in real-time.

Q31. Google Scholar and IEEE Xplore are examples of:

- A) Social media platforms
- B) Online databases for research**
- C) Survey tools
- D) Data warehouses



✓ **Correct Answer: B) Online databases for research**

Explanation: These are specialized websites where researchers can find a vast amount of scholarly articles, reports, and studies.

Q32. In the context of online data gathering, what does "Data Extraction" involve?

- A) Deleting irrelevant data
- B) Finding and saving the most relevant information from a larger set of data** ✓
- C) Encrypting sensitive data
- D) Visualizing data

✓ **Correct Answer: B) Finding and saving the most relevant information from a larger set of data**

Explanation: Data extraction is the process of identifying specific, useful details (like statistics or quotes) from online sources and saving them for integration.

Q33. Structured data is best described as:

- A) Free-form text from emails and social media
- B) Data organized and formatted to be easily searchable and analyzable** ✓
- C) Data that doesn't fit into a specific format
- D) Unorganized images and videos

✓ **Correct Answer: B) Data organized and formatted to be easily searchable and analyzable**

Explanation: Structured data is highly organized, typically stored in rows and columns (like spreadsheets or databases), making it easy to search and analyze.

Q34. Which of the following is an example of Unstructured Data?

A) A spreadsheet of student grades

B) A database of employee records

C) Text from emails and social media posts ✓

D) A table of product prices

✓ **Correct Answer: C) Text from emails and social media posts**

Explanation: Unstructured data lacks a predefined format. Emails, videos, and social media posts are free-form and require special tools to process.

Q35. What is the primary function of a Spreadsheet?

- A) To handle massive amounts of unstructured data
- B) To organize data in rows and columns for simple calculations and charting** ✓
- C) To act as a specialized database for large organizations
- D) To store data across multiple servers without a single point of failure

✓ **Correct Answer: B) To organize data in rows and columns for simple calculations and charting**

Explanation: Spreadsheets (like Excel or Google Sheets) are perfect for personal budgeting, simple data analysis, and small business inventory management.

Q36. Databases are often described as:

- A) Digital filing cabinets** ✓
- B) Simple calculators
- C) Unstructured data dumps
- D) Visual dashboards

✓ **Correct Answer: A) Digital filing cabinets**

Explanation: Databases store large amounts of structured data in an organized way (tables, rows, columns), allowing users to easily find and manipulate specific information.

Q37. What is a Data Warehouse?

- A) A physical building where servers are kept
- B) A specialized database designed for storing and analyzing large amounts of data from various sources ✓**
- C) A simple spreadsheet for personal use
- D) A type of NoSQL database

✓ **Correct Answer: B) A specialized database designed for storing and analyzing large amounts of data from various sources**

Explanation: Data warehouses (like Amazon Redshift or Google BigQuery) are built for big data analytics and business intelligence, combining data from multiple sources.

Q38. What does NoSQL stand for?

- A) No Structured Query Language
- B) Not Only SQL ✓**
- C) New Object SQL
- D) Non-Operational SQL

✓ **Correct Answer: B) Not Only SQL**

Explanation: NoSQL refers to a variety of database technologies designed to handle unstructured or flexible data types that don't fit well into traditional relational tables.

Q39. Which of the following is a popular NoSQL database?

A) Microsoft Excel

B) MongoDB



C) Google Sheets

D) Oracle SQL

✓ **Correct Answer: B) MongoDB**

Explanation: MongoDB is a famous NoSQL database that stores data in JSON-like documents, offering flexibility for big data applications.

Q40. A table in a database consists of rows and columns. What do the rows represent?

A) Attributes

B) Records



C) Fields

D) Tables

✓ **Correct Answer: B) Records**

Explanation: In a database table, each row represents a single, individual record (e.g., one student's complete data), while columns represent the attributes (e.g., Student ID, Name).

Q41. Which of the following is NOT a benefit of organizing data into tables and charts?

A) It makes it easier to understand

B) It helps in drawing conclusions

C) It increases the complexity of the data ✓

D) It improves clarity

✓ **Correct Answer: C) It increases the complexity of the data**

Explanation: Organizing data aims to reduce complexity and make it easier to grasp, not increase it.

