STUDY MATERIAL

SSC Study Material

Demo Edition - SSC CGL - CHSL - MTS - CPO

Quantitative Aptitude - Reasoning - English - General Awareness

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About this demo

This is a **free demo PDF** from StudyElites. It contains sample chapters from our SSC Study Material so you can preview the structure, depth and quality of the full product before purchasing.

The full version (delivered after purchase via Razorpay) contains the complete chapter set, additional practice sets, previous-year question walkthroughs, and topic-wise quick-revision sheets. This demo covers approximately 15-20% of the full material.

What's inside this demo

- Chapter 1 - Number System (Classification, divisibility, surds)
- Chapter 2 - Percentage (Concepts, shortcuts, successive changes)
- Chapter 3 - General Intelligence & Reasoning (Series, analogy, coding-decoding)
- Practice question bank with answer key

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Chapter 1

Number System

1.1 Classification, divisibility, surds

The number system is the foundation of quantitative aptitude. A clear understanding of how numbers are classified, how divisibility works, and how to manipulate fractions, decimals and surds is essential before attempting any SSC CGL Quant question. This chapter walks through the classification of numbers, the key divisibility tests, and the relationship between fractions, decimals and percentages - concepts that recur in almost every Tier I paper.

Numbers are first classified into natural numbers (1, 2, 3, ...), whole numbers (0, 1, 2, ...), integers (..., -2, -1, 0, 1, 2, ...), and rational numbers (numbers expressible as p/q where q is not 0). Numbers that cannot be expressed as p/q - such as sqrt(2), sqrt(3) and pi - are called irrational numbers. Together, rational and irrational numbers form the set of real numbers.

1.2 Important Formulas / Rules

Divisibility rule of 11: |sum of digits at odd positions - sum of digits at even positions| is divisible by 11
HCF x LCM = Product of two numbers
(a + b)^2 = a^2 + 2ab + b^2
a^3 + b^3 = (a + b)(a^2 - ab + b^2)

1.3 Worked Example

Example. Find the unit digit of 7^2025.

The unit digit of powers of 7 follows a cycle of length 4: 7, 9, 3, 1, ... So 2025 mod 4 = 1, hence the unit digit is 7.

Chapter 2

Percentage

2.1 Concepts, shortcuts, successive changes

Percentage is one of the highest-yield topics in SSC CGL Quant. Questions on percentage, profit-loss, simple/compound interest and successive percentage changes all reduce to the same underlying idea: expressing one quantity as a fraction of another with denominator 100. Mastering percentage shortcuts can save 4-6 minutes in the Tier I paper, which is often the difference between selection and missing the cut-off.

A percentage is a fraction with denominator 100. The statement 'x is 25% of y' means x = (25/100) x y. To convert a fraction to a percentage, multiply by 100 and add the % sign; to convert a percentage to a fraction, divide by 100 and simplify.

2.2 Important Formulas / Rules

Successive change: if A changes by x% then by y%, net change = x + y + (xy/100)
If increased by x%: new = original x (1 + x/100)
If price rises by x%, reduce consumption by (100x/(100+x))% to keep spend constant

2.3 Worked Example

Example. A shopkeeper marks goods 40% above cost and gives 20% discount. Profit %?

Let CP = 100. MP = 140. Discount = 28. SP = 112. Profit = 12%. Shortcut: +40 - 20 - (40x20/100) = 20 - 8 = 12%.

Chapter 3

General Intelligence & Reasoning

3.1 Series, analogy, coding-decoding

Series questions give you a sequence of numbers or letters and ask you to identify the next term. The trick is to first check whether the series is increasing, decreasing, or alternating, then test common patterns: arithmetic progression, geometric progression, differences of differences, squares/cubes, prime numbers, or a combination of two interleaved series.

Analogy questions present a pair (A : B) and ask which of the given options completes a second pair (C : ?) in the same way. The key is to identify the underlying relationship - synonym/antonym, part-whole, cause-effect, worker-tool, etc. - then match it to the second pair.

3.2 Important Formulas / Rules

AP nth term: a_n = a + (n-1)d
GP nth term: a_n = a x r^(n-1)
Square of n: n^2; Cube of n: n^3

3.3 Worked Example

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

Differences: 4, 6, 8, 10. Next diff = 12. So next term = 30 + 12 = 42. (Pattern: n^2 + n)

Practice Question Bank

10 sample questions with answer key.

Quantitative Aptitude

Q1. Find the LCM of 12, 18 and 30.

(A) 60
(B) 90
(C) 180
(D) 360

Answer: (C) 180 - 12 = 2^2 x 3, 18 = 2 x 3^2, 30 = 2 x 3 x 5; LCM = 2^2 x 3^2 x 5 = 180.

Q2. A man buys an article for Rs.600 and sells it at a profit of 25%. Selling price?

(A) Rs.700
(B) Rs.720
(C) Rs.750
(D) Rs.800

Answer: (C) Rs.750 - SP = 600 x 1.25 = 750.

Q3. Simple interest on Rs.5000 for 2 years at 8% per annum?

(A) Rs.600
(B) Rs.700
(C) Rs.800
(D) Rs.900

Answer: (C) Rs.800 - SI = (5000 x 8 x 2)/100 = 800.

Reasoning

Q4. Complete the series: 1, 4, 9, 16, 25, ?

(A) 30
(B) 36
(C) 49
(D) 64

Answer: (B) 36 - squares of natural numbers: 6^2 = 36.

Q5. If FRIEND is coded as GSJFOE, how is HUSBAND coded?

(A) ITTCBOE
(B) IVTCBOE
(C) ITUCBOE
(D) IVUCBOE

Answer: (A) ITTCBOE - each letter shifted +1.

English

Q6. Choose the correct synonym of ABUNDANT:

(A) Scarce
(B) Plentiful
(C) Limited
(D) Few

Answer: (B) Plentiful.

Q7. Identify the error: 'He is one of the most intelligent boy in the class.'

(A) He is
(B) one of the most intelligent boy
(C) in the class
(D) No error

Answer: (B) - should be 'one of the most intelligent boys'.

General Awareness

Q8. Who is known as the 'Father of the Indian Constitution'?

(A) Jawaharlal Nehru
(B) B. R. Ambedkar
(C) Rajendra Prasad
(D) Sardar Patel

Answer: (B) B. R. Ambedkar.

Q9. The Tropic of Cancer does NOT pass through which state?

(A) Rajasthan
(B) Odisha
(C) Tripura
(D) Mizoram

Answer: (B) Odisha.

Q10. In which year was the Reserve Bank of India established?

(A) 1935
(B) 1947
(C) 1950
(D) 1969

Answer: (A) 1935 - RBI was established on 1 April 1935.

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