adda247 publications

BOOKS

Visit: publications.adda247.com & store.adda247.com
For any information, mail us at **publications@adda247.com**

Solutions

S1. Ans.(d)

Sol. Total no. of boys in schools R and U

$= \left(2000 - \frac{2000 \times 27.5}{100}\right) + \left(1000 - \frac{1000 \times 17.5}{100}\right)$

$= 1450 + 825$

$= 2275$

$\therefore$ Required percentage $= \frac{2275}{3000} \times 100 = 75.83\%$

S2. Ans.(c)

Sol. Total no. of boys in school T

$= 1250 - 1250 \times \frac{40}{100}$

$= 1250 - 500$

$= 750$

S3. Ans.(a)

Sol. Required percentage $= \frac{2000}{2250} \times 100 = 88.88 \simeq 89\%$

S4. Ans.(b)

Sol. Required average no.

$= \frac{\left(2500 - 2500 \times \frac{40}{100}\right) + \left(3000 - 3000 \times \frac{45}{100}\right)}{2}$

$= \frac{1500 + 1650}{2}$

$= \frac{3150}{2}$

$= 1575$

S5. Ans.(c)

Sol. Required ratio

$= \frac{2500 \times \frac{40}{100}}{3000 \times \frac{45}{100}}$

$= \frac{25 \times 4}{3 \times 45} = 20 : 27$

S6. Ans.(d)

Sol. I. $2x^2 - 15x + 27 = 0$

$\Rightarrow 2x^2 - 6x - 9x + 27 = 0$

$\Rightarrow (x - 3)(2x - 9) = 0$

$\Rightarrow x = 3, \frac{9}{2}$

II. $2y^2 - 13y + 20 = 0$

$\Rightarrow 2y^2 - 8y - 5y + 20 = 0$

$\Rightarrow (y - 4)(2y - 5) = 0$

$\Rightarrow y = 4, \frac{5}{2}$

No relation

S7. Ans.(b)

Sol. I. $9x^2 - 21x + 10 = 0$

$\Rightarrow 9x^2 - 6x - 15x + 10 = 0$

$\Rightarrow 3x(3x - 2) - 5(3x - 2) = 0$

$\Rightarrow x = \frac{2}{3}, \frac{5}{3}$

II. $y^2 - 8y + 15 = 0$

$\Rightarrow y^2 - 5y - 3y + 15 = 0$

$\Rightarrow (y - 3)(y - 5) = 0$

$\Rightarrow y = 3, 5$

Y > x

S8. Ans.(d)

Sol. I. $2x^2 - 13x + 15 = 0$

$\Rightarrow 2x^2 - 10x - 3x + 15 = 0$

$\Rightarrow (x - 5)(2x - 3) = 0$

$\Rightarrow x = 5, \frac{3}{2}$

II. $2y^2 - 11y + 12 = 0$

$\Rightarrow 2y^2 - 8y - 3y + 12 = 0$

$\Rightarrow (y - 4)(2y - 3) = 0$

$\Rightarrow y = 4, \frac{3}{2}$

No relation

S9. Ans.(a)

Sol. I. $2x^2 + 7x + 6 = 0$

$\Rightarrow 2x^2 + 4x + 3x + 6 = 0$

$\Rightarrow (x + 2)(2x + 3) = 0$

$\Rightarrow x = -2, -\frac{3}{2}$

II. $2y^2 + 17y + 30 = 0$

$\Rightarrow 2y^2 + 12y + 5y + 30 = 0$

$\Rightarrow (y + 6)(2y + 5) = 0$

$\Rightarrow y = -6, -\frac{5}{2}$

x > y

S10. Ans.(a)

Sol. I. $x^2 - 2x - \sqrt{5}x + 2\sqrt{5} = 0$

$\Rightarrow (x - 2)\left(x - \sqrt{5}\right) = 0$

$\Rightarrow x = 2, \sqrt{5}$

II. $y^2 - \sqrt{3}y - \sqrt{2}y + \sqrt{6} = 0$

$\Rightarrow \left(y - \sqrt{3}\right)\left(y - \sqrt{2}\right) = 0$

$\Rightarrow y = \sqrt{3}, \sqrt{2}$

x > y

S11. Ans.(b)

Sol. Tank filled in one min

$= \frac{6}{16} - \frac{4}{20} = \frac{7}{40}$

Tank filled in $= \frac{40}{7}$ min

Tank capacity $= \frac{40}{7} \times 28 = 160$ litres

S12. Ans.(a)

Sol. Let length of train B = x m

∴ length of train A = 2x m

Let speed of train B = s m/sec

And, speed of train A (m/sec)

$= 90 \times \frac{5}{18}$

= 25 m/sec

ATQ,

(25 – s) × 5 = (25 – 2s) ×15

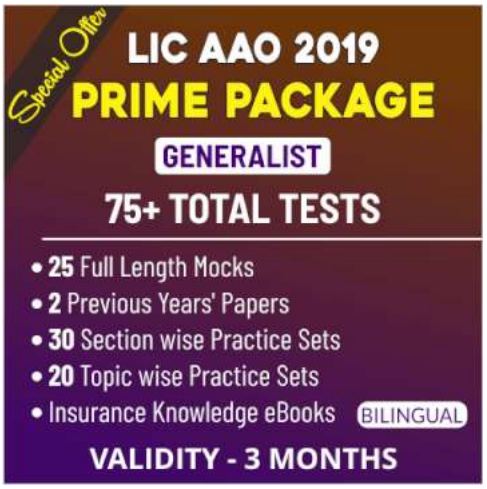
⇒ 25 – s = 75 – 6s

⇒ s = 10 m/sec

∴ Length of train B (x)