Q42. Which tool is specifically designed for creating detailed and interactive visualizations?

A) Tableau ✓

B) Notepad

C) MongoDB

D) SQL

✓ **Correct Answer: A) Tableau**

Explanation: Tableau is a powerful data visualization tool used to create interactive and shareable dashboards.

Q43. When collecting data from online sources, why is it important to check the author and source?

A) To ensure the information is accurate and reliable ✓

B) To make the report longer

C) To avoid copyright issues

D) To find more data

✓ **Correct Answer: A) To ensure the information is accurate and reliable**

Explanation: The internet contains vast amounts of information, but not all of it is accurate. Verifying the author and source ensures the data's credibility.

Q44. What is the first step in the Data Science Workflow?

A) Data Cleaning

B) Problem Identification ✓

C) Data Analysis

D) Data Visualization

✓ **Correct Answer: B) Problem Identification**

Explanation: Before collecting or analyzing data, you must clearly define and understand the problem you are trying to solve.

Q45. In the Data Science Workflow, what does "Data Cleaning" involve?

A) Deleting all data

B) Removing errors and organizing data to make it useful ✓

C) Visualizing data

D) Collecting data from surveys

✓ **Correct Answer: B) Removing errors and organizing data to make it useful**

Explanation: Data cleaning (or pre-processing) fixes mistakes, handles missing values, and organizes the data so it's ready for accurate analysis.

Q46. Which of the following best describes "Big Data"?

A) Data stored on a large USB drive

B) Extremely large and complex datasets that cannot be managed with traditional tools ✓

C) Data collected from a single survey

D) A spreadsheet with 100 rows

✓ **Correct Answer: B) Extremely large and complex datasets that cannot be managed with traditional tools**

Explanation: Big Data is characterized by its massive volume, high velocity, and wide variety, requiring advanced technologies to analyze.

Q47. What are the "Three V's" of Big Data?

A) Volume, Velocity, Variety ✓

B) Value, Volume, Vision

C) Velocity, Variety, Vision

D) Volume, Value, Verification

✓ **Correct Answer: A) Volume, Velocity, Variety**

Explanation: Volume (amount of data), Velocity (speed of data generation), and Variety (different forms of data: text, images, video) are the defining characteristics of Big Data.

Q48. Which Big Data application involves analyzing patient records to predict disease outbreaks?

- A) Retail
- B) Finance
- C) Healthcare** ✓
- D) Transportation

✓ **Correct Answer: C) Healthcare**

Explanation: In healthcare, Big Data is used to monitor patient health, anticipate flu seasons, and prepare vaccines in advance.

Q49. How is Big Data used in the Finance sector?

- A) To recommend movies
- B) To detect fraud and manage risks** ✓
- C) To optimize delivery routes
- D) To design video games

✓ **Correct Answer: B) To detect fraud and manage risks**

Explanation: Banks analyze vast transaction datasets to spot unusual activities and flag potentially fraudulent transactions.

Q50. Which data science tool is a popular programming language used for data manipulation (Pandas) and creating graphs (Matplotlib)?

A) Excel

B) SQL

C) Python



D) Tableau

✓ Correct Answer: C) Python

Explanation: Python is a versatile programming language widely used in data science, with powerful libraries like Pandas for data manipulation and Matplotlib for visualization.

Section 3: Data Analysis, Pre-processing, and Visualization (Q51 – Q75)

Q51. What is the initial and most important step in working with data, involving cleaning and organizing it?

A) Data Visualization

B) Data Pre-processing ✓

C) Data Collection

D) Data Interpretation

✓ **Correct Answer: B) Data Pre-processing**

Explanation: Data pre-processing prepares raw data for analysis by cleaning it, handling missing values, and removing errors, much like preparing ingredients before cooking.

Q52. Which of the following is an example of an "Outlier" in a dataset of test scores where most students scored between 50 and 80?

- A) A score of 75
- B) A score of 60
- C) A score of 5**
- D) A score of 80



✓ **Correct Answer: C) A score of 5**

Explanation: An outlier is an unusual or extreme value that doesn't fit the pattern of the rest of the data. A score of 5 is extremely low compared to the rest.

