

Quantitative Aptitude – Solutions (సమాధానాలు) Set-3



## Maths Practise Questions PDF Download in Telugu

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### S1. Ans.(c)

**Sol.** Let the total number of candidates =  $x$

- Number of candidates passed in English =  $0.6x$
- Number of candidates passed in Maths =  $0.7x$
- Number of candidates failed in both subjects =  $0.2x$
- Number of candidates passed in at least one subject =  $x - 0.2x = 0.8x$

ATQ,

- $0.6x + 0.7x - 2500 = 0.8x$
- $1.3x - 0.8x = 2500$
- $0.5x = 2500$
- $x = 5000$

### S2. Ans.(b)

**Sol.** Let sum of money be  $x$ .

So,  $\frac{11}{2}\%$  of  $x = 220$

- $x = \frac{220 * 200}{11} = 4000$
- $\frac{7}{2}\%$  of  $4000 = \frac{7}{2} * \frac{4000}{100} = 140$
- Rs. 140 would be the correct answer.

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Starts Aug 2, 2021 6 PM to 9 PM

**S3. Ans.(d)**

**Sol.** Remaining height =  $(192 - \frac{125}{2} \% \text{ of } 192)$

→  $192 - 120 = 72\text{m}$

Then ATQ, distance covered in second hour

=  $\frac{25}{2} \% \text{ of } 72$

→  $\frac{25 * 72}{2 * 100} = 9\text{m}$

**S4. Ans.(b)**

**Sol.** Total revenue earned

= Rs.  $(9900 * \frac{20}{100} * 10 + 9900 * \frac{80}{100} * 20)$

= Rs.  $(19800 + 158400)$

= Rs. 178200

**S5. Ans.(d)**

**Sol.** Let  $x = 10$  and  $y = 10$

→  $x^2y^2 = 10 \times 10 \times 10 \times 10 = 10000$  units

Decreasing values of  $x$  and  $y$  by 20%,

Expression =  $x^2y^2 = 8 \times 8 \times 8 \times 8 = 4096$

Decrease =  $10000 - 4096 = 5904$  units

Percentage decrease

→  $\frac{5904}{10000} * 100 = 59.04\%$

**S6. Ans.(b)**

**Sol.** Let the number of books in shelf B be 100.

So, Number of books in shelf A = 80

On transferring 25% i.e.  $\frac{1}{4}$  of books of shelf A to shelf B.

$B = 100 + 20 = 120$

Again, on transferring  $\frac{1}{4}$  of books of shelf B to shelf A.

$A = 60 + \frac{120}{4} = 90$

→ Required percentage =  $\frac{90}{180} * 100 = 50\%$

**S7. Ans.(c)**

**Sol.** Let Tina's weight = 1 kg

Lina's weight = 2 kg

Neha's weight = 1.4kg

Mina's weight = 1.8 kg.

→  $\frac{1.8x}{100} = 1.4$

→  $x = \frac{1.4x * 100}{1.8}$

→  $x = 77\frac{7}{9}$

**S8. Ans.(d)**

**Sol.** The batsman scored  $3 \times 4 + 8 \times 6 = 60$  runs by boundaries and sixes respectively. Then,

$$\rightarrow \text{Required percentage} = \frac{50}{110} * 100 = 45 \frac{5}{11} \%$$

**S9. Ans.(c)**

**Sol.** Error = 5.5 minutes

$$\rightarrow \text{Error per cent} = \frac{5.5}{3 * 60 + 40} * 100 = 2.5\%$$

**S10. Ans.(b)**

**Sol.** number of workers in fourth year =  $8000 * \frac{105}{100} * \frac{110}{100} * \frac{120}{100}$   
= 11088

**S11. Ans.(a)**

**Sol.** Since 18% of the students neither play football nor cricket. It means 82% of the students either play football or cricket or both.