$= \frac{(25 - 10) \times 5}{3}$

= 25 m



S13. Ans.(a)

Sol. In the time that P takes to run 300m, M runs 270m and Q runs 250m

So, in the time that M takes to run 300m,

Q runs $300 \times \frac{250}{270} = 277.77\,\text{m}$

Or 'Q' is beaten by 22.22 m

In 200 metre race Q is beaten by $22.22 \times \frac{200}{300} = 14.81\,\text{m} \approx 15\text{m}$

S14. Ans.(e)

Sol. Akshay: 15 days → 36% of the work

∴ 20 days → 48% of the work

Total work done by Akshay = 48% + 36% = 84%

Which means Monika did only 16% of the work in 20 days while comparing the working efficiency

	Akshay		Monika
In 20 days,	48%		16%
∴ **Efficiency**	**3**	:	**1**

S15. Ans.(d)

Sol. Skilled, half skilled, unskilled

efficiency $\frac{1}{3} : \frac{1}{4} : \frac{1}{6}$

efficiency 4 : 3 : 2

Skilled half skilled unskilled

No. of days worked = 7 8 10

Total task = (7 × 4) + (8 × 3) + (10 × 2)

= 72 units

Skilled labour get: $\frac{28}{72} \times 369 = 143.50$

S16. Ans.(b)

Sol. 45.15% of 759.96 ÷ 18.9 + ? = $(17.99)^2$

45% of 760÷19+? = 324

? = 306

S17. Ans.(d)

Sol. $\sqrt{728.83} \div 2.96 + 29.85 \div 5.99 = ? - 4x10$

$? = \sqrt{729} \div 3 + 30 \div 6 + 40$

= 27 ÷ 3 + 5 + 40

= 9 + 5 + 40 = 54

adda247 publications
LIC AAO 2019
PRELIMS
BOOKS KIT
Ace - Reasoning | Quant | English
Insurance Knowledge eBook
ENGLISH PRINTED EDITION @ 899

S18. Ans.(a)

Sol. $(1152.36 + 247.56) \div 6.95 + \sqrt{624.5} = (?)^2$

$(1152 + 248) \div 7 + \sqrt{625} = (?)^2$

$(1400 \div 7) + 25 = ?^2$

$200 + 25 = ?^2$

$? = \sqrt{225} = 15$

S19. Ans.(b)

Sol. $(4444.13 \div 40.07) + (649 \div 49.87) + (3991 \div 24.97) = ?$

$\Rightarrow (4444 \div 40) + (650 \div 50) + (3990 \div 25)$

$= 111.1 + 13 + 159.6$

$= 283.7 \sim 284$

S20. Ans.(b)

Sol. 86.02% of $249.87 + \frac{\sqrt[3]{1727.6}}{\sqrt{3.87}} = ? + \sqrt{120.78}$

$\Rightarrow 86\%$ of $250 + \frac{\sqrt[3]{1728}}{\sqrt{4}} = ? + \sqrt{121}$

$\Rightarrow 215 + \frac{12}{2} = ? + 11$

$\Rightarrow 215 + 6 = ? + 11$

$? = 210$

S21. Ans.(e)

Sol. Required percentage

$= \frac{\frac{4}{9} \times 54000}{65000} \times 100 \simeq 37\%$

S22. Ans.(b)

Sol. Required average no. of female workers

$= \frac{1}{2} \times \left(\frac{8}{13} \times 65000 + \frac{3}{5} \times 68500\right)$

$= \frac{1}{2} \times 81{,}100$

$= 40{,}550$

S23. Ans.(c)

Sol. Required difference $= \frac{4-1}{5} \times 70{,}500$

$= 42{,}300$

S24. Ans.(d)

Sol. Female workers in year

$2014 \rightarrow \frac{4}{9} \times 54{,}000 \rightarrow 24{,}000$

$2015 \rightarrow \frac{5}{13} \times 65{,}000 \rightarrow 25{,}000$

$2016 \rightarrow \frac{2}{5} \times 68{,}500 \rightarrow 27{,}400$

$2017 \rightarrow \frac{1}{5} \times 70{,}500 \rightarrow 14{,}100$

$2018 \rightarrow \frac{5}{12} \times 72{,}000 \rightarrow 30{,}000$

∴ Required year is 2018

S25. Ans.(b)

Sol. Male workers in year 2016

$= \frac{3}{5} \times 68{,}500$

$= 41{,}100$

Female workers in year 2018

$= \frac{5}{12} \times 72{,}000$

$= 30{,}000$

∴ Required percentage

$= \frac{41{,}100 - 30{,}000}{30{,}000} \times 100$

= 37% more