Q53. What does "Data Validation" involve?

- A) Deleting all incorrect data
- B) Checking data completeness and accuracy**
- C) Creating charts and graphs
- D) Collecting data from surveys



✓ **Correct Answer: B) Checking data completeness and accuracy**

Explanation: Validation ensures no data is missing (completeness) and that the data is correct (accuracy), such as checking if all test scores are between 0 and 100.

Q54. If a survey only includes answers from students in one school to represent the opinions of an entire city, this is an example of:

- A)** An error
- B)** An outlier
- C) A bias** ✓
- D)** A validation check

✓ **Correct Answer: C) A bias**

Explanation: Bias is a distortion that affects accuracy. A limited sample (one school) cannot accurately represent the whole city, leading to biased conclusions.

Q55. How should missing data be handled during data cleaning?

- A)** Ignore it completely
- B)** Delete the entire dataset

C) Decide how to deal with gaps, such as using the average score to fill in the gap ✓

- D)** Replace it with zeros

✓ **Correct Answer: C) Decide how to deal with gaps, such as using the average score to fill in the gap**

Explanation: Handling missing data requires careful consideration. Imputing missing values with a reasonable estimate (like the mean) is a common technique to maintain dataset integrity.

Q56. Which measure of central tendency represents the middle value when all values are arranged in order?

A) Mean

B) Median



C) Mode

D) Range

✓ **Correct Answer: B) Median**

Explanation: The median is the central point of a dataset. If there's an even number of values, it's the average of the two middle values.

Q57. Which measure of spread measures how much the values in a dataset vary from the mean?

A) Range

B) Median

C) Variance



D) Mode

✓ **Correct Answer: C) Variance**

Explanation: Variance calculates the average squared deviation from the mean, giving a sense of how spread out the data points are.

Q58. What is the square root of the variance called?

A) Mean

B) Standard Deviation ✓

C) Range

D) Mode

✓ **Correct Answer: B) Standard Deviation**

Explanation: Standard deviation is the square root of variance. A low standard deviation means data points are close to the mean, while a high one means they are spread out.

Q59. For the dataset [2, 4, 6], what is the variance?

A) 2

B) 4 ✓

C) 6

D) 8

✓ **Correct Answer: B) 4**

Explanation: Mean = 4. Variance = $[(2-4)^2 + (4-4)^2 + (6-4)^2] / (3-1) = (4 + 0 + 4) / 2 = 8 / 2 = 4$.

Q60. Which type of analysis deals with non-numeric data such as text, images, and sounds?

A) Quantitative Analysis

B) Qualitative Analysis ✓

C) Statistical Analysis

D) Discrete Analysis

✓ **Correct Answer: B) Qualitative Analysis**

Explanation: Qualitative analysis helps understand meanings, concepts, and experiences from non-numeric data sources.

Q61. Counting the number of times specific words or themes appear in a text is known as:

A) Thematic Analysis

B) Content Analysis ✓

C) Statistical Analysis

D) Variance Analysis

✓ **Correct Answer: B) Content Analysis**

Explanation: Content analysis involves quantifying the presence of specific words or ideas within qualitative data (e.g., counting mentions of "homework stress").

Q62. Identifying and interpreting themes or patterns within qualitative data (like student essays) is called:

- A) Content Analysis
- B) Thematic Analysis** ✓
- C) Quantitative Analysis
- D) Data Validation

✓ **Correct Answer: B) Thematic Analysis**

Explanation: Thematic analysis goes beyond counting words to find deeper, underlying themes (e.g., "difficulty with math" or "enjoyment of science") in the text.

Q63. What is the primary purpose of Data Visualization?

- A) To make reports longer
- B) To turn numbers and information into pictures for easier understanding** ✓
- C) To complicate the data
- D) To replace data analysis

✓ **Correct Answer: B) To turn numbers and information into pictures for easier understanding**

Explanation: Visualizations (charts, graphs) help us quickly grasp patterns, trends, and relationships that might be hidden in raw numbers.

Q64. According to the chapter, how much faster does the human brain process visuals compared to text?