Using set theory

$$\rightarrow n(A \cup B) = n(A) + n(B) - n(A \cap B)$$

$$\rightarrow 82 = 40 + 50 - n(A \cap B)$$

$$\rightarrow n(A \cap B) = 90 - 82 = 8$$

8% students play both games.

**S12. Ans.(c)**

**Sol.** If the number of trees in the garden be x, then

$$\rightarrow x * \frac{60}{100} * \frac{25}{100} * \frac{20}{100} = 1500$$

$$\rightarrow x = 50000$$

**S13. Ans.(b)**

**Sol.** Number to be added = x (let)

$$\therefore \frac{320 * 10}{100} + x = \frac{230 * 30}{100}$$

$$\rightarrow 32 + x = 69$$

$$\rightarrow x = 37$$

**S14. Ans.(b)**

**Sol.** Let the required income be Rs. x.

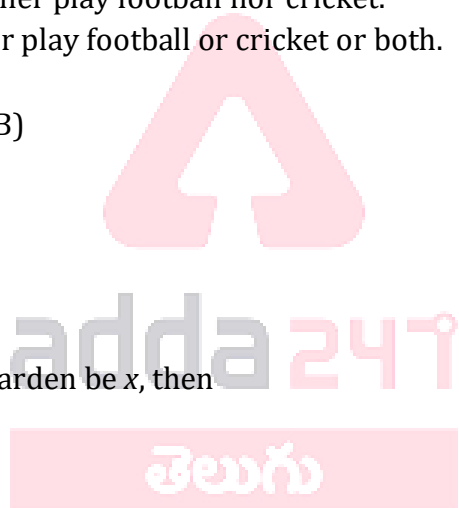
Average monthly income

$$\rightarrow \text{Rs. } \left( \frac{80800}{16} \right) = \text{Rs. } 5050$$

$$\therefore X = 120\% \text{ of } 5050$$

$$= \text{Rs. } \left( \frac{120}{100} * 5050 \right)$$

$$X = \text{Rs. } 6060$$



**S15. Ans.(c)**

**Sol.** Suppose monthly income of the man is Rs.  $x$ .

$$\text{Expenditure on food} = 40\% \text{ of } x = \text{Rs. } \frac{2x}{5}$$

$$\text{Remaining amount} = x - \frac{2x}{5} = \text{Rs. } \frac{3x}{5}$$

$$\text{Expenditure on transport} = \frac{1}{3} * \frac{3x}{5} = \text{Rs. } \frac{x}{5}$$

$$\text{Remaining amount} = \frac{3x}{5} - \frac{x}{5} = \frac{2x}{5}$$

$$\text{ATQ, } \frac{1}{2} * \frac{2x}{5} = 4500$$

$$\therefore X = 4500 * 5 = \text{Rs. } 22500$$

**S16. Ans.(d)**

**Sol.** Arvind's income = 100

Expenditure = 75

Savings = 25

New income = 120

Expenditure = 75 + 7.5 = 82.5

Savings = 120 - 82.5 = 37.5

$$\text{Required percentage} = \frac{37.5 - 25}{25} * 100$$

$$= 50\%$$

**S17. Ans.(b)**

$$\text{Sol. Women} = \frac{43}{83} * 311250$$

$$= 161250$$

$$\text{Men} = 311250 - 161250$$

$$= 150000$$

$\therefore$  Total number of literate persons

$$= \frac{161250 * 8}{100} + 150000 * \frac{24}{100}$$

$$= 12900 + 36000 = 48900$$

**S18. Ans.(a)**

**Sol.** Glycerin in mixture = 40 liters

Water = 10 liters

Let  $x$  liters of pure glycerin is mixed with the mixture.

$$\rightarrow \frac{40 + x}{50 + x} = \frac{95}{100} = \frac{19}{20}$$

$$\rightarrow 800 + 20x = 950 + 19x$$

$$\rightarrow x = 150 \text{ liters}$$



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Vocabulary (Root words, prefixes & suffixes)  
Grammar & Reading skills

