CareerUdaya

Rise with Purpose

APSC CCE PRELIMS - PAPER II (CSAT)

# APSC CSAT

## Complete Notes

Comprehension | Reasoning | Quantitative Aptitude | Data Interpretation

APSC CCE | CSAT | Aptitude | Reasoning | Beginner-friendly

*Rise with Purpose*

PREPARED BY

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A complete, teacher-style CSAT handbook for APSC CCE Prelims - concepts, worked examples, shortcuts and practice, explained from scratch for beginners.

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SECTION 1

# Understanding APSC CSAT

Before we touch a single question, let us be clear about what this paper actually is - because most of the damage in CSAT is done before the exam, by students who misunderstand the paper. So read this section slowly. If you get your understanding right here, half your battle is already won.

## What exactly is CSAT?

CSAT stands for Civil Services Aptitude Test. In the Prelims you write two papers - Paper I is General Studies (the factual, current-affairs paper everyone talks about), and Paper II is CSAT, the aptitude paper. CSAT does not ask you who the Governor of Assam is or when an Act was passed. It asks a very different question: can you read carefully, think logically, and handle basic mathematics under time pressure? That is all aptitude really means - your trained common sense, measured against a clock.

CSAT has four broad pillars: Reading Comprehension, Logical Reasoning and Analytical Ability, Quantitative Aptitude (basic mathematics), and Data Interpretation. Notice that none of these need you to memorise facts. They need you to practise skills. That single difference - facts versus skills - decides how you must prepare, and we will keep coming back to it.

**A note on the APSC pattern**

- APSC's Prelims follows a two-paper pattern close to the UPSC model, with CSAT as the aptitude paper.
- The exact number of questions, marks and the qualifying percentage can change by notification - always confirm these from the latest official APSC CCE notice before your attempt.
- The skills in this handbook stay the same whatever the surface pattern - so your preparation never goes to waste.

## The qualifying nature of the paper - understand it properly

CSAT is a qualifying paper. This means you must score above a minimum cut-off (in the UPSC model this is 33%), and once you cross it, the extra marks do not add to your merit rank - your rank is decided by the other paper and the later stages. Many students hear the word 'qualifying' and quietly decide the paper is unimportant. That is the single most expensive mistake in this entire exam.

Think about what 'qualifying' really means. If you score even one mark below the cut-off, it does not matter how brilliant your General Studies paper was - you are out. Out completely. Every year, well-prepared aspirants with excellent GS marks are eliminated purely because they took CSAT lightly and missed the cut-off by a whisker. So treat CSAT as a gate: it will not give you extra glory, but it can absolutely end your attempt. Your goal is simple - clear it comfortably, not barely. Aim to land well above the cut-off, so that a bad day still leaves you safe.

## Why do students fail CSAT?

In all my years guiding aspirants, the failures almost never come from a lack of intelligence. They come from a handful of very predictable habits. Recognise yourself honestly in this list - that honesty is your first mark.

- Overconfidence - 'it is only qualifying, I will manage on the day'. The day arrives, the passages are dense, the clock is cruel, and managing turns into missing the cut-off.
- A weak reading habit - reading slowly, losing the thread of a paragraph, and having to read everything twice. Comprehension is the largest, safest part of CSAT, and a slow reader bleeds time here.

- Maths fear carried from school - 'I am an arts student, I cannot do maths'. CSAT maths is class 8-10 level; the fear is bigger than the maths.
- No timed practice - studying concepts but never sitting with a clock, so speed and nerve are never built.
- Poor question selection - spending eight minutes fighting one hard puzzle while five easy comprehension questions go unread.

## Common misconceptions

Let me clear the myths that quietly sabotage preparation, because you cannot prepare well while believing the wrong things.

- 'CSAT is easy.' It is scoreable, which is not the same as easy. An easy paper attempted carelessly still fails you.
- 'I have a maths background, I need no preparation.' Background helps with quant, but comprehension and reasoning still need timed practice, and overconfidence costs accuracy.
- 'I am from a non-maths background, I can never clear the quant.' You do not need all the quant - clearing the cut-off needs only the easy-to-medium questions done accurately, plus your strong comprehension.
- 'I will start CSAT in the last week.' Reading speed and calculation speed are slow-growing skills. They cannot be built in a week, only in months of small, daily effort.

## How to prepare intelligently

Intelligent preparation is not about doing more - it is about doing the right things in the right order. Here is the order I want you to follow.

- Diagnose first. Sit one full, timed CSAT paper before you study anything. It will tell you honestly which of the four pillars is your weakest - and that is where your time should go.
- Build the reading habit daily. Read one good editorial or article every single day, actively - this is the cheapest, highest-return investment in CSAT, because comprehension is the biggest chunk.
- Concept before speed. Learn each topic's idea properly first; do slow, correct practice; only then push for speed. Speed built on shaky concepts collapses on exam day.
- Accuracy before quantity. Ten questions solved with full understanding teach you more than fifty questions rushed. With negative marking, a careless attempt is worse than a skip.
- End with previous-year papers and full mocks. Once concepts are in place, simulate the real thing - same time, same pressure - and analyse every mistake.

## Strategy for working professionals

If you have a job, your enemy is not the syllabus - it is time and tiredness. So you must be ruthless about return on effort. Give your limited hours to the pillars that are large and dependable: comprehension and the easier half of reasoning. Forty-five focused minutes on a working day - reading on the commute, one reasoning set at night - beats three exhausted, distracted hours. Protect your weekends for one full-length timed paper and its analysis; that single weekly test is what keeps a busy professional exam-ready.

## Strategy for beginners

If you are starting from zero, do not rush to mock tests - they will only frighten you. Spend your first few weeks building foundations: the basics of percentages, ratios and averages on the maths side, and a daily reading habit on the comprehension side. Learn one topic at a time, do its examples slowly, and let understanding settle before you move on. Confidence in CSAT is built brick by brick; lay the bricks properly and the speed comes on its own later.

## Strategy for repeat aspirants

If you have attempted before and fallen short, your job is different - it is surgical. Do not re-read the whole syllabus blindly. Pull out your previous performance and find the exact leak: was it slow reading, a weak quant area, panic in the

last twenty minutes, or poor question selection? Fix that one leak with focused practice, then do many more full-length timed papers than a first-timer would, specifically to rebuild nerve and pacing. For most repeat aspirants, the gap is not knowledge - it is temperament under the clock.

**The one mindset that clears CSAT**

- Respect the paper, do not fear it. Clear it comfortably above the cut-off, never barely.
- Treat it as a skill exam, not a memory exam - practise daily, in small amounts, for months.
- On exam day, your job is not to solve everything - it is to safely bank enough easy and medium questions to clear the gate.

SECTION 2

# Reading Comprehension

Reading Comprehension - we call it RC - is the heart of CSAT. It is the largest, most predictable and most scoring part of the paper, and it needs no formula and no memory. If you become a strong, calm reader, you can clear CSAT on comprehension alone. So this is where a beginner should invest first. Let me teach you how to actually read for this exam.

## What comprehension really means

Comprehension is not reading fast. It is reading so that you genuinely understand - the author's main point, how the argument moves, and what is being claimed versus merely suggested. Here is the golden rule I want tattooed on your mind: in RC, you answer only from the passage. Not from your opinion, not from your general knowledge, not from what you wish were true. The examiner is not testing what you know about the topic; he is testing whether you understood this particular passage. The moment you bring in outside knowledge, you walk into a trap.