A) 10,000 times

B) 60,000 times



C) 100 times

D) 5 times

✓ **Correct Answer: B) 60,000 times**

Explanation: The human brain is wired to process visual information incredibly fast, making charts and graphs highly effective for communication.

Q65. Which type of chart is best suited for showing proportions and percentages of a whole?

A) Bar chart

B) Line chart

C) Pie chart



D) Scatter plot

✓ **Correct Answer: C) Pie chart**

Explanation: Pie charts represent data as slices of a circle, making them perfect for visualizing parts of a whole (e.g., market share percentages).

Q66. Which chart type is commonly used to visualize continuous data, such as showing a trend over time?

A) Pie chart

B) Line graph



C) Histogram

D) Bar chart

✓ **Correct Answer: B) Line graph**

Explanation: Line graphs connect individual data points to show trends, fluctuations, or changes over a continuous period (e.g., stock prices, temperature changes).

Q67. To visualize Discrete Data, which of the following techniques is recommended?

A) Line graphs

B) Scatter plots

C) Histograms or dot plots



D) Pie charts

✓ **Correct Answer: C) Histograms or dot plots**

Explanation: Discrete data consists of distinct, separate values. Histograms and dot plots effectively show the frequency of these countable values.

Q68. Which of the following is NOT a popular tool for data visualization mentioned in the chapter?

- A) Microsoft Excel
- B) Google Sheets
- C) Tableau

D) MongoDB



✓ **Correct Answer: D) MongoDB**

Explanation: MongoDB is a NoSQL database used for storage, not a data visualization tool. Excel, Google Sheets, and Tableau are visualization tools.

Q69. What does Microsoft Power BI allow users to do?

A) Store unstructured data

B) Create a wide variety of visualizations like charts, graphs, and maps



C) Conduct one-on-one interviews

D) Clean data automatically

✓ **Correct Answer: B) Create a wide variety of visualizations like charts, graphs, and maps**

Explanation: Power BI is a business analytics tool that allows users to create interactive visualizations and dashboards.

Q70. Bar charts and stacked bar charts are particularly effective for visualizing which type of data?

- A) Continuous Data
- B) Ordinal Data**
- C) Unstructured Data
- D) Big Data



✓ **Correct Answer: B) Ordinal Data**

Explanation: Ordinal data has a specific order but uneven differences. Bar charts effectively display this ranking (e.g., satisfaction levels).

Q71. What is the role of Cloud Storage in data management?

- A) To delete local files
- B) To save files on the internet for access from any device and backup**
- C) To slow down computer performance
- D) To replace data analysis



✓ **Correct Answer: B) To save files on the internet for access from any device and backup**

Explanation: Cloud storage (like Google Drive or OneDrive) allows users to access, share, and back up their data remotely from anywhere with an internet connection.

Q72. What is "Remote Access" in the context of cloud computing?

A) Accessing a computer or network from a distant location ✓

B) Deleting files from a remote server

C) Using a computer without an internet connection

D) Storing data on a USB drive

✓ **Correct Answer: A) Accessing a computer or network from a distant location**

Explanation: Remote access allows you to connect to your files or applications from anywhere, as long as you have an internet connection.

Q73. What is the purpose of Data Backups?

A) To duplicate important data to protect against data loss ✓

B) To make the computer run faster

C) To increase internet speed

D) To visualize data

✓ **Correct Answer: A) To duplicate important data to protect against data loss**

Explanation: Backups are copies of important files stored separately. If the original is lost, corrupted, or deleted, the backup can restore it.

Q74. What is "Collaborative Authoring"?

A) Writing a book alone

B) Multiple people working together to create, edit, and improve a document in real-time ✓

C) Deleting other people's work

D) Storing data in a warehouse

✓ **Correct Answer: B) Multiple people working together to create, edit, and improve a document in real-time**

Explanation: Tools like Google Slides or Docs allow multiple users to work on the same file simultaneously, enhancing productivity and enabling version control.

Q75. Which of the following is a benefit of using collaborative tools?

A) Enhanced productivity and version control ✓

B) Increased data bias

C) Loss of data

D) Slower project completion

✓ **Correct Answer: A) Enhanced productivity and version control**

Explanation: Collaborative tools automatically save changes and track versions, allowing teams to work simultaneously without losing work or overwriting each other's changes.