Starts July 27, 2021 **7 PM to 9 PM**

**S19. Ans.(b)**

**Sol.** Let the CP of each article = 100 and consumption = 100 units

Initial expenditure =  $(100 \times 100) = 10000$

New price of article = 80

Consumption = 120 units

Expenditure =  $(120 \times 80) = 9600$

Decrease =  $(10000 - 9600) = 400$

$\therefore$  Percentage decrease =  $\frac{400 \times 100}{10000} = 4\%$

**S20. Ans.(c)**

**Sol.** Let marks obtained by the first student be  $x$ .

$\therefore$  Marks obtained by the second student =  $x - 9$

According to the question,

$x = 56\%$  of  $(x + x - 9)$

$$x = \frac{(2x - 9) \times 56}{100}$$

$$100x = 112x - 504$$

$$X = 42$$

$\therefore$  Marks obtained by the second student

$$= x - 9$$

$$= 42 - 9$$

$$= 33$$

**S21. Ans.(b)**

**Sol.** A can do 50% work in 16 days, so whole work done by A in 32 days

B do  $\frac{1}{4}$  work in 24 days, so whole work will complete in 96 days

Let the total work be 96 units (LCM of 32, 96)

(A + B) 1 day's work =  $3 + 1 = 4$  units

A & B will finish the  $\frac{3}{4}$ th of the work in =  $\frac{96 \times 3}{4 \times 4} = 18$  days

**S22. Ans.(a)**

**Sol.** ATQ,  $(10M \times 12) = (10W \times 6)$

$$120M = 60W$$

$$\rightarrow \frac{M}{W} = \frac{1}{2}$$

Total work =  $(10M \times 12) = 10 \times 1 \times 12 = 120$

This total work would be done by 10M and 10W in =  $\frac{120}{10 \times 1 + 10 \times 2}$

$$\rightarrow \frac{120}{30} = 4 \text{ days}$$

**S23. Ans.(d)**

**Sol.** (A + B)'s 1 day's work =  $\frac{1}{8}$

(B + c)'s 1 day's work =  $\frac{1}{24}$

(C + A)'s 1 day's work =  $\frac{7}{60}$

On adding all three,

$2(A + B + C)$ 's 1 day's work =  $\frac{1}{8} + \frac{1}{24} + \frac{7}{60} = \frac{34}{120}$

$\therefore (A + B + C)$ 's 1 day's work =  $\frac{17}{120}$

$\therefore C$ 's 1 day's work =  $\frac{17}{120} - \frac{1}{8} = \frac{1}{60}$

$\therefore C$  alone will complete the work in 60 days.



**S24. Ans.(b)**

**Sol.** Let the total work be 360 units (LCM of 45, 40)

A's 1 days' work = 8 unit

B's 1 days' work = 9 unit

(A + B)'s 1 days' work = 17 units

B's 23 days' work =  $23 * 9 = 207$

So,  $360 - 207 = 153$  unit work would be done by (A + B)

So, A left the work after =  $\frac{153}{17} = 9$  days

So A & B work initially for 9 days after that A left and remaining work 207 units will finish by only B in 23 days.

**S25. Ans.(c)**

**Sol.** Total Work =  $40 * 18 = 720$  units

40 men work for 8 days, so they finish =  $40 * 8 = 320$  units

Remaining work =  $720 - 320 = 400$  units

Now, ATQ 10 more men join the work,

So, left work 400 units would be finish by 50 men in

=  $\frac{400}{50} = 8$  days

**S26. Ans.(d)**

**Sol.** This type of ques. would be solved as

$\rightarrow \frac{\text{Days}}{\frac{\text{And}}{\text{Or}} + \frac{\text{And}}{\text{Or}}}$

$\rightarrow \frac{25}{\frac{28}{16} + \frac{15}{20}} = \frac{25}{\frac{140 + 60}{80}}$