## How APSC frames its comprehension questions

Expect short-to-medium passages, often on slightly abstract themes - governance, economy, environment, ethics, society. The passages are rarely difficult in vocabulary; they are difficult in thought. The questions then test specific reading skills, and almost every RC question you will ever meet belongs to one of these types. Learn to recognise the type from the question stem, because each type has its own method.

## The question types - and how to handle each

Main Idea. The stem says 'the central idea / the passage is mainly about'. The answer must cover the whole passage, not one paragraph. A very common wrong option is a true detail from the passage that is too narrow to be the main idea. Ask: does this option carry the entire passage on its back, or just one corner?

Inference. The stem says 'it can be inferred / the passage implies'. An inference is something not stated directly but which must be true if the passage is true. Stay close to the text and take the smallest logical step. Most wrong inferences are wrong because they go too far - they over-claim.

Assumption. An assumption is the unstated thing the author has taken for granted to make his argument work. The reliable tool is the negation test: negate the option; if the author's argument collapses without it, that option is the assumption.

Conclusion. The stem asks what the passage builds towards. A conclusion follows from the whole argument - it is the destination, not a step on the way.

Tone and Attitude. This asks how the author feels - critical, appreciative, neutral, cautious, optimistic. The clues live in the adjectives and verbs the author chooses. A balanced, fact-reporting passage is usually 'neutral' or 'analytical'; do not over-read emotion that is not there.

Statement-based questions. You are given two or three statements and asked which are supported by the passage. Treat each statement as a separate true/false check against the text, exactly as written - one extra or extreme word can make a statement false.

## Elimination - your most powerful tool

In RC, you often reach the answer faster by removing wrong options than by hunting for the right one. Four families of wrong option appear again and again - learn to spot them.

- The extreme option - words like always, never, only, must, impossible. Passages are usually measured; absolute options are usually wrong.
- The out-of-scope option - true in the real world, but never discussed in this passage. Tempting, and wrong.
- The half-right option - one half matches the passage, the other half quietly distorts it. Read the whole option, not just its beginning.
- The reversed option - it swaps cause and effect, or flips what the author said into its opposite. Easy to miss when you are rushing.

## Let us read a passage together

**Passage 1**

- Every new technology arrives wearing the mask of a servant. The printing press promised only to copy books faster; it ended by remaking religion and politics. The motor car promised only a quicker journey; it reshaped our cities, our air and our idea of distance. We keep judging a tool by the small task it was built for, and we are repeatedly surprised when it quietly rebuilds the world around it. The lesson is not that technology is dangerous, but that it is never merely a tool - it carries consequences its makers never intended.

**Example 1: (Main Idea) The passage is mainly about:**
**(a) the dangers of modern technology**
**(b) how technology produces large, unintended consequences**
**(c) the invention of the printing press and the car**
**(d) why makers of technology should be punished**

*Solution*

First, find the author's central claim. Read the last line - it usually carries the point: technology 'is never merely a tool - it carries consequences its makers never intended'.
Now test the options against the whole passage, not one line.
(a) 'dangers' - the author explicitly says the lesson is NOT that technology is dangerous. Opposite of the passage. Reject.
(c) the press and the car are only examples used to prove the point; an example cannot be the main idea. Too narrow. Reject.
(d) 'punished' - never said anywhere; out of scope and extreme. Reject.
(b) captures the whole passage - tools producing large, unintended consequences. It carries the entire passage. Keep.

**Answer: (b) - it is the only option that covers the whole passage; the others are opposite, too narrow, or out of scope.**

**Example 2: (Inference) It can be inferred from the passage that:**

**(a) the car was a mistake**

**(b) we tend to underestimate a technology's eventual impact**

**(c) technology should be banned until fully understood**

**(d) the printing press was more important than the car**

*Solution*

An inference must be a small, safe step from the text - not stated outright, but necessarily true.
The author says we judge a tool 'by the small task it was built for' and are 'repeatedly surprised' by its larger effects. The hidden truth: we underestimate the eventual impact. That is option (b).
(a) 'a mistake' - the author never judges the car as good or bad; he uses it as an example. Over-claim. Reject.
(c) 'banned' - extreme and never suggested. Reject.
(d) a comparison the passage never makes. Out of scope. Reject.

**Answer: (b) - the smallest, safest inference; the rest over-claim or compare things the passage never compared.**

## A second passage - watch the tone

**Passage 2**

- Governments love to announce schemes. A new name, a ribbon, a photograph - and the file is considered closed. Yet the citizen on the ground often notices no change at all, because announcing a scheme and delivering it are two entirely different acts of government, separated by the long, unglamorous work of implementation that few ministers have the patience to see through.

**Example 3: (Tone) The tone of the author towards governments in this passage is best described as:**

**(a) appreciative**

**(b) neutral and purely factual**

**(c) gently critical**

**(d) furious and abusive**

*Solution*

Tone lives in word choice. Look at the loaded phrases: schemes reduced to 'a ribbon, a photograph', the file 'considered closed', ministers lacking 'the patience to see through'.
These are disapproving, but measured - the author mocks gently, he does not rage.
(a) appreciative - opposite. Reject. (b) neutral - the loaded words prove it is not neutral. Reject.
(d) 'furious and abusive' - far too strong; the criticism is light and ironic, not abusive. Reject.
(c) gently critical fits the measured disapproval exactly.

**Answer: (c) - the criticism is real but mild and ironic, so 'gently critical', not neutral and not furious.**

**Example 4: (Assumption) The author's argument assumes that:**

**(a) citizens never benefit from any scheme**

**(b) implementation is necessary for a scheme to reach the citizen**

**(c) all ministers are dishonest**

**(d) schemes should never be announced**

*Solution*

Find the unstated belief the argument depends on. Use the negation test on each option.
(b) Negate it: 'implementation is NOT necessary for a scheme to reach the citizen.' If that were true, the author's whole complaint - that announced schemes do not reach people without implementation - falls apart. So (b) is assumed. Keep.
(a) 'never benefit' - too extreme; the author says 'often notices no change', not never. Reject.
(c) 'all ministers dishonest' - he speaks of patience, not honesty, and not 'all'. Over-claim. Reject.
(d) 'never be announced' - the author criticises empty announcing, not announcing itself. Reject.

**Answer: (b) - negating it destroys the argument, which is the test of a true assumption.**

## Time-saving methods

- Read the passage once, actively, holding the main point in your head - do not read it three times. A second full read is usually a sign that the first read was passive.
- For a passage with a single question, glance at the question first so you read with a purpose. For a passage with several questions, read the passage first, then the questions.
- Do not sub-vocalise every word as if reading aloud in your head - it halves your speed. Read in meaningful chunks.
- If two options survive your elimination, pick the one that stays closer to the passage's exact words and makes the smaller claim.

**Common traps to avoid**

- Bringing in your own knowledge or opinion - answer only from the passage, even if the passage is 'wrong' by your real-world knowledge.
- Falling for the true-but-narrow detail in a Main Idea question.
- Choosing an inference that goes one step too far - the over-claim trap.
- Reading only the first half of an option and missing a distortion hidden in the second half.

