

# WB Board Class 12 Data Science Question Paper(Memory Based)

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| Time Allowed :3 Hour | Maximum Marks :60 | Total Questions :24 |
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## General Instructions

Read the following instructions very carefully and strictly follow them:

- Answers to this Paper must be written on the paper provided separately.
- You will not be allowed to write during the first 15 minutes
- This time is to be spent in reading the question paper.
- The time given at the head of this Paper is the time allowed for writing the answers,
- The paper has four Sections.
- Section A is compulsory - All questions in Section A must be answered.
- You must attempt one question from each of the Sections B, C and D and one other question from any Section of your choice.

1. Explain the steps involved in Data Wrangling and why it is essential before analysis.

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2. What is the difference between Structured, Semi-structured, and Unstructured data?

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3. Describe the Data Science Lifecycle from data collection to deployment.

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4. What is Data Cleaning, and how do you handle missing values in a dataset?

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5. Explain the concept of Data Normalization and why it is used in scaling features.

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6. Define Mean, Median, and Mode and explain which is most affected by outliers.

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7. What is a Hypothesis Test, and what do the Null and Alternative hypotheses represent?

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8. What is a DataFrame in Pandas, and how does it differ from a Series?

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9. How do you perform a Join and Merge operation on two different datasets in Python?

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10. What are the key principles of Effective Data Visualization?

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11. When should you use a Box Plot versus a Bar Chart?

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