

EXAM-DAY · 90-MIN REVISION CARD

Measures of Central Tendency

Print this · Fold it · Carry to the exam-hall gate · Revise once · Then walk in.

FORMULAS & KEY RESULTS

Arithmetic Mean (direct, ungrouped): $\bar{x} = \frac{\sum x}{n}$

AM (grouped, direct): $\bar{x} = \frac{\sum fx}{\sum f}$

AM (short-cut method): $\bar{x} = A + \frac{\sum fd}{\sum f}$, where $d = x - A$

AM (step-deviation method): $\bar{x} = A + h \cdot \frac{\sum fd'}{\sum f}$, where $d' = (x - A)/h$

Weighted Mean: $\bar{x}_w = \frac{\sum WX}{\sum W}$

Combined Mean: $\bar{x}_2 = \frac{(n_1\bar{x}_1 + n_2\bar{x}_2)}{(n_1 + n_2)}$

Median (ungrouped, n odd): value of $[(n+1)/2]$ th term

Median (ungrouped, n even): mean of $(n/2)$ th and $(n/2 + 1)$ th terms

Median (continuous): $M = l + \frac{[(N/2 - c.f.) / f] \times h}{}$

Mode (continuous): $Z = l + \frac{[(f_1 - f_0) / (2f_1 - f_0 - f_2)] \times h}{}$

Empirical relation: $\text{Mode} = 3 \cdot \text{Median} - 2 \cdot \text{Mean}$

Property of AM: $\sum (x - \bar{x}) = 0$
(sum of deviations from mean is zero)

TOP 5 PYQ PATTERNS

1 AM by step-deviation method (5 classes)

4 marks · 88% of years
Pick middle class-mark as A; h = class size; tabulate carefully.

2 Median of continuous data

4 marks · 80% of years
Build c.f. column; find $N/2$; identify median class; apply formula.

3 Mode using formula

3 marks · 70% of years
Locate modal class; record f_0, f_1, f_2 ; plug in.

4 Empirical relation 1-mark MCQ

1 mark · 65% of years
 $\text{Mode} = 3\text{Median} - 2\text{Mean}$ OR $\text{Mean} - \text{Mode} = 3(\text{Mean} - \text{Median})$.

5 Choosing right measure / 1-mark conceptual

1 mark · 60% of years
Open-end classes → median; qualitative data → mode; symmetric → mean.

90-MIN REVISION FLOW

0-15 min

Re-read three formulas — AM (step-deviation), Median, Mode. Write each from memory.

15-35 min

Solve one AM step-deviation problem (5 classes) and verify $\sum (x - \bar{x}) = 0$.

35-55 min

Solve one median + one mode problem from a continuous distribution; cross-check via empirical relation.

55-75 min

Practice 8 MCQs from drill (1-mark conceptual + numerical).

75-90 min

Sketch ogive for median + histogram for mode; review cheat sheet once.

Confidence, not anxiety. You've practised this all year. Trust your steps. Don't change strategy on exam morning.
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