$\rightarrow \frac{25 * 80}{200} = 10$  days

**S27. Ans.(a)**

**Sol.** Let the time taken by B in doing the work alone =  $x$  days

According to the question,

Time taken by A =  $2 * \frac{3x}{4} = \frac{3x}{2}$  days

$$\rightarrow \therefore \frac{1}{x} + \frac{1}{\frac{3x}{2}} = \frac{1}{18}$$

$$\rightarrow \frac{1}{x} + \frac{2}{3x} = \frac{1}{18}$$

$$\rightarrow \frac{3+2}{3x} = \frac{1}{18}$$

$$\rightarrow x = 30 \text{ days}$$

**S28. Ans.(b)**

**Sol.**  $\therefore$  Dhiru digs  $\frac{1}{a}$  part of field in 20 hours.

$\therefore$  Dhiru digs 1 part of field in  $20a$  hours.

$$\therefore \text{Part of field dug by Kaku in 1 hour} = \frac{1}{60} - \frac{1}{20a} = \frac{a-3}{60a}$$

$$\therefore \text{Part of field dug by Kaku in 20 hour} = \frac{20(a-3)}{60a}$$

$$= \frac{(a-3)}{3a}$$

**S29. Ans.(c)**

**Sol.** According to the question,

If A takes  $x$  days to complete the work, B will take  $2x$  days and C will take  $4x$  days,

Now, (A + B)'s 1 day's work =  $\frac{1}{4}$

$$\rightarrow \frac{1}{x} + \frac{1}{2x} = \frac{1}{4}$$

$$\rightarrow \frac{2+1}{2x} = \frac{1}{4}$$

$$\rightarrow x = 6$$

$\therefore$  C will complete the work in  $4x$  i.e. 24 days.

**S30. Ans.(a)**

**Sol.** More persons, less working hours/day

Less days, more working hours/day

$$\left. \begin{array}{l} \text{Persons} \quad 7 \quad : \quad 5 \\ \text{Days} \quad \quad 4 \quad : \quad 8 \end{array} \right\} \therefore 7 : x$$

Where,  $x$  is hours/days

$$\therefore 7 \times 4 \times x = 5 \times 8 \times 7$$

$$\therefore x = \frac{5 \times 8 \times 7}{7 \times 4} = 10 \text{ hours}$$



**S31. Ans.(a)**

**Sol.**  $1 + 3 + 5 + \dots + 99$   
 $= (1 + 2 + 3 + 4 + \dots + 100) - (2 + 4 + 6 + \dots + 100)$   
 $= (1 + 2 + 3 + 4 + \dots + 100) - 2(1 + 2 + 3 + \dots + 50)$   
 $= \frac{100(100+1)}{2} - \frac{2 * 50(50+1)}{2}$   
 $\left[ \because 1 + 2 + 3 + \dots + n = \frac{n(n+1)}{2} \right]$   
 $= 50 \times 101 - 50 \times 51$   
 $= 50(101 - 51)$   
 $= 50 \times 50$   
 $= 2500$

**S32. Ans.(c)**

**Sol.** Speed of stream  $= \frac{1}{2} \left( \frac{36}{6} - \frac{40}{8} \right)$   
 $= \frac{1}{2} \rightarrow 0.5 \text{ kmph}$

**S33. Ans.(d)**

**Sol.** Let they meet  $x$  hrs. After 7 am.

Distance covered by A in  $x$  hours  $= 20x$  km

Distance covered by B in  $(x - 1)$  hr.  $= 25(x - 1)$  km

ATQ,

$$20x + 25(x - 1) = 110$$

$$20x + 25x - 25 = 110$$

$$45x = 110 + 25 = 135$$

$$x = 3$$

$\therefore$  Trains meet at 10 a.m.