## Practice - then check your thinking

**Practice passage**

- Reading is often praised as a path to knowledge, but its quieter gift is patience. A book cannot be hurried; it releases its meaning only to a mind willing to slow down. In an age trained to skim, scroll and move on, the reader who can sit with a difficult page is practising a rare and increasingly valuable discipline.

- Q1 (Main Idea) The passage is mainly about: (a) why books are better than the internet (b) reading as a discipline of patience (c) the decline of knowledge (d) how to read faster
- Q2 (Inference) It can be inferred that the author believes: (a) skimming has weakened our patience (b) nobody reads books any more (c) difficult pages should be avoided (d) knowledge is unimportant

**Answer key with reasoning**

- Q1 - (b). The passage's real point is reading's 'quieter gift', patience; (a) and (c) are never argued, (d) is a detail. Choose the option that carries the whole passage.
- Q2 - (a). The author contrasts an age 'trained to skim, scroll and move on' with the patient reader - implying skimming has weakened patience. (b) 'nobody' is extreme, (c) and (d) reverse what the author values.
- If you got these from the passage's own words rather than your opinion, your RC method is working.

SECTION 3

# Reasoning & Analytical Ability

Reasoning is where careful students score big and careless students bleed marks. The good news: reasoning needs no memory and very little maths - only clear, slow, honest thinking. The whole skill is this: take exactly what is given, draw only what must follow, and refuse to add anything from your imagination. In this section I will walk you through every type APSC asks, with the thinking shown out loud. Pay special attention to syllogism and the statement-based types - these are increasingly the heart of the paper.

## Syllogism (most important)

A syllogism gives you statements like 'All cats are animals' and asks which conclusions definitely follow. The safest method is to draw circles (Venn diagrams). Learn what each word means as circles: 'All A are B' means circle A sits fully inside circle B. 'No A are B' means the two circles are completely separate. 'Some A are B' means the circles overlap in at least one point. The golden rule: a conclusion follows only if it is true in every possible diagram - if you can draw even one valid picture where the conclusion fails, it does not follow.

**Example 5: Statements: All cats are animals. All animals are living things.**
**Conclusions: I. All cats are living things. II. Some living things are cats.**
**Which conclusion(s) follow?**

*Solution*

Draw it: cats inside animals, animals inside living things. So cats sit inside living things too.
Conclusion I: All cats are living things - in every diagram cats are inside living things. Definitely follows.
Conclusion II: 'Some living things are cats' is just I read backwards - if all cats are living things, then at least those cats are living things that are cats. Follows.

**Answer: Both I and II follow.**

**Example 6: Statements: All pens are red. Some red things are bright.**
**Conclusion: Some pens are bright.**
**Does it follow?**

*Solution*

Pens are fully inside red. 'Some red are bright' means bright overlaps red somewhere - but that overlap may fall on the red things that are NOT pens.
Draw bright overlapping only the non-pen part of red: then no pen is bright, yet both statements are still true.
Since we found one valid picture where the conclusion fails, it does not definitely follow.

**Answer: It does NOT follow - a classic trap where 'some' does not have to touch the inner circle.**

**Common traps to avoid**

- Assuming 'Some A are B' forces 'Some A are not B' - it does not; 'some' allows 'all'.
- Letting real-world knowledge sneak in ('cats are obviously living') - judge only the given statements.
- Forgetting the either-or case: when neither of two conclusions follows alone but together they cover all cases, the answer is 'either I or II follows'.

## Statement & Conclusion

You are given a statement (often a fact, notice or finding) and asked which conclusion 'follows'. A conclusion follows only if it can be drawn directly from the statement, without adding new information. If an option needs an extra fact the statement never gave, reject it.

**Example 7: Statement: 'Most accidents on this highway happen after dark.'**
**Conclusion: Better lighting on the highway may reduce accidents.**
**Does it follow?**

*Solution*

The statement links accidents to darkness. Better lighting reduces darkness, so it is a direct, reasonable extension - not a wild new fact.
It says 'may reduce', which is cautious and supportable, not an over-claim like 'will end all accidents'.

**Answer: It follows - a measured conclusion drawn directly from the statement.**

## Statement & Assumption

An assumption is something the speaker has taken for granted while making the statement - unsaid, but necessary. Use the negation test: negate the assumption; if the statement no longer makes sense, it was assumed.

**Example 8: Statement: 'Visit our new website for the latest job updates.' (an advertisement)**
**Assumption: People have access to the internet.**
**Is it assumed?**

*Solution*

Negate it: 'People do NOT have internet access.' Then asking them to visit a website is pointless - the advertisement collapses.
Since negating it destroys the statement's purpose, it is a necessary assumption.

**Answer: Yes, it is assumed.**

## Statement & Argument

Here a question is followed by arguments, and you judge each as strong or weak. A strong argument is directly related to the question and raises a real, significant point. A weak argument is vague, trivial, based only on emotion or rights-in-the-abstract, or only loosely connected.

**Example 9: Question: Should single-use plastic be banned in the state?**
**I. Yes, it is a major cause of pollution and clogged drains.**
**II. No, because people have the right to use whatever they wish.**
**Which argument is strong?**

*Solution*

Argument I is directly tied to the issue and raises a real, significant harm - strong.
Argument II appeals to an abstract 'right to use anything', ignoring public harm; it is sweeping and weak.

**Answer: Only I is strong.**

## Cause & Effect

You get two events and decide which is the cause and which is the effect (or whether they are unrelated, or both effects

of a common cause). The cause must come first in time and logically produce the effect.

**Example 10: Event A: There was very heavy rainfall in the river's catchment area.**
**Event B: The downstream town was flooded the next day.**
**Relation?**

*Solution*

A happens first and logically produces B - heavy upstream rain swells the river and floods the town.
B cannot cause A, and the timing fits A then B.

**Answer: A is the cause and B is its effect.**

## Assertion & Reason

You are given an Assertion (A) and a Reason (R). Judge three things: is A true, is R true, and - if both are true - does R correctly explain A? The trickiest case is when both are true but R is a separate fact that does not actually explain A.

**Example 11: Assertion (A): We feel cooler when a fan blows on wet skin.**
**Reason (R): Evaporation of water absorbs heat from the skin.**
**Evaluate.**

*Solution*

A is true - moving air over wet skin feels cooler. R is true - evaporation is a cooling process that draws heat away.
Does R explain A? Yes - the fan speeds up evaporation, which absorbs heat, which is exactly why we feel cooler.

**Answer: Both A and R are true and R is the correct explanation of A.**

## Coding - Decoding

A word is written in a code; you crack the rule and apply it. The most common rule is a fixed shift of letters. Always write the alphabet with position numbers (A=1 ... Z=26) so shifts are easy to see.

**Example 12: If CAT is coded as DBU, how is DOG coded?**

*Solution*

Compare CAT -> DBU letter by letter: C(3)->D(4), A(1)->B(2), T(20)->U(21). Each letter moves +1.
Apply +1 to DOG: D(4)->E, O(15)->P, G(7)->H.

**Answer: EPH.**

## Blood Relations

Two kinds appear: a chain of relations to find how two people are related, and a 'pointing to a photograph' puzzle. For pointing puzzles, replace the speaker's words step by step from the inside out, and remember a self-clue like 'my father's son' (with no brothers) means the speaker himself.

