

Comprehensive Masterclass: Data Interpretation

ExamBhai.com Academic Editorial Board

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1 Introduction to Data Interpretation (DI)

Data Interpretation refers to the process of making sense of numerical, qualitative, or categorical data collected from various sources. In competitive examinations, DI tests a candidate's ability to extract, analyze, and synthesize information presented in tables, charts, and graphs.

2 Core Mathematical Concepts

To master DI, one must be exceptionally fluent in comparative arithmetic. The foundational formulas are defined below:

- **Percentage Change:**

$$\text{Percentage Change} = \left(\frac{\text{Final Value} - \text{Initial Value}}{\text{Initial Value}} \right) \times 100$$

- **Percentage Point Difference:**

$$\Delta_{pp} = P_2 - P_1 \quad (\text{where } P_1 \text{ and } P_2 \text{ are percentage figures})$$

- **Weighted Average:**

$$\bar{x} = \frac{\sum_{i=1}^n w_i x_i}{\sum_{i=1}^n w_i}$$

3 Types of Data Representations

Data can be visualized through multiple formats. Understanding the structure of each helps in faster computation:

1. **Tabular Data:** Rows and columns containing raw numbers. Requires meticulous observation to avoid row-column misalignment.
2. **Pie Charts:** Circular statistical graphics divided into slices to illustrate numerical proportion. Total angle equals 360° or 100%.
3. **Bar Graphs / Histograms:** Rectangular bars with lengths proportional to the values that they represent.
4. **Line Graphs:** Information displayed as a series of data points connected by straight line segments.

4 Sample Data Analysis Problem

Consider the following sample table representing company revenues (in Millions USD) over three fiscal years:

Division	FY 2024	FY 2025	Growth Rate
Software	120	150	+25%
Hardware	80	90	+12.5%
Services	50	70	+40%

Analytical Question

Find the overall percentage growth of total revenue from FY 2024 to FY 2025.

Solution:

1. Total Revenue in FY 2024: $120 + 80 + 50 = 250$ 2. Total Revenue in FY 2025: $150 + 90 + 70 = 310$ 3. Overall Growth Rate calculation:

$$\text{Growth} = \frac{310 - 250}{250} \times 100 = \frac{60}{250} \times 100 = 24\%$$

5 Pro-Tips for Exam Success

- **Approximation is Key:** Do not calculate exact decimal values unless specified. Use rounding to the nearest integer for speed.
- **Memorize Fractions to Percentages:** Keep tables of fractions up to $1/20$ memorized (e.g., $1/8 = 12.5\%$, $1/6 = 16.67\%$, etc.).
- **Read the Units Carefully:** Always verify whether figures are in thousands, millions, percentages, or ratios before performing calculations.

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