**S34. Ans.(a)**

**Sol.** Skilled: half skilled: unskilled  $= \frac{1}{3} : \frac{1}{4} : \frac{1}{6}$

$$= \left( \frac{1}{3} * 12 \right) : \left( \frac{1}{4} * 12 \right) : \left( \frac{1}{6} * 12 \right) \text{ [LCM of 3, 4, 6 = 12]}$$

$$= 4 : 3 : 2$$

$$\text{Share of skilled laborer} = \frac{28}{(7 * 4 + 8 * 3 + 2 * 10)} * 369$$

$$= \frac{28}{(28 + 24 + 20)} * 369$$

$$= \frac{28}{72} * 369 \rightarrow \text{Rs. } 143.50$$



**S35. Ans.(b)**

**Sol.** Let  $x$  be lent on 8%.

$\therefore (1000 - x)$  is lent on 10%.

Interest = 9.2% of 1000 = Rs. 92

$$\therefore 92 = \frac{x * 8}{100} + \left(\frac{1000 - x}{100}\right) * 10$$

$$\rightarrow 8x + 10000 - 10x = 9200$$

$$\rightarrow -2x = 9200 - 10000$$

$$\rightarrow x = 800/2 = 400 = \text{first part}$$

$\therefore$  Second part = 600

**S36. Ans.(d)**

**Sol.** Total marked price of three books = Rs. 300

Their S.P. = Rs. 244.50

Discount = Rs. (300 - 274.50) = Rs. 25.50

If the rate of discount be  $x\%$ , then

$$\rightarrow \frac{300 * x}{100} = 25.50$$

$$\rightarrow 300x = 25.50 * 100$$

$$\rightarrow x = \frac{25.50 * 100}{300} = 8.5\%$$

**S37. Ans.(c)**

**Sol.** The C.P. of a cow = be  $x$  and that of a goat  $y$ .

$$3x + 8y = 47200 \dots (i)$$

$$8x + 3y = 100200 \dots (ii)$$

By equation (i)  $\times 3$  - (ii)  $\times 8$ ,

$$9x + 24y - 64x - 24y = 141600 - 801600$$

$$55x = 660000$$

$$x = \text{Rs. } 12000$$

**S38. Ans.(a)**

**Sol.** Let original fraction be  $\frac{x}{y}$

$$\rightarrow \frac{x * 250}{y * 400} = \frac{5}{18}$$

$$\rightarrow \frac{x}{y} = \frac{5 * 400}{18 * 250} \rightarrow \frac{4}{9}$$

**S39. Ans.(c)**

**Sol.** Sachin: Saurav = 3: 2

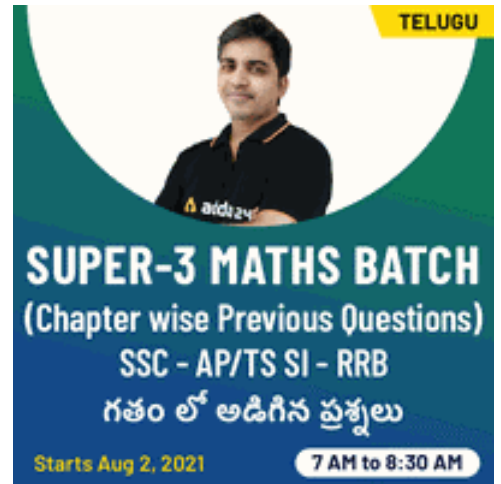
Saurav: Sehwag = 3: 2

Ratio of the runs scored by Sachin, Saurav and Sehwag respectively

$$= 3 \times 3: 2 \times 3: 2 \times 2$$

$$= 9: 6: 4$$

$$\therefore \text{Runs scored by Sachin} = \frac{9}{19} * 285 = 135$$



**S40. Ans.(b)**

**Sol.** Sum of age of 8 members =  $8 \times 40 = 320$  years

After a person of age 55 years retires,

Sum of ages of 7 persons =  $320 - 55 = 265$  years

Sum of ages of 8 persons when a man of age 39 years joins it

=  $265 + 39 = 304$  years

∴ Required average =  $\frac{304}{8} = 38$  years

**S41. Ans.(b)**

**Sol.** Let Vinita paid x,

so Anamika paid  $2x/3$ , and Lalita paid 2x,

So total bill paid by them can be represented as

$x + (2x/3) + 2x = 1$ , we get