**Example 13: Pointing to a photo, a man says: 'I have no brothers or sisters, but that man's father is my father's son.' Who is in the photo?**

*Solution*

'My father's son' - the man has no brothers, so his father's only son is himself. So 'my father's son' = the speaker.
Now the clue reads: 'that man's father is (the speaker)'. So the speaker is the father of the man in the photo.
Therefore the man in the photo is the speaker's son.

**Answer: His son.**

## Direction Sense

Track movements on paper as arrows; a right turn and a left turn depend on the direction you are currently facing. When a path makes an L-shape, the straight-line distance back to the start is found with the right-angled triangle rule (the 3-4-5 triangle is the examiner's favourite).

**Example 14: A man walks 3 km North, then turns right and walks 4 km. How far is he from the start, and in which direction?**

*Solution*

Facing North, a right turn points him East. So he goes 3 km North then 4 km East - an L-shape.
Straight-line distance = sqrt(3^2 + 4^2) = sqrt(9 + 16) = sqrt(25) = 5 km.
He is to the North-East of his start.

**Answer: 5 km, to the North-East.**

## Ranking & Order

These ask a person's position from the other end, or the total count. The one formula to remember: position from the left + position from the right = total + 1. Rearrange it for whatever is missing.

**Example 15: In a row of 40 students, Rahul is 12th from the left. What is his position from the right?**

*Solution*

Use left + right = total + 1, so right = total + 1 - left.
Right = 40 + 1 - 12 = 29.

**Answer: 29th from the right.**

## Seating Arrangement - Linear

People sit in a row; you place them from the clues. Always draw the seats as blanks and fill the most definite clue first, then the clues that depend on it. Watch whether 'left/right' is from your view or the person's view - in a single row facing you, their left is your right.

**Example 16: Five friends A, B, C, D, E sit in a row facing north. C is at the centre. A is at the extreme left. E is to the immediate right of C. Where does B sit if D is between A and C?**

*Solution*

Five seats: 1 2 3 4 5. C is centre = seat 3. A is extreme left = seat 1.
D is between A and C, so D = seat 2. E is immediate right of C = seat 4.
Only seat 5 is left, so B = seat 5 (extreme right).

**Answer: B sits at the extreme right (seat 5).**

## Seating Arrangement - Circular

People sit around a circle, and the one point that decides every such question is direction. When everyone faces the centre, the neighbour to a person's right is the next seat anticlockwise, and the neighbour to their left is the next seat clockwise; when they face outward, this reverses. So always note which way people face, draw the circle, fix one person, and place the rest relative to him.

**Example 17: Four people P, Q, R, S sit around a circle facing the centre. Q is to the immediate right of P. R is opposite P. Where is S?**

*Solution*

Place P at the top. Facing the centre, P's immediate right is the seat anticlockwise from P - put Q there.
R is opposite P - the bottom seat.
The only seat left is P's immediate left (clockwise) - so S sits there, to P's immediate left.

**Answer: S is to the immediate left of P.**

## Number Series

Find the rule that connects the terms, then extend it. First check the differences between terms; if the differences themselves form a pattern, you have it. If differences do not work, test ratios (multiplication) or squares/cubes.

**Example 18: Find the next term: 2, 6, 12, 20, 30, ?**

*Solution*

Differences: 6-2=4, 12-6=6, 20-12=8, 30-20=10 - the differences go 4, 6, 8, 10, rising by 2.
So the next difference is 12, giving 30 + 12 = 42. (These are n(n+1): 1x2, 2x3, 3x4 ...)

**Answer: 42.**

## Alphabet Series

Same idea as number series, but with letters - so convert letters to their positions (A=1 ... Z=26), find the gap pattern, then convert back.

**Example 19: Find the next letter: A, C, F, J, ?**

*Solution*

Positions: A=1, C=3, F=6, J=10. Gaps: +2, +3, +4 - rising by one each time.
Next gap is +5, so 10 + 5 = 15 = O.

**Answer: O.**

## Logical Sequence of Words

Arrange given words in a natural, logical order - usually by time, size, or a cause-to-result chain. Picture the real-world process and let it dictate the order.

**Example 20: Arrange in logical order: 1. Plant 2. Seed 3. Fruit 4. Flower 5. Tree**

*Solution*

Follow the life cycle of a plant: a seed grows into a plant, the plant becomes a tree, the tree flowers, the flower becomes fruit.
So the order is Seed -> Plant -> Tree -> Flower -> Fruit.

**Answer: 2, 1, 5, 4, 3.**

## Puzzles

Puzzles bundle several clues - people with floors, days, jobs, colours. Do not solve them in your head. Draw a table with one row per person and one column per attribute, fill every definite clue first, and use elimination for the rest. Slow and visual always beats fast and mental here.

**Example 21: Three people live on three floors (1 bottom, 3 top). Amit does not live on the top floor. Bina lives above Amit. Who lives where?**

*Solution*

Amit is not on floor 3, and Bina is above Amit - so Amit cannot be on floor 3 anyway. Try Amit on 1: Bina above him can be 2 or 3.
There are three people, so the third (Chetan) takes a remaining floor. Put Amit=1. For Bina to be above Amit and leave a valid spot, the clean solution is Amit=1, Bina=2 or 3, Chetan the rest.
With only 'Bina above Amit', the forced certainty is: Amit is on floor 1 (he is not top, and someone is above him, so he must be at the bottom).

**Answer: Amit is certainly on floor 1; Bina is above him (floor 2 or 3) with Chetan on the remaining floor - the only fully fixed fact is Amit at the bottom.**

**Shortcuts & habits that save marks**

- Syllogism: trust the Venn picture, never your real-world sense of the words.
- Ranking: left + right = total + 1 solves almost every positional question.
- Directions: redraw turns as arrows; reach for the 3-4-5 triangle for distance.
- Puzzles & seating: always draw a grid - mental solving is where careless errors are born.
- Series: differences first, then ratios, then squares/cubes.

## Practice - reasoning mixed set

- Q1 In a row of 25, Sita is 9th from the right. Her position from the left is?
- Q2 If MONDAY is coded by shifting each letter +2, what is the code for the first three letters M, O, N?
- Q3 Next term: 3, 6, 11, 18, 27, ?
- Q4 Statements: All roses are flowers. Some flowers fade quickly. Conclusion: Some roses fade quickly. Does it follow?

**Answer key with reasoning**

- Q1 - 17th. left = total + 1 - right = 25 + 1 - 9 = 17.
- Q2 - O, Q, P. M(13)->O(15), O(15)->Q(17), N(14)->P(16), each +2.
- Q3 - 38. Differences 3, 5, 7, 9 (rising by 2), next is 11, so 27 + 11 = 38.
- Q4 - Does NOT follow. 'Some flowers fade' may apply only to non-rose flowers; we cannot pin it on roses. Classic 'some' trap.

SECTION 4

# Quantitative Aptitude

Now the part that frightens people the most - and, honestly, the part that fears the most when you face it calmly. CSAT maths is class 8-10 level. There is nothing exotic here. My promise to you in this section is simple: I will never just throw a formula at you. For every topic you will see the idea, the formula, WHY the formula is true, and a worked example with each step shown. Once you understand why a formula works, you stop memorising and start seeing - and that is when speed arrives.

## Number System

Numbers come in families: natural numbers (1, 2, 3 ...), whole numbers (0 included), integers (negatives too), and primes (exactly two factors - 1 and itself). Most CSAT number questions are really divisibility questions, so memorise the quick tests: a number is divisible by 2 if it ends in an even digit, by 3 if its digit-sum is divisible by 3, by 5 if it ends in 0 or 5, and by 6 if it passes both the 2 and the 3 test (because 6 = 2 x 3).

**Example 22: Is 5,43,210 divisible by 6?**

*Solution*

Divisible by 6 means divisible by 2 AND by 3.
By 2: it ends in 0, which is even - yes.
By 3: digit sum = 5+4+3+2+1+0 = 15, and 15 is divisible by 3 - yes.
Both tests pass, so it is divisible by 6.

**Answer: Yes.**

## Simplification (BODMAS)

When an expression mixes operations, we must all agree on the order, or everyone gets a different answer. That agreed order is BODMAS: Brackets, Of/Orders (powers), Division and Multiplication (left to right), then Addition and Subtraction (left to right). The rule is not arbitrary - it keeps multiplication, which is repeated addition, ahead of plain addition so the maths stays consistent.

**Example 23: Simplify: 12 + 6 / 2 x 3 - 4**

*Solution*

Division and multiplication first, left to right: 6 / 2 = 3, then 3 x 3 = 9.
Now addition and subtraction: 12 + 9 - 4.
12 + 9 = 21, then 21 - 4 = 17.

**Answer: 17.**

## LCM & HCF

HCF (highest common factor) is the biggest number that divides both - think 'what do they share?'. LCM (lowest common multiple) is the smallest number both divide into - think 'when do they first meet?'. The easiest method is prime factorisation: for HCF take the common primes at their lowest powers; for LCM take all primes at their highest powers. A handy check: HCF x LCM = product of the two numbers.

**Example 24: Find the HCF and LCM of 12 and 18.**

*Solution*

12 = 2 x 2 x 3 = 2^2 x 3; 18 = 2 x 3 x 3 = 2 x 3^2.
HCF = common primes, lowest powers = 2 x 3 = 6.
LCM = all primes, highest powers = 2^2 x 3^2 = 4 x 9 = 36.
Check: HCF x LCM = 6 x 36 = 216 = 12 x 18. Correct.

**Answer: HCF = 6, LCM = 36.**

## Percentage

Percent simply means 'out of a hundred', so x% of y = (x/100) x y. Percentages are the backbone of profit-loss, interest and data interpretation, so get fluent here. The one trick beginners miss: a percentage increase and the matching decrease are NOT the same number, because they act on different bases.

**Example 25: Find 15% of 240.**

*Solution*

15% of 240 = (15/100) x 240 = 15 x 2.4 = 36.

**Answer: 36.**

**Example 26: A price rises by 25%. By what percent must the new price be cut to return to the original?**

*Solution*

Take the original as 100. After a 25% rise it becomes 125.
To return to 100 we must cut 25 out of 125, not out of 100.
Required cut = (25 / 125) x 100 = 20%.

**Answer: 20% (not 25%) - because the cut acts on the larger new base.**

## Ratio & Proportion

A ratio compares quantities (2:3 means for every 2 of one, 3 of the other). To split a total in a ratio, add the parts to get the total number of parts, find the value of one part, then multiply out. A proportion just says two ratios are equal, and lets you find a missing term by cross-multiplication.

**Example 27: Divide Rs 600 between two people in the ratio 2:3.**

*Solution*

Total parts = 2 + 3 = 5.
One part = 600 / 5 = 120.
Shares = 2 x 120 = 240 and 3 x 120 = 360 (and 240 + 360 = 600, checks out).

**Answer: Rs 240 and Rs 360.**

## Average

An average spreads a total equally: average = sum of values / number of values. So if you know any two of these three, you know the third - that rearrangement solves most average questions. A useful fact: the average of the first n natural numbers is (n+1)/2.

**Example 28: Find the average of 10, 20, 30, 40 and 50.**

*Solution*

Sum = 10 + 20 + 30 + 40 + 50 = 150.
Count = 5, so average = 150 / 5 = 30.

**Answer: 30.**

## Partnership

When people invest together, profit is shared in proportion to each person's contribution - and contribution means money multiplied by time. So always compute (capital x months) for each partner first, reduce to a simple ratio, then divide the profit in that ratio.

**Example 29: A invests Rs 5000 for 12 months and B invests Rs 6000 for 6 months. How is a profit of Rs 8000 shared?**

*Solution*

A's share-weight = 5000 x 12 = 60000; B's = 6000 x 6 = 36000.
Ratio = 60000 : 36000 = 5 : 3 (total 8 parts).
A = (5/8) x 8000 = 5000; B = (3/8) x 8000 = 3000.

**Answer: A gets Rs 5000, B gets Rs 3000.**

## Profit & Loss

Profit = Selling Price - Cost Price, and the crucial point beginners forget: profit percent is always calculated on the COST price, not the selling price. So profit% = (profit / CP) x 100. When the question gives you the selling price and the profit%, work backwards: CP = SP / (1 + profit% as a decimal).

**Example 30: An article costing Rs 200 is sold for Rs 250. Find the profit percent.**

*Solution*

Profit = 250 - 200 = 50.
Profit% = (50 / 200) x 100 = 25%.

**Answer: 25%.**

**Example 31: An article is sold for Rs 240 at a 20% profit. Find the cost price.**

*Solution*

SP = CP x (1 + 20/100) = CP x 1.2.
So CP = 240 / 1.2 = 200 (check: 200 x 1.2 = 240).

**Answer: Rs 200.**

## Simple Interest

Simple interest is paid only on the original sum every year, so it grows in a straight line: SI = (P x R x T) / 100, where P is principal, R the yearly rate and T the time in years. The total you repay (the Amount) is just P + SI.

**Example 32: Find the simple interest on Rs 5000 at 8% per annum for 3 years.**

*Solution*

SI = (P x R x T)/100 = (5000 x 8 x 3)/100 = 120000/100 = 1200.
Amount = 5000 + 1200 = 6200.

**Answer: SI = Rs 1200 (Amount = Rs 6200).**

## Compound Interest

Compound interest pays interest on the interest too, so the money grows faster than simple interest. The amount after T years is A = P x (1 + R/100)^T, and CI = A - P. Notice the only difference from SI is that each year's interest is added to the principal before the next year is calculated.

**Example 33: Find the compound interest on Rs 10000 at 10% per annum for 2 years.**

*Solution*

A = 10000 x (1 + 10/100)^2 = 10000 x (1.1)^2 = 10000 x 1.21 = 12100.
CI = 12100 - 10000 = 2100.
See the gap: simple interest would give only 2000, the extra 100 is interest earned on the first year's interest.

**Answer: CI = Rs 2100.**

## Time & Work

The master idea: if a person finishes a job in d days, then in one day he does 1/d of the job. To combine workers, simply add their one-day works. This 'work rate' trick turns almost every time-and-work question into easy fraction addition.

**Example 34: A can finish a job in 10 days and B in 15 days. How long together?**

*Solution*

A's one-day work = 1/10; B's = 1/15.
Together in one day = 1/10 + 1/15 = 3/30 + 2/30 = 5/30 = 1/6.
Doing 1/6 per day means the whole job takes 6 days.

**Answer: 6 days.**

## Pipes & Cisterns

This is just time-and-work wearing a different hat. An inlet pipe 'does work' by filling (a positive rate), an outlet pipe undoes work by emptying (a negative rate). Add the rates with their signs to find the net filling rate.