Section 4: Data Science, Big Data, and Future Trends (Q76 – Q85)

Q76. Data Science is best described as:

A) Solving crimes using computers

B) Solving problems using data to find patterns and useful information ✓

C) Storing data in warehouses

D) Creating spreadsheets

✓ **Correct Answer: B) Solving problems using data to find patterns and useful information**

Explanation: Data science combines computer skills, math, and business knowledge to turn raw data into actionable insights, akin to a detective solving a mystery.

Q77. Which of the following is NOT part of the interdisciplinary nature of Data Science?

- A) Computer Science
- B) Mathematics and Statistics
- C) Business Knowledge

D) Culinary Arts



✓ **Correct Answer: D) Culinary Arts**

Explanation: Data science integrates Computer Science (handling data), Mathematics/Statistics (analyzing patterns), and Business Knowledge (applying insights). Culinary arts is unrelated.

Q78. In the Data Science Workflow, what comes immediately after Data Collection?

A) Data Visualization

B) Data Cleaning



C) Data Analysis

D) Data Interpretation

✓ **Correct Answer: B) Data Cleaning**

Explanation: Once data is collected, it must be cleaned (errors removed, missing values handled) before it can be analyzed.

Q79. Which of the following is NOT one of the "Three V's" of Big Data?

- A) Volume
- B) Velocity
- C) Variety

D) Verification



✓ **Correct Answer: D) Verification**

Explanation: The Three V's are Volume (amount), Velocity (speed), and Variety (different forms). Verification is not a standard defining characteristic of Big Data.

Q80. Which data science technique is used to forecast future events based on historical data?

A) Graph Analytics

B) Predictive Modelling



C) Data Cleaning

D) Content Analysis

✓ **Correct Answer: B) Predictive Modelling**

Explanation: Predictive modelling uses historical data and statistical algorithms to predict future outcomes (e.g., predicting which students might need extra help).

Q81. Graph Analytics is a method used to:

A) Create pie charts

B) Analyze relationships and connections between different data points ✓

C) Clean data

D) Store data in the cloud

✓ **Correct Answer: B) Analyze relationships and connections between different data points**

Explanation: Graph analytics visualizes and understands connections, such as how users are connected on social media or identifying influential people in a network.

Q82. In the future of data management, what does "Enhanced Automation" refer to?

A) Humans manually cleaning data

B) Data tools automatically handling repetitive tasks like cleaning and organizing ✓

C) Slower data analysis

D) Deleting old data

✓ **Correct Answer: B) Data tools automatically handling repetitive tasks like cleaning and organizing**

Explanation: Future tools will use automation to handle tedious data pre-processing tasks, allowing analysts to focus on complex analysis and predictions.

Q83. How is Artificial Intelligence (AI) expected to integrate with Data Science in the future?

- A) By replacing data entirely
- B) By making data analysis faster and generating reports automatically ✓**
- C) By making data visualization impossible
- D) By reducing data privacy

✓ **Correct Answer: B) By making data analysis faster and generating reports automatically**

Explanation: AI will increasingly power data science tools, enabling faster analysis of massive datasets and automatic generation of reports and visualizations.

Q84. Which of the following is an example of AI in everyday life mentioned in the chapter?

- A) Microsoft Excel
- B) Virtual assistants like Siri and Alexa ✓**
- C) Google Scholar
- D) MongoDB

✓ **Correct Answer: B) Virtual assistants like Siri and Alexa**

Explanation: Siri and Alexa are AI-powered virtual assistants that understand questions and perform tasks, making technology more intuitive.

Q85. Why is "Improved Data Privacy" a crucial future trend in data management?

A) Because data is decreasing

B) To protect personal information from unauthorized access using advanced encryption ✓

C) Because AI needs less data

D) To make data analysis slower

✓ **Correct Answer: B) To protect personal information from unauthorized access using advanced encryption**

Explanation: As more personal data is collected, future tools must prioritize security and privacy, using advanced encryption to keep sensitive information safe from hackers.



Thank You!

You have completed all 85 MCQs of
Chapter 09: Data Science & Data Gathering

Keep practising, keep learning, keep growing!

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