i.e.  $x = \frac{3}{11} =$  Vinita's share

**S42. Ans.(c)**

**Sol.** ATQ,

$$\rightarrow \frac{A}{B} ==> \frac{5 * 6}{4 * k} = \frac{3}{4}$$

→ **k = 10 months, i.e. B invest his amount for 10 months.**

**S43. Ans.(d)**

**Sol.** Compound ratio of A: B: C

A: B = 4: 3

B: C = 6: 7

-----  
A: B: C = 8: 6: 7

ATQ, 21 unit = 7077

1 unit = 337

Share of C =  $337 * 7 = 2359$

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**S44. Ans.(b)**

**Sol.** Ratio of investments for 1 year

=> (A: B: C) =  $(2x2 + 2.4x10): (3x2 + 3.3x10): (5x12)$

=> (A: B: C) = 28: 39: 60

Now B's share =  $221615 \times 39/127 =$  Rs. 68,055.

**S45. Ans.(a)**

**Sol.**

Pawan	Kiran	Chandan
$4 * 12$	$6 * 6$	$12 * 6$
→ 48	: 36	: 72
→ 4	: 3	: 6

ATQ, 13 units = 24700

Share of Chandan =  $\frac{24700}{13} * 6$

= Rs. 11,400

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**S46. Ans.(d)**

**Sol.** A: B = 2: 3

B: C = 2: 5

A: B: C = 4: 6: 1 5

$A + B + C = 4 + 6 + 1 5 = 25$

A's share =  $\frac{4}{25} * 3250 = \text{Rs. } 520$

B's share =  $\frac{6}{25} * 3250 = \text{Rs. } 780$

C's share =  $\frac{15}{25} * 3250 = \text{Rs. } 1950$

**S47. Ans.(c)**

**Sol.** Profit received by Sohan as working partner = 12% of Rs. 20000  
= Rs. 2400

Balance in profit = 20000 - 2400 = Rs. 17,600

Ratio of investment of Sohan & Mohan = 80,000: 1, 40,000 = 4: 7

Hence share of Sohan in investment =  $\frac{4}{11} * 17600 = \text{Rs. } 6400$

Therefore, Share of Mohan = 20000 - 2400 - 6400 = Rs. 11,200

**S48. Ans.(b)**

**Sol.** Let the investment done by Laxmi is Rs. x.

Given share of Laxmi is  $\frac{2}{7}$  th of profit. Then, their profits are divided into 5: 2 ratio.

Ratio of Kajal and Laxmi is

$$\rightarrow \frac{16000 * 8}{x * 4} = \frac{5}{2}$$

$$\rightarrow x = \text{Rs. } 12,800$$

**S49. Ans.(c)**

**Sol.** Suppose B joined for x months.

Given profit is divided in the ratio 3:1. Then,

$$\rightarrow \frac{A}{B} ==> \frac{85000 * 12}{42500 * x} = \frac{3}{1}$$

$$\rightarrow x = 8 \text{ months}$$

**S50. Ans.(d)**

**Sol.** Let the amount invested by Saransh = RS. P

Now, that of Shahdab = 20,000 x 6


Saransh = 12 x P

Ratio of their earnings = 120000: 12p = 6000: (9000 - 6000)

$$\rightarrow \frac{120000}{12P} = \frac{6000}{3000}$$

$$\rightarrow P = \text{Rs. } 5000$$

Hence, the amount invested by Saransh = Rs. P = Rs. 5000.



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