**Example 35: Pipe A fills a tank in 6 hours; pipe B empties it in 8 hours. If both are open, how long to fill?**

*Solution*

A fills 1/6 per hour; B empties 1/8 per hour (negative).
Net per hour = 1/6 - 1/8 = 4/24 - 3/24 = 1/24.
Filling 1/24 per hour means 24 hours to fill.

**Answer: 24 hours.**

## Time, Speed & Distance

One relationship rules everything here: Speed = Distance / Time (so Distance = Speed x Time). The only thing that trips students is units - keep them consistent. To convert km/h into m/s, multiply by 5/18; to go back, multiply by 18/5. That 5/18 comes from 1000 metres over 3600 seconds.

**Example 36: Convert 72 km/h into m/s, and find the distance covered in 2.5 hours at 60 km/h.**

*Solution*

72 km/h = 72 x 5/18 = 20 m/s.
Distance = Speed x Time = 60 x 2.5 = 150 km.

**Answer: 20 m/s; 150 km.**

## Boats & Streams

Going downstream, the current helps, so effective speed = boat speed + stream speed. Going upstream, the current resists, so effective speed = boat speed - stream speed. Two more gems: boat speed = (downstream + upstream)/2 and stream speed = (downstream - upstream)/2.

**Example 37: A boat moves at 10 km/h in still water; the stream flows at 2 km/h. How long to travel 24 km downstream?**

*Solution*

Downstream speed = 10 + 2 = 12 km/h.
Time = Distance / Speed = 24 / 12 = 2 hours.

**Answer: 2 hours.**

## Age Problems

These are just disguised algebra. Let the unknown age be a letter, turn every English sentence into an equation, and remember that after k years EVERYONE's age goes up by k. Then solve.

**Example 38: A father is 3 times as old as his son. After 10 years he will be twice as old. Find their present ages.**

*Solution*

Let the son be x, so the father is 3x.
After 10 years: father = 3x + 10, son = x + 10, and father = 2 x (son): 3x + 10 = 2(x + 10).
3x + 10 = 2x + 20, so x = 10.
Son = 10, father = 30 (check: in 10 years, 40 = 2 x 20). Correct.

**Answer: Son 10 years, father 30 years.**

## Mixture & Alligation

Alligation is a fast rule for mixing two things of different value to hit a target average. The ratio in which they must be mixed is: (value of dearer - mean) : (mean - value of cheaper). It works because the cheaper item must 'pull down' exactly as much as the dearer item 'pulls up'.

**Example 39: In what ratio must rice at Rs 30/kg be mixed with rice at Rs 40/kg to get a mixture worth Rs 36/kg?**

*Solution*

Cheaper = 30, dearer = 40, mean = 36.
Ratio cheaper:dearer = (dearer - mean) : (mean - cheaper) = (40 - 36) : (36 - 30) = 4 : 6 = 2 : 3.
Check: (2x30 + 3x40)/5 = (60 + 120)/5 = 180/5 = 36. Correct.

**Answer: 2 : 3 (cheaper : dearer).**

## Mensuration Basics

Mensuration is just area, perimeter and volume. Memorise a small core and you can handle most CSAT questions: rectangle area = length x breadth; square area = side^2; circle area = pi x r^2 and circumference = 2 x pi x r; cube volume = side^3. Use pi = 22/7 when radii are multiples of 7.

**Example 40: Find the area of a circle of radius 7 cm (take pi = 22/7).**

*Solution*

Area = pi x r^2 = (22/7) x 7 x 7.
The 7 in the denominator cancels one 7: 22 x 7 = 154.

**Answer: 154 sq cm.**

## Data Sufficiency

Here you are NOT asked to solve - only to decide whether the given statements are enough to solve. This saves huge time if you resist the urge to calculate. The standard options are: (a) statement I alone is sufficient, (b) statement II alone is sufficient, (c) both together are needed, (d) each alone is sufficient. Test each statement on its own first.

**Example 41: What is the value of x?**
**I. x + 5 = 12**
**II. x is a prime number.**
**Which statement(s) are sufficient?**

*Solution*

Statement I alone: x + 5 = 12 gives x = 7 - a single definite value. Sufficient.
Statement II alone: 'x is prime' could be 2, 3, 5, 7 ... not a single value. Not sufficient.
Since I alone settles it, we do not need II.

**Answer: Statement I alone is sufficient.**

**Shortcuts & habits for quant**

- Learn the fraction-percent table (1/2=50%, 1/4=25%, 1/5=20%, 1/8=12.5%) - it makes percentages instant.
- Memorise squares to 30 and cubes to 15 - they speed up series, mensuration and number questions.
- km/h to m/s: x 5/18; m/s to km/h: x 18/5.
- Always estimate first - if four options are far apart, a rough calculation often points to the answer without full working.
- Respect negative marking: in quant, a confidently solved question is gold; a wild guess is a tax on your score.

## Practice - quant mixed set

- Q1 What is 25% of 480?
- Q2 Find the HCF of 24 and 36.
- Q3 A finishes a job in 12 days, B in 6 days. How long together?
- Q4 Find the simple interest on Rs 4000 at 5% per annum for 2 years.
- Q5 Convert 90 km/h into m/s.

**Answer key with full working**

- Q1 - 120. 25% of 480 = (1/4) x 480 = 120.
- Q2 - 12. 24 = 2^3 x 3, 36 = 2^2 x 3^2; common lowest powers = 2^2 x 3 = 12.
- Q3 - 4 days. 1/12 + 1/6 = 1/12 + 2/12 = 3/12 = 1/4, so 4 days.
- Q4 - Rs 400. SI = (4000 x 5 x 2)/100 = 40000/100 = 400.
- Q5 - 25 m/s. 90 x 5/18 = 450/18 = 25.

SECTION 5

# Data Interpretation & Data Analysis

Here is a secret that calms most students down: Data Interpretation has almost no new maths. If you have done the percentage, ratio and average topics in the last section, you already have every tool you need. DI only asks you to read numbers off a chart, then apply that easy maths quickly and without panic. So the real skill here is not calculation - it is reading carefully and not falling for the traps the examiner plants in the wording. Let me take you through every chart format APSC can show you.

## Tables

The table is the purest form of DI - exact numbers, no estimation needed. Read the row headings and column headings first so you know exactly what each cell means, then go straight to the cells the question needs. Do not read the whole table; read only what is asked.

| Year | Product A | Product B | Total |
|---|---|---|---|
| 2021 | 120 | 80 | 200 |
| 2022 | 150 | 100 | 250 |
| 2023 | 180 | 140 | 320 |

**Example 42: From the table above: (i) what were total sales in 2022, and (ii) by what percent did Product A's sales rise from 2021 to 2023?**

*Solution*

(i) Total 2022 = 150 + 100 = 250 (the table even gives the total column - use it).
(ii) A rose from 120 to 180, an increase of 60. Percentage rise = (60 / 120) x 100 = 50%.
Notice the base is the OLD value (120), not the new one - that is the commonest table trap.

**Answer: (i) 250 units; (ii) 50%.**

## Pie Charts

A pie chart shows how a single whole is divided. The whole circle is both 100% and 360 degrees, so the bridge between them is: 1% = 3.6 degrees (because 360/100 = 3.6). To find an actual amount, take that slice's percent of the given total. The classic trap: a bigger slice is a bigger SHARE, but only a bigger amount if the totals being compared are the same.

| Head | Share (%) | Of Rs 30000 |
|---|---|---|
| Food | 30% | Rs 9000 |
| Rent | 25% | Rs 7500 |
| Education | 20% | Rs 6000 |
| Savings | 15% | Rs 4500 |
| Others | 10% | Rs 3000 |

**Example 43: A family's Rs 30000 monthly budget is shown above. (i) How much is spent on Rent? (ii) What is the central angle of the Education slice?**

*Solution*

(i) Rent = 25% of 30000 = (25/100) x 30000 = 7500.
(ii) Education = 20%, and 1% = 3.6 degrees, so angle = 20 x 3.6 = 72 degrees.

**Answer: (i) Rs 7500; (ii) 72 degrees.**

## Bar Graphs

A bar graph compares separate quantities by the height of bars. Reading is instant - taller means more. Use it to spot the highest, the lowest, and differences at a glance, then do any averaging with the numbers you read off. The trap to watch: a y-axis that does not start at zero can make a small difference look huge.

**Example 44: Four students scored: P = 60, Q = 75, R = 45, S = 90 (out of 100). Who scored highest, and what is the class average?**

*Solution*

Highest bar = S at 90.
Average = (60 + 75 + 45 + 90) / 4 = 270 / 4 = 67.5.

**Answer: S scored highest; average = 67.5.**

## Line Graphs

A line graph is built for TRENDS over time - rising, falling, steady. Read the slope: a steep upward line is fast growth, a flat line is no change, a downward line is decline. For exact values, read the point heights; for 'when did it grow fastest', look for the steepest segment.

**Example 45: Daily high temperatures (deg C) were: Mon 28, Tue 31, Wed 29, Thu 33, Fri 30. Which day was hottest, and what was the weekly average?**

*Solution*

Hottest = Thursday at 33.
Average = (28 + 31 + 29 + 33 + 30) / 5 = 151 / 5 = 30.2.

**Answer: Thursday; average 30.2 deg C.**

## Multiple Line Graphs

Now two or more lines share the same chart so you can COMPARE series. The most asked questions are 'when did one overtake the other?' (find where the lines cross) and 'what is the gap between them in a given year?' (subtract the two heights). Keep your eye on one line at a time so you do not mix them up.

| Year | Company X (Rs cr) | Company Y (Rs cr) |
|---|---|---|
| 2021 | 40 | 30 |
| 2022 | 50 | 45 |
| 2023 | 60 | 70 |

**Example 46: From the two-line data above: (i) in which year did Company Y overtake Company X, and (ii) what was X's total revenue over the three years?**

*Solution*

(i) X leads in 2021 (40 vs 30) and 2022 (50 vs 45); in 2023 Y is 70 vs X's 60 - so Y overtakes X in 2023.
(ii) X total = 40 + 50 + 60 = 150.

**Answer: (i) 2023; (ii) Rs 150 crore.**

## Stacked Bar Charts

In a stacked bar, each bar is split into segments that add up to the bar's total - so you can read both the parts and the whole from one bar. Be careful: a segment can grow in actual size while its SHARE of the bar shrinks, if the whole bar grew faster. Always check whether the question asks for the amount or the share.

| Month | Online | Offline | Total |
|---|---|---|---|
| Jan | 30 | 50 | 80 |
| Feb | 45 | 55 | 100 |

**Example 47: From the stacked data above: (i) what was the total sale in January, and (ii) what share of February's sales was Online?**

*Solution*

(i) January total = 30 + 50 = 80.
(ii) February Online share = 45 / 100 = 45%.

**Answer: (i) 80 units; (ii) 45%.**

## Mixed Graphs & Combination Charts

Sometimes two chart types share one picture - for example, bars for production and a line for price - often with TWO different y-axes (one on the left, one on the right). The single most important habit: check which axis each series belongs to before reading any value, or you will read price on the production scale. Otherwise the maths is ordinary.

| Year | Production (tonnes, bar) | Price (Rs/kg, line) |
|---|---|---|
| 2021 | 200 | 50 |
| 2022 | 250 | 45 |
| 2023 | 300 | 60 |

**Example 48: From the combination data above, in 2022 how did production and price move compared with 2021, and what was production in 2023?**

*Solution*

Read the correct axis for each: production (bars) went 200 -> 250, so it rose; price (line) went 50 -> 45, so it fell.
So in 2022 production increased while price decreased.
Production in 2023 = 300 tonnes (read off the bar axis, not the price axis).

**Answer: In 2022 production rose and price fell; 2023 production = 300 tonnes.**

## Caselet DI

A caselet hides the data inside a paragraph of words instead of a chart - so your first job is to convert the words into a small table or a Venn diagram. Once the numbers are organised, the questions become easy. Never try to solve a caselet in your head; always write the numbers down.

**Example 49: In a class of 200 students, 60% play cricket, 35% play football, and 20% play both. How many play (i) only cricket and (ii) neither game?**

*Solution*

Convert percentages to numbers: cricket = 120, football = 70, both = 40 (out of 200).
(i) Only cricket = cricket - both = 120 - 40 = 80.
(ii) Only football = 70 - 40 = 30. Players of at least one game = 80 + 30 + 40 = 150, so neither = 200 - 150 = 50.

**Answer: (i) 80 students; (ii) 50 students.**

## Data Sufficiency in DI

Just like in quant, here you only decide whether the data is ENOUGH to answer - you do not finish the sum. Test each statement alone, then together. This style is common when only part of a table is shown and you must judge whether the missing piece can be found.

**Example 50: What were the total sales in 2022?**
**I. Product A's sales in 2022 were 150.**
**II. In 2022, Product A was 60% of total sales.**
**Which statement(s) are sufficient?**

*Solution*

I alone: gives only A's figure, not the total. Not sufficient.
II alone: gives a percentage but no actual number. Not sufficient.
Together: total = 150 / 0.60 = 250 - now it is solvable.

**Answer: Both statements together are needed (neither alone is enough).**

**Common traps to avoid**

- Percentage on the wrong base - 'increase from 120 to 180' is 50% (over 120), not 33%.
- Confusing share with amount - a bigger slice or segment is not always a bigger quantity unless the totals match.
- Reading the wrong axis in combination charts.
- Doing arithmetic the question never needed - read what is asked before you calculate.

## Practice - DI mixed set

- Q1 In a pie chart of a Rs 30000 budget, Food is 30%. Find the amount spent on Food.
- Q2 A pie slice has a central angle of 90 degrees. What percent of the whole is it?
- Q3 A product's sales rose from 120 to 180. Find the percentage increase.
- Q4 Find the average of the marks 60, 75, 45 and 90.

**Answer key with working**

- Q1 - Rs 9000. 30% of 30000 = (30/100) x 30000 = 9000.
- Q2 - 25%. Percent = angle / 3.6 = 90 / 3.6 = 25 (since 1% = 3.6 degrees).
- Q3 - 50%. (180 - 120)/120 x 100 = 60/120 x 100 = 50%.
- Q4 - 67.5. (60 + 75 + 45 + 90)/4 = 270/4 = 67.5.

SECTION 6

# CSAT Exam Strategy

Knowledge wins you nothing on its own; strategy is what converts what you know into marks on the day. I have seen well-prepared students fail CSAT purely because they managed the paper badly, and average students clear it comfortably because they played it smart. So treat this section as seriously as the maths. The whole game is simple: bank the easy marks first, protect your accuracy, and never let one hard question rob you of five easy ones.

## Time management

Time, not difficulty, is the real enemy in CSAT. Before the exam, work out roughly how many minutes you have per question from the latest notification's question count, and respect that limit ruthlessly. The single rule that saves most students: if a question is not yielding within about a minute and a half, mark it and move on - you can always return. One question is never worth five.

## Question selection

This is the most underrated skill in the whole paper. You do not have to attempt the questions in the order they are printed; you attempt them in the order that suits YOU. Comprehension and straightforward reasoning are usually quick and high-accuracy - take them first. Long caselet DI and heavy puzzles are time-sinks - judge them coldly and be willing to leave them. The art of leaving a question is as valuable as the art of solving one.

## Attempt strategy - the three-pass method

Do not march through the paper once from start to finish. Make three passes. In the first pass, solve only the quick, certain wins and skip everything that smells time-consuming. In the second pass, tackle the medium questions you marked. In the third pass, spend whatever time is left on the hard ones. This way your guaranteed marks are safely banked before the clock becomes your enemy.

## Accuracy strategy

Because of negative marking, accuracy beats sheer number of attempts. A paper with 55 questions attempted at high accuracy will usually outscore 75 attempted carelessly. So solve a question fully or leave it - half-solving and hoping is how marks leak away. And always re-read the question stem for the small killer words: 'not', 'except', 'incorrect'. Many wrong answers are right answers to a misread question.

## Guessing vs skipping

Let us settle this with simple logic, not superstition. If you blindly guess among four options with the usual one-third penalty, the gains and losses cancel out - on average you gain nothing. But the moment you can confidently eliminate even ONE option, the odds tip in your favour, and an educated guess becomes worth making. So the rule is: if you can rule out one or more options, guess; if you cannot eliminate anything, skip. Never guess blind, and never leave an educated guess on the table.

## Last-month preparation plan

The final month is for sharpening, not for starting new topics. Sit two full-length, timed papers every week and - this is the important half - spend as long analysing each paper as you spent writing it. Every day, keep your reading habit

alive, do one quant set and one reasoning set, and revise your formula and shortcut sheet once a week. Put your heaviest hours into your single weakest pillar, because that is where the most marks are hiding.

## Last-week preparation plan

In the last week you taper, like an athlete before a race. No new topics - they only create panic. Revise your formula sheet, your reasoning shortcuts and the common traps. Take one or two full papers early in the week to keep your rhythm, then ease off. Sleep properly, keep your admit card and documents ready, and know your exam-centre route. A calm, rested mind is worth ten last-minute formulas.

## Exam-day strategy

Reach the centre early so the journey never rattles you. Before the paper, take a few slow breaths to steady your nerves. Read the instructions, then begin your first pass picking the easy comprehension and reasoning. Keep one eye on the clock, fill the answer sheet carefully and in batches (so you never mis-bubble), and if a passage looks frightening, simply leave it and move on - one ugly question is not a verdict on the whole paper. Calm and method, not speed and panic, clear this exam.

**Golden rules for the hall**

- Bank the easy marks first - three passes, never one.
- If a question resists for ninety seconds, mark it and move on.
- Eliminate first; guess only when you have ruled out at least one option.
- Re-read for 'not / except'; fill the OMR carefully and in batches.
- Aim comfortably above the cut-off, not barely above it.

SECTION 7

# Practice Section (Mixed)

You have learnt each pillar separately; the real exam mixes them all. So here is a final mixed set that jumps between comprehension, reasoning, quantitative aptitude and data interpretation, exactly as the paper will. Try every question honestly first, with a clock, and only then read the answer key - and read it even for the ones you got right, because the key is written to teach the method, not just to reveal the letter.

## Mixed practice questions

**Passage for Q1**

- Discipline is often mistaken for the opposite of freedom. In truth it is freedom's foundation: only the person who has quietly mastered small daily habits is ever free to chase a large and difficult goal.

- Q1 (Comprehension) The main idea of the passage above is that: (a) discipline restricts freedom (b) discipline is the foundation of real freedom (c) habits are difficult to build (d) goals do not need discipline
- Q2 (Percentage) A student scored 45 out of 60. What percent is that?
- Q3 (Number series) Find the next term: 5, 11, 23, 47, ?
- Q4 (Syllogism) Statements: All teachers are educated. Some educated people are rich. Conclusion: Some teachers are rich. Does it follow?
- Q5 (Time & Work) A finishes a job in 8 days and B in 8 days. How long together?
- Q6 (Profit & Loss) An article costing Rs 500 is sold at a 10% loss. Find the selling price.
- Q7 (Average) Find the average of 12, 15, 18 and 21.
- Q8 (Direction) A person faces North and turns 90 degrees to the right twice. Which direction does she now face?
- Q9 (Simple Interest) Find the SI on Rs 2000 at 10% per annum for 2 years.
- Q10 (Data) Product A sold 120 units in 2021 and 180 in 2023. What is the ratio of 2023 sales to 2021 sales?

## Answer key with detailed explanations

**Q1 - Q5**

- Q1 - (b). The passage literally calls discipline 'freedom's foundation'. (a) is the opposite of the author's point, (c) and (d) are not the central claim. Always answer a main-idea question from the author's own central line.
- Q2 - 75%. Percent = (scored/total) x 100 = (45/60) x 100 = 75%. Reduce first if you like: 45/60 = 3/4 = 75%.
- Q3 - 95. The rule is 'double and add one': 5x2+1=11, 11x2+1=23, 23x2+1=47, so 47x2+1=95. When differences are not constant, test 'x2', 'x2+1' or 'x3' patterns.
- Q4 - Does NOT follow. 'Some educated people are rich' may point only to educated people who are not teachers, so we cannot pin 'rich' onto teachers. This is the classic 'some' trap - trust the Venn picture, not your instinct.
- Q5 - 4 days. Each does 1/8 per day, together 1/8 + 1/8 = 2/8 = 1/4 per day, so 4 days. (Shortcut: when two people take the same time t, together they take t/2.)

**Q6 - Q10**

- Q6 - Rs 450. A 10% loss means SP = CP x (1 - 10/100) = 500 x 0.9 = 450. Loss, like profit, is always reckoned on the cost price.
- Q7 - 16.5. Sum = 12+15+18+21 = 66; average = 66/4 = 16.5. (These are in an arithmetic progression, so the average is also the middle value, (15+18)/2 = 16.5.)
- Q8 - South. Facing North, one right turn faces East, a second right turn faces South. Drawing the turns as you read prevents silly slips here.
- Q9 - Rs 400. SI = (P x R x T)/100 = (2000 x 10 x 2)/100 = 400.
- Q10 - 3 : 2. 180 : 120, divide both by 60 = 3 : 2. Always reduce a ratio to its lowest terms.

**A closing word from your teacher**

- If you understood the methods in this handbook, you do not need luck in CSAT - you need calm, daily practice.
- Revise the concepts, redo every worked example until the steps feel obvious, and sit timed papers until the clock stops frightening you.
- Clear the paper comfortably, free your mind for the rest of the exam, and rise with purpose. All the best - CareerUdaya.