

SSC CHSL & Govt Exams – High Yield Formulas + Practice Questions

QUANTITATIVE APTITUDE (MOST REPEATED FORMULAS)

PROFIT & LOSS

1. Profit% = $(\text{Profit}/\text{CP}) \times 100$
2. Loss% = $(\text{Loss}/\text{CP}) \times 100$
3. $\text{MP}/\text{CP} = (100 + \text{Profit}\%)/(100 - \text{Discount}\%)$
4. SP after discount = $\text{MP} \times (1 - \text{D}/100)$
5. $\text{SP} = \text{CP} \times (1 + \text{P}/100)$

TIME, SPEED & DISTANCE

1. Speed = Distance/Time
2. Avg speed = $(2xy)/(x + y)$ for equal distance
3. $D = (S1 \times S2 / |S2 - S1|) \times (\text{Time difference})$

MENSURATION

Sphere: $V = \frac{4}{3} \pi r^3$

Cylinder: $V = \pi r^2 h$

Cone: $V = \frac{1}{3} \pi r^2 h$

Recasting: Number = $(V_{\text{big}} / V_{\text{small}})$

SIMPLE & COMPOUND INTEREST

SI = $(P \times R \times T)/100$

CI = $P(1 + R/100)^T - P$

PERCENTAGE

Increase/Decrease: New = $\text{Old} \times (1 \pm p/100)$

RATIO & PROPORTION

A:B = A/B

If $A/B = C/D \rightarrow AD = BC$

ALGEBRA

$$(a + b)^2 = a^2 + b^2 + 2ab$$

$$(a - b)^2 = a^2 + b^2 - 2ab$$

$$(a + b)(a - b) = a^2 - b^2$$

TRIGONOMETRY

$$\sin^2\theta + \cos^2\theta = 1$$

$$\tan\theta = \sin\theta/\cos\theta$$

$$1 + \tan^2\theta = \sec^2\theta$$

GEOMETRY – SIMILAR TRIANGLES

$$\text{Area ratio} = (\text{Side ratio})^2$$

REASONING FORMULAS / RULES

SERIES

- Multiplicative pattern: $\times a, \times b, \times a, \times b...$
- Difference pattern: $+a, +b, +a, +b...$

CODING ■ DECODING

- Find letter position $A=1 \dots Z=26$
- Apply shift: $+n$ or $-n$

SYLLOGISM

All A are B \rightarrow Some B are A (Always true)

All A are B & All B are C \rightarrow All A are C

ENGLISH – KEY GRAMMAR RULES

TENSE

- After "if" in conditional clause \rightarrow use Simple Present
- After modal verbs (will, shall, may) \rightarrow use base form (V1)

SUBJECT ■ VERB AGREEMENT

- Singular subject → singular verb
- Indefinite pronouns (each, everyone) → singular verb

Phrasal Verbs & Vocabulary included in questions below.

PRACTICE QUESTIONS (DERIVED FROM FORMULAS)

QUANT – HIGH YIELD

1. A shopkeeper earns 24% profit after 12% discount. CP = 4400. Find MP.
2. A sphere of radius 8 cm is melted to form balls of radius 2 cm. How many balls?
3. Find θ : $4 \sin^2\theta - 4\sqrt{3} \sin\theta + 3 = 0$.
4. A sum amounts to 2130 in 3.5 years and 1860 in 2.5 years. Find Principal.
5. A car takes 16 hr at speed S. At S+20, it takes 12 hr. Find distance.

REASONING – HIGH YIELD

6. IJLO → GHJM. What is EFHK coded as?
7. 7, 28, 84, 336, 1008, ? Find next term.
8. All flowers are red. Some red are metals. Conclusions?
9. Replace signs to make equation correct.

ENGLISH – HIGH YIELD

10. Spot the error: The teacher will help you if you will ask her.
11. Antonym of "Sluggish".
12. Correct phrasal verb: The loan _____ his expenses.

GA – HIGH YIELD

13. Who recommended Fundamental Duties?
14. Which dance is from J&K;?
15. National Sports Day is celebrated on whose